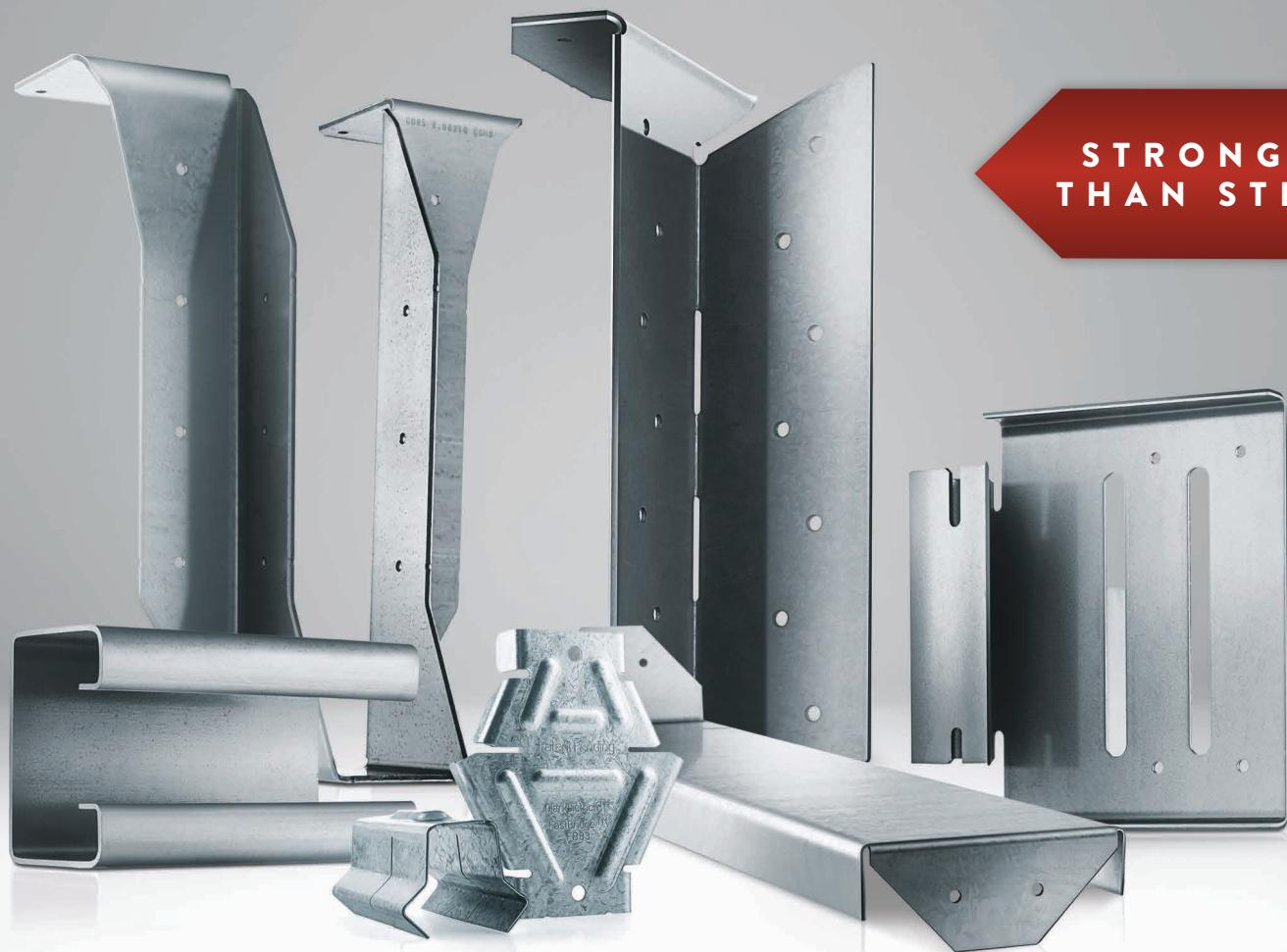


CLIP EXPRESSSM PRODUCT CATALOG



STRONGER
THAN STEEL.SM

CFS FRAMING CONNECTORS

CONNECTIONS
PLAY A VITAL ROLE.
AND SO DOES
PEACE OF MIND.



ClarkDietrich Clip ExpressSM stands alone

in the industry. The vast lineup of products, quick delivery service and philosophy are unique in every respect—and especially in sum total. That's because Clip Express was created to give our customers an unmatched level of confidence.

EVERYTHING YOU NEED FROM ONE CONVENIENT SOURCE.

We know that having the right products, at the right time, and at the right price is absolutely essential to getting the job done. Clip Express is a single source for the industry's widest and most cost-effective array of rigid, deflection, bridging, and general-purpose clips, connectors, supports and framing hardware for commercial and residential cold-formed steel framing.

CONSISTENT, HIGH-QUALITY PRODUCTS.

When you design or specify by ClarkDietrich product name or number, you get fully engineered and rigorously tested systems and connectors—the same precision-formed products each and every time. It's exactly the kind of thing you'd expect from a partner like ClarkDietrich. The products we manufacture—like FastClipTM Slide Clips and Fast TopTM Clips—are created specifically to work as a system. It's an approach that leads to enhanced performance on the job.

VALUE THAT CONTRIBUTES TO YOUR BOTTOM LINE.

While you may find a cheaper price than ClarkDietrich, you won't find a lower overall cost or better value. We offer unmatched service through numerous plants and engineering offices—and nationwide product availability. From technical assistance to complete engineering services, we've truly put together an incredible array of resources to help you be successful on any project. This catalog is a great example. It's one of the most comprehensive light-gauge steel connector, clip, support and framing hardware manuals or resources available.

CONNECTIONS YOU CAN COUNT ON.

If getting what you want, when and how you want it is a must, ClarkDietrich Clip Express is ready to deliver. In fact, a wide array of shipping options is available, from standard ground to overnight. If we get your order today, you can get it tomorrow.

Count on ClarkDietrich to deliver products, systems and services that keep your costs down and productivity up.

Need help with product selection, ordering, scheduling, delivery, or anything else? Call the Clip Express sales team:

Clip Express—866-638-1908

**Need Product Submittals?
Use SubmittalPro[®] at clarkdietrich.com.**

CLIP EXPRESSSM



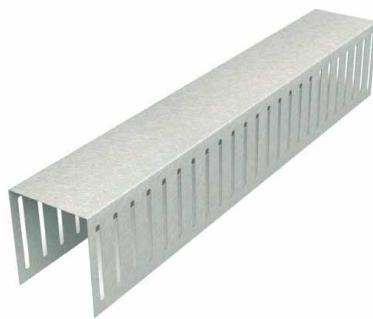
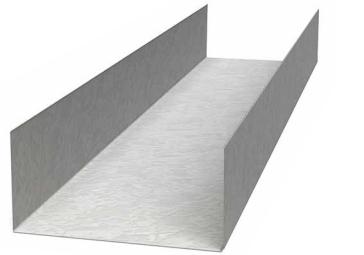
TABLE OF CONTENTS

| | |
|--|---------|
| Overview | 2-11 |
| Custom-Fabricated Specialty Products | 2-3 |
| Fastening Options | 4-6 |
| General Notes | 7 |
| How To Use This Catalog | 8-9 |
| Product Information | 10 |
| Support and Services | 11 |
| | |
| Deflection Connections | 12-43 |
| | |
| Drift Connections | 44-71 |
| | |
| Rigid Connections | 72-119 |
| | |
| Floor Framing Connections | 120-137 |
| | |
| Bridging, Bracing and Backing | 138-161 |
| | |
| Roof and Truss Connections | 162-169 |
| | |
| Specialty Clips and Accessories | 170-191 |
| | |
| Typical Construction Details | 192-193 |
| | |
| Index | 194-195 |
| | |
| Clip ExpressSM Display Program | 196 |
| | |
| Trademarks and Warranty | 196 |
| | |
| Code Approvals | 197 |
| | |
| Locations | 197 |

Custom-Fabricated Specialty Products

When the job calls for a connection, clip or support that doesn't exist in this catalog, ClarkDietrich can create whatever you need. We can custom fabricate just about any shape, bend, angle or specialty framing clip, connector or support to your exact specification. Manufactured using precision cutting and forming equipment, a diverse selection of specialized sizes and shapes is available—including prepunched holes and/or specialized slots. Simply submit your dimensioned drawings to your ClarkDietrich representative, and we'll do the rest!

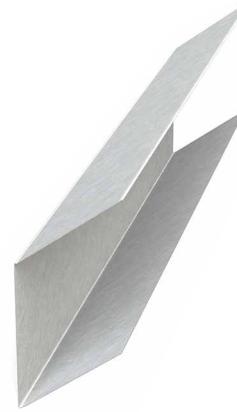
Note: The performance and installation of custom-made products is the sole responsibility of the design professional and engineer of record. Any customer ordering a custom-fabricated clip, connector or support shall indemnify, defend and hold harmless ClarkDietrich and ClarkDietrich Engineering Services for any loss or damage arising in whole or in part.



MATERIAL SPECIFICATIONS

Gauge: 20 gauge (33mils)

Design Thickness: 0.0346 inches



Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches



Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Gauge: 10 gauge (118mils)

Design Thickness: 0.1242 inches

Coating: CP90 or CP60

Must be specified at the time of order placement.

Yield Strength: 50ksi or 33ksi

Must be specified at the time of order placement.

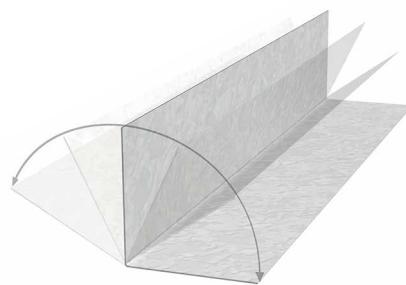
ASTM: A653/A653M, C955

AISI: S240



INSTALLATION

Will vary based upon application. Consult the engineer of record.



Fastening Options

Connections can be made using a variety of fastening options. It is critical to specify the proper fastener to ensure the proper performance of the connections in light-gauge (cold-formed) steel construction.

The most common and widely used connection methods are screw connections, powder-actuated fastener connections and weld connections. Each type of connection method has various advantages and disadvantages. Therefore, we provide data for the most common types so you can choose your preferred connection method.

AISI Calculated Allowable Loads for Screw Connection

| Material thickness (mils) | Design thickness (in) | Material Strength | | #8-18 HWH Screw | | #10-16 HWH Screw | | #12-14 HWH Screw | | 1/4"-14 HWH Screw | |
|---------------------------|-----------------------|----------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|---------------|-------------------|---------------|
| | | | | Dia. = 0.160 | | Dia. = 0.190 | | Dia. = 0.210 | | Dia. = 0.240 | |
| | | F _y (ksi) | F _u (ksi) | Shear (lbs) | Tension (lbs) | Shear (lbs) | Tension (lbs) | Shear (lbs) | Tension (lbs) | Shear (lbs) | Tension (lbs) |
| 33 | 0.0346 | 33 | 45 | 162 | 71 | 177 | 84 | 186 | 93 | 199 | 106 |
| 43 | 0.0451 | 33 | 45 | 241 | 92 | 263 | 109 | 277 | 121 | 296 | 138 |
| 54 | 0.0566 | 33 | 45 | 333 | 115 | 370 | 137 | 389 | 152 | 416 | 173 |
| | 0.0566 | 50 | 65 | 333 | 167 | 467 | 198 | 562 | 219 | 600 | 250 |
| 68 | 0.0713 | 33 | 45 | — | — | 467 | 173 | 550 | 191 | 588 | 218 |
| | 0.0713 | 50 | 65 | — | — | 467 | 249 | 667 | 276 | 849 | 315 |
| 97 | 0.1017 | 33 | 45 | — | — | 467 | 246 | 667 | 272 | 867 | 311 |
| | 0.1017 | 50 | 65 | — | — | 467 | 356 | 667 | 393 | 867 | 450 |
| 118 | 0.1242 | 33 | 45 | — | — | — | — | 667 | 333 | 867 | 380 |
| | 0.1242 | 50 | 65 | — | — | — | — | 667 | 480 | 867 | 549 |

AISI Calculated Allowable Bearing & Pullover for Screws

| Material thickness (mils) | Design thickness (in) | Material Strength | | #8-18 Screw | | #10-16 Screw | | #12-14 Screw | | 1/4"-14 Screw | |
|---------------------------|-----------------------|----------------------|----------------------|---------------|----------------|---------------|--------------|---------------|--------------|---------------|--------------|
| | | | | Shank = 0.160 | | Shank = 0.190 | | Shank = 0.210 | | Shank = 0.240 | |
| | | F _y (ksi) | F _u (ksi) | Bearing (lbs) | Pullover (lbs) | Head = 0.250 | Head = 0.375 | Head = 0.375 | Head = 0.500 | Head = 0.375 | Head = 0.500 |
| 33 | 0.0346 | 33 | 45 | 224 | 195 | 266 | 292 | 294 | 292 | 336 | 389 |
| 43 | 0.0451 | 33 | 45 | 292 | 254 | 347 | 381 | 384 | 381 | 438 | 507 |
| 54 | 0.0566 | 33 | 45 | 367 | 318 | 436 | 478 | 481 | 478 | 550 | 637 |
| | 0.0566 | 50 | 65 | 530 | 460 | 629 | 690 | 695 | 690 | 795 | 920 |
| 68 | 0.0713 | 33 | 45 | — | — | 549 | 602 | 606 | 602 | 693 | 802 |
| | 0.0713 | 50 | 65 | — | — | 792 | 869 | 876 | 869 | 1001 | 1159 |
| 97 | 0.1017 | 33 | 45 | — | — | 783 | 858 | 865 | 858 | 989 | 1144 |
| | 0.1017 | 50 | 65 | — | — | 1130 | 1239 | 1249 | 1239 | 1428 | 1653 |
| 118 | 0.1242 | 33 | 45 | — | — | — | — | 1056 | 1048 | 1207 | 1397 |
| | 0.1242 | 50 | 65 | — | — | — | — | 1526 | 1514 | 1744 | 2018 |

Notes:

- All values were calculated using the 2001 AISI Specification w/2004 supplement.
- Charts are based on Buildex TEK2 HWH screw capacities. All screws must meet minimum criteria outlined.
- Shear strength for #8, #10, #12, and 1/4" screws must be greater than or equal to 1000 lbs, 1400 lbs, 2000 lbs and 2600 lbs respectively.
- Tension strength for #8, #10, #12, and 1/4" screws must be greater than or equal to 1545 lbs, 1936 lbs, 2778 lbs and 4060 lbs respectively.
- The minimum head diameter for #8 screws is 1/4". The minimum head diameter for #10 and #12 screws is 3/8". The minimum head diameter for 1/4" screws is 1/2".
- Screw ultimate shear capacity is based on Buildex® DATA as a minimum.
- Buildex is a registered trademark of Illinois Tool Works, Inc.



Proprietary deflection screws—Many of the ClarkDietrich deflection clips include our Proprietary Deflection Screw that has been specifically designed to provide friction-free deflection. These fasteners eliminate drag, binding or resistance that can often occur with common fasteners.

SCREW CONNECTIONS

Self-drilling screws—These high-strength fasteners are used if the connection is multiple thicknesses of 33mils steel or thicker. One of the more common self-drilling screws is a #10-16 x 5/8 HWH SD (#10 diameter shaft, 16 threads per inch, 5/8 length, hex washer head self-drilling screw).



| Proprietary Deflection Screw & Proprietary HD Deflection Screw | |
|--|----------|
| Average Ultimate Shear | 2400 lbs |
| AISI S100 Factor of Safety (ASD) | 3.0 |
| Average Allowable Shear Load | 800 lbs |

POWDER-ACTUATED FASTENERS

Powder-actuated, or low-velocity driven fasteners, are commonly used to attach cold-formed steel framing members to concrete or structural steel supports. PAF pins are used for permanent attachments and are the most common type used for cold-formed construction.



Powder-Actuated Fasteners Allowable Loads

IN NORMAL WEIGHT CONCRETE (LBS)

| Material thickness (mils) | Yield strength Fy (ksi) | Bearing (lbs) | Pullover (lbs) | PAF (Shank Dia.=0.145", Head Dia.=0.3") Min. Embedment 3/4" | | | | | | PAF (Shank Dia.=0.145", Head Dia.=0.3") Min. Embedment 1" | | | | | |
|---------------------------|-------------------------|---------------|----------------|--|---------|---------|---------|---------|---------|--|---------|---------|---------|---------|---------|
| | | | | 2000psi | | 3000psi | | 4000psi | | 2000psi | | 3000psi | | 4000psi | |
| | | | | Shear | Tension | Shear | Tension | Shear | Tension | Shear | Tension | Shear | Tension | Shear | Tension |
| 33 | 33 | 203 | 234 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| 43 | 33 | 265 | 304 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| 54 | 33 | 333 | 382 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| | 50 | 480 | 552 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| 68 | 33 | 418 | 481 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| | 50 | 604 | 695 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| 97 | 33 | 597 | 686 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| | 50 | 863 | 992 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| 118 | 33 | 729 | 838 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |
| | 50 | 1054 | 1211 | 95 | 70 | 110 | 90 | 125 | 110 | 140 | 90 | 160 | 120 | 185 | 155 |

Powder-Actuated Fasteners Allowable Loads

IN STRUCTURAL STEEL (LBS)

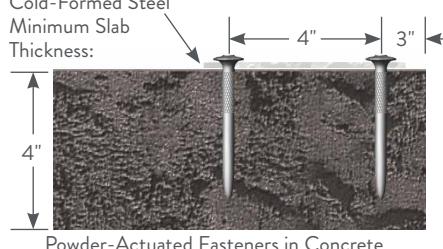
| Material thickness (mils) | Yield strength Fy (ksi) | Bearing (lbs) | Pullover (lbs) | PAF (Shank Dia.=0.145"; Head Dia.=0.3") | | | | | | | |
|---------------------------|-------------------------|---------------|----------------|---|---------|-------|---------|-------|---------|-------|---------|
| | | | | 3/16" | | 1/4" | | 3/8" | | 1/2" | |
| | | | | Shear | Tension | Shear | Tension | Shear | Tension | Shear | Tension |
| 33 | 33 | 203 | 234 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| 43 | 33 | 265 | 304 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| 54 | 33 | 333 | 382 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| | 50 | 480 | 552 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| 68 | 33 | 418 | 481 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| | 50 | 604 | 695 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| 97 | 33 | 597 | 686 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| | 50 | 863 | 992 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| 118 | 33 | 729 | 838 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |
| | 50 | 1054 | 1211 | 425 | 455 | 620 | 800 | 680 | 810 | 605 | 850 |

Notes:

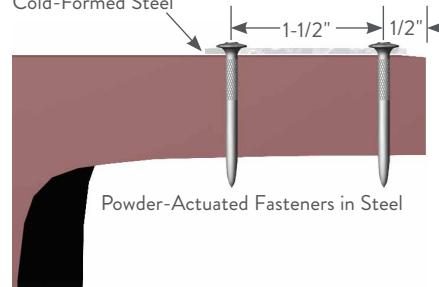
1 Bearing and pullover values were calculated using the 2001 AISI Specification w/2004 supplement.

2 See General Note #6 on page 9 for additional information.

Minimum Fastener Spacing and Edge Distances:
Cold-Formed Steel



Minimum Fastener Spacing and Edge Distances:
Cold-Formed Steel



Fastening Options

WELDED CONNECTIONS

Fillet welds—Used to make lap joints, corner joints and T-joint connections.

Weld metal is deposited in a corner formed by the fit-up of the two members and penetrates and fuses with the base metal to form the joint.



Fillet Welds

Flare welds—Used to join rounded or curved pieces.

- A Flare Bevel groove weld is commonly used to join a rounded or curved piece to a flat piece.
- A Flare V groove weld is commonly used to join two rounded or curved parts.



Note: For graphical clarity, the weld illustrations do not show the penetration of the welded material. Weld penetration is critical in determining the quality of the weld.

Flare Bevel

AISI Allowable Loads for Welded Connections

| Material thickness (mils) | Design thickness (in) | Material Strength | | Fillet Weld | | Flare Groove Weld | |
|---|-----------------------|----------------------|----------------------|--------------------|------------------|--------------------|------------------|
| | | F _y (ksi) | F _u (ksi) | Longitudinal (lbs) | Transverse (lbs) | Longitudinal (lbs) | Transverse (lbs) |
| Values for a single one (1) inch weld | | | | | | | |
| 43 | 0.0451 | 33 | 45 | 619 | 864 | 544 | 663 |
| | 0.0451 | 50 | 65 | 895 | 1247 | 785 | 958 |
| 54 | 0.0566 | 33 | 45 | 822 | 1084 | 682 | 832 |
| | 0.0566 | 50 | 65 | 1188 | 1566 | 985 | 1202 |
| 68 | 0.0713 | 33 | 45 | 1082 | 1365 | 859 | 1048 |
| | 0.0713 | 50 | 65 | 1563 | 1972 | 1241 | 1514 |
| 97 | 0.1017 | 33 | 45 | 1480 | 1480 | 1226 | 1480 |
| | 0.1017 | 50 | 65 | 1480 | 1480 | 1480 | 1480 |
| 118 | 0.1242 | 33 | 45 | 1808 | 1808 | 1497 | 1808 |
| | 0.1242 | 50 | 65 | 1808 | 1808 | 1808 | 1808 |
| Values for a single two (2) inch weld | | | | | | | |
| 43 | 0.0451 | 33 | 45 | 998 | 1727 | 1087 | 1326 |
| | 0.0451 | 50 | 65 | 1442 | 2495 | 1570 | 1915 |
| 54 | 0.0566 | 33 | 45 | 1253 | 2168 | 1364 | 1664 |
| | 0.0566 | 50 | 65 | 1809 | 3131 | 1971 | 2404 |
| 68 | 0.0713 | 33 | 45 | 1578 | 2731 | 1719 | 2096 |
| | 0.0713 | 50 | 65 | 2279 | 3944 | 2483 | 3028 |
| 97 | 0.1017 | 33 | 45 | 2884 | 2961 | 2452 | 2961 |
| | 0.1017 | 50 | 65 | 2961 | 2961 | 2961 | 2961 |
| 118 | 0.1242 | 33 | 45 | 3616 | 3616 | 2994 | 3616 |
| | 0.1242 | 50 | 65 | 3616 | 3616 | 3616 | 3616 |
| Values for a single three (3) inch weld | | | | | | | |
| 43 | 0.0451 | 33 | 45 | 1497 | 2591 | 1631 | 1989 |
| | 0.0451 | 50 | 65 | 2163 | 3742 | 2356 | 2873 |
| 54 | 0.0566 | 33 | 45 | 1879 | 3251 | 2047 | 2496 |
| | 0.0566 | 50 | 65 | 2714 | 4697 | 2956 | 3605 |
| 68 | 0.0713 | 33 | 45 | 2367 | 4096 | 2578 | 3144 |
| | 0.0713 | 50 | 65 | 3419 | 5916 | 3724 | 4542 |
| 97 | 0.1017 | 33 | 45 | 3376 | 4441 | 3678 | 4441 |
| | 0.1017 | 50 | 65 | 4441 | 4441 | 4441 | 4441 |
| 118 | 0.1242 | 33 | 45 | 4987 | 5424 | 4491 | 5424 |
| | 0.1242 | 50 | 65 | 5424 | 5424 | 5424 | 5424 |

Notes:

1 All values were calculated using the 2001 AISI Specification w/2004 supplement (Section E2).

2 F_{xx} values were based off of F_{xx} >= 70ksi and that F_{xx} > F_u.

3 Values include a factor of safety that varies depending on the AISI code calculation used.

4 Longer weld values can be found by following the AISI Specification or by calling Technical Services at 888-437-3244; however, using multiples of lengths shown for longer welds may result in incorrect values.

5 Weld values listed are based on a minimum effective throat of .707 times the design thickness.

General Notes

- 1 Install products per installation instructions detailed in this catalog.
- 2 Install all connectors and fasteners before load application.
- 3 Do not modify, change or alter any connector in this catalog.
- 4 Do not bend connectors unless they are specifically designed to be bent. Connectors that are not designed to be bent may fracture. Fractured steel will not carry load and must be replaced. Connectors that are designed to be bent shall only be bent one time.
- 5 Install fasteners per the manufacturer's instructions.
- 6 Load tables have been developed using the following fastener data:
 - Powder-Actuated Fastener (PAF)–Minimum shank diameter of 0.145" with a minimum head diameter of 0.300" placed in 3/16" steel minimum. All PAF pins must have a 5.0 safety factor and an allowable capacity greater than the values shown in the allowable load charts herein, either as a single pin or in multiples per each chart.
 - Design capacities of PAF fasteners used with light gauge steel connectors must comply with the provision of AISI S100 (2016) Section J5 Power-Actuated (PAF) Connections, as well as the PAF manufacturer's design guidelines.
 - Hilti* Kwik-Con II–Reference 2011 Edition of the Hilti North American Product Technical Guide, Volume 2, page 340.
- 7 Tabular footnotes must be followed and supercede general notes when in conflict.
- 8 Fasteners other than those specified may be substituted with the approval of the engineer of record.
- 9 Allowable loads and material data listed in this catalog supersedes all information in previous publications.
- 10 Allowable loads, in some cases, have been increased by one-third per allowable codes. It is important to verify that the actual installation meets the requirements to allow the one-third increase. If not, the engineer of record should adjust the loads down.
- 11 Listed loads are the maximum monotonic design loads to be applied to the connection based on testing or calculations. Load tables have been developed using Allowable Stress Design methodologies.
- 12 Allowable loads are the maximum forces applied in one direction only. When loads are applied in multiple directions, the engineer of record is responsible for verifying the maximum capabilities based on an appropriate interaction equation.
- 13 Where maximum movements (deflections) are specified, they are the total movement in both directions. The fastener positioning and size will affect the amount of allowable movement.
- 14 ClarkDietrich strongly recommends the following language be included in plans and specifications: “ClarkDietrich connectors were utilized in developing the plans and specifications for this project. Before substituting another brand, the engineer of record must verify the load capacities and approve the substitution in writing”

*Hilti is a registered trademark of the Hilti Aktiengesellschaft Corporation.

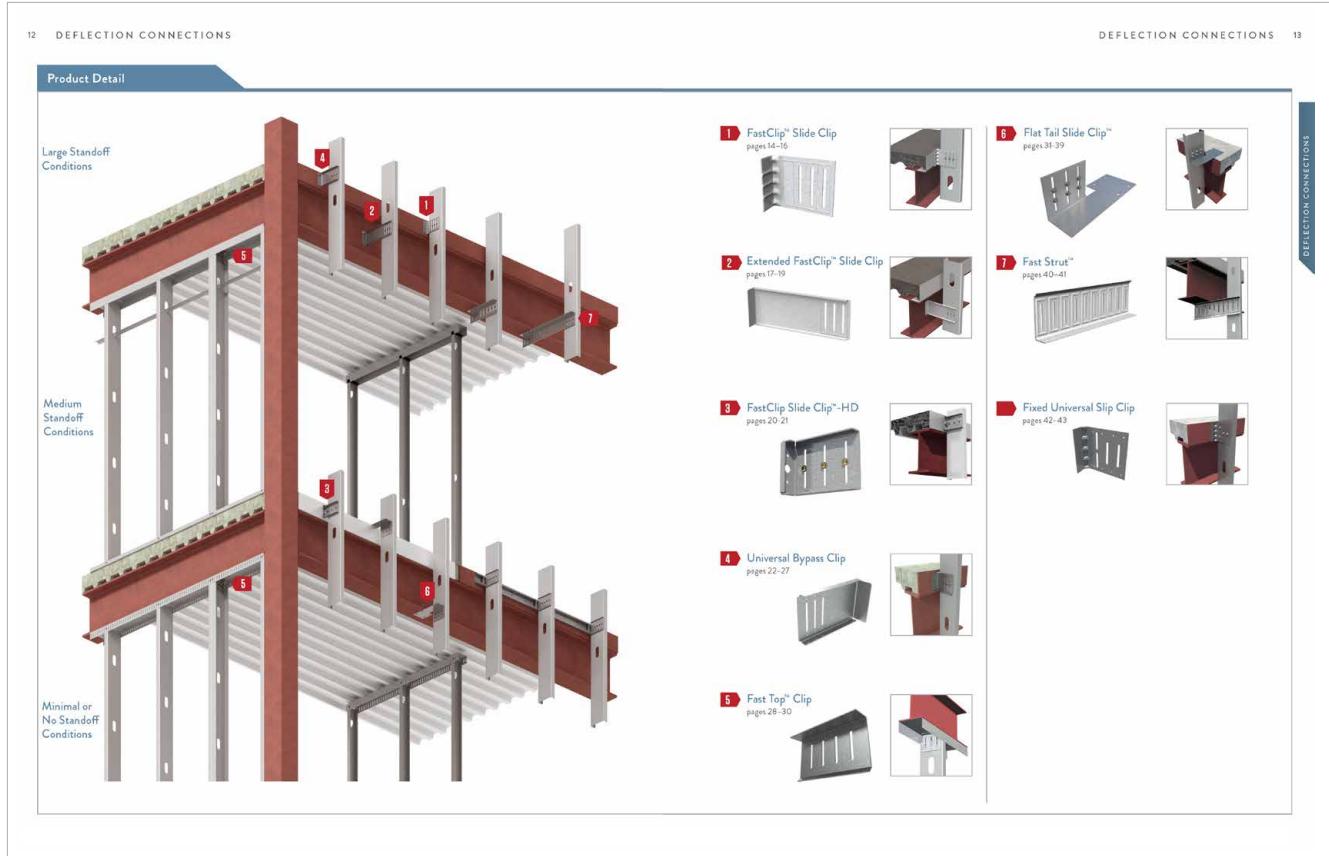
WARNING: Handling of these products without the proper use of hand and eye protection may result in injury.

How To Use This Catalog

This catalog is designed to help you select the right product or system for your construction applications. It is divided into seven major sections, with each one featuring a detailed building cutaway showcasing the products included in that section:

- Deflection Clips and Connections
- Drift Connections
- Rigid Connections
- Floor Framing Clips, Stiffeners, Supports and Hangers
- Bridging, Bracing and Backing Systems
- Roof and Truss Connections
- Specialty Clips and Fasteners

Example: Detailed building cutaway.

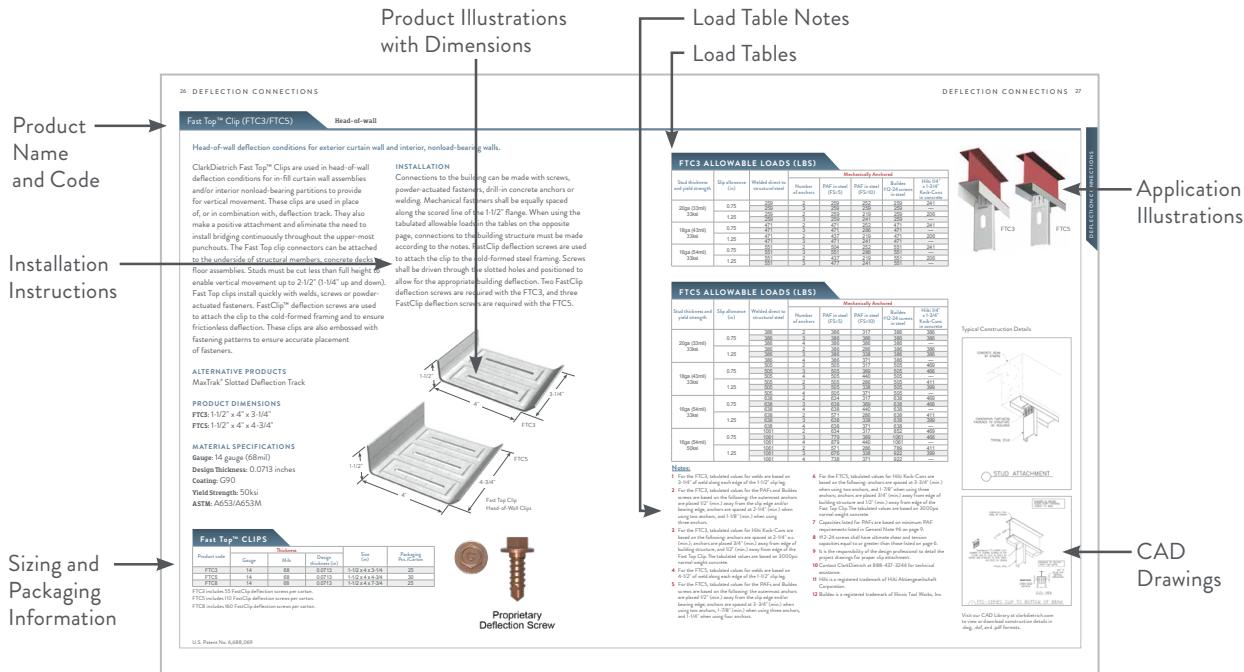


COMPREHENSIVE INDEX

At the back of the catalog, you'll find a quick reference index to our complete product offering. This index includes common names and product names, as well as common acronyms, to help you quickly find exactly what you're looking for.

PRODUCT PAGES

Each product page includes: an extensive product overview, features and benefits, detailed fastening instructions and patterns, in addition to the information shown below.



NOT ALL LOAD TABLES ARE CREATED EQUAL

It is critical that the allowable load tables for clips, connectors and fasteners are interpreted correctly—especially when comparing clip performance for a “ClarkDietrich or equal” specification. The allowable load for a clip assembly is governed by the capacity of the clip, plus the method of attachment to the structure. The ClarkDietrich tables include the attachment to the structure and not simply the clip capacity alone. When attaching a clip to the structure, the overall capacity can often be lower than the published value for the clip alone. Load tables that ignore the attachment to the structure essentially *imply that the clip or connector must be welded* to achieve the stated values. More often than not, clips and connectors will not be welded, based on installation quality and efficiency.

That's why ClarkDietrich publishes values for the most common attachment methods—so the designer or engineer can have confidence that all load requirements have been satisfied. For example, the tabulated values ClarkDietrich provides for the FastClip™ includes data for commonly used PAFs and Buildex® screws.

*Buildex is a registered trademark of Illinois Tool Works, Inc.

| Anchor type | Stud thickness and yield strength | No. anchors to structure | Allowable load (lbs) |
|---|-----------------------------------|--------------------------|----------------------|
| Buildex #12-24 Tek 5 Self-Drilling Screws to 3/16" Steel | 20ga (33mils) 33ksi | 2 | 425 |
| | | 3 | 425 |
| | | 4 | 425 |
| | 18ga (43mils) 33ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 16ga (54mils) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 14ga (68mils) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 12ga (97mils) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| PAF to 3/16" Steel* | 20ga (33mils) 33ksi | 2 | 511 |
| | | 3 | 587 |
| | | 4 | 587 |
| | 18ga (43mils) 33ksi | 2 | 511 |
| | | 3 | 767 |
| | | 4 | 852 |
| | 16ga (54mils) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 14ga (68mils) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 12ga (97mils) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |

Product Information

PRODUCT LABELING

The majority of the connectors listed in this catalog are identified using a very simple alphanumeric product code system. Each clip, connector or support is clearly embossed with an identifiable code so the installer can easily identify and use the proper connection hardware. For the engineer or architect, the embossed markings provide a very easy way to field verify that the correct connector or hanger is used.

PACKAGING

The majority of clips are packaged in distinct, easy-to-spot, blue buckets. Each bucket is clearly labeled with the product code, gauge, size, length, dimensions, piece counts, and any special markings as requested. Based on order quantity, buckets will be packed in skids for easy handling. Each skid will be clearly identified with master skid labels that display the same information as the buckets.



CLIP EXPRESS Available for overnight delivery
Call 866-638-1908

PROTECTIVE COATINGS

Coating designations for the clip and connector products in this catalog are displayed in the material specification section for each product. Special coatings are available on request. For more information, please contact your sales representative.

STEEL THICKNESS

The steel thickness of a connector, clip, support or hanger is referenced in terms of gauge or mils. The mils thickness measures the uncoated base metal material, and is a key contributor to the strength of the product.

Note: All products comply with ASTM and AISI standards and federal specifications as shown in the Code Approvals and Performance Standards in the back of this catalog. Minimum thickness is 95% of the design thickness, per AISI code. One mils is equivalent to 1/1000 (0.001) of an inch. So, a 20 gauge stud measuring the minimum uncoated base metal at 0.030 inches is 30 mils thick.

Steel Thickness

| Gauge | Mils | Design thickness | Minimum thickness |
|--------|------|------------------|-------------------|
| 25 | 18 | 0.0188" | 0.0179" |
| 20 DW | 30 | 0.0312" | 0.0296" |
| 20 STR | 33 | 0.0346" | 0.0329" |
| 18 | 43 | 0.0451" | 0.0428" |
| 16 | 54 | 0.0566" | 0.0538" |
| 14 | 68 | 0.0713" | 0.0677" |
| 12 | 97 | 0.1017" | 0.0966" |
| 10 | 118 | 0.1242" | 0.1180" |

YIELD STRENGTH (FY/PSI OR KSI)

The majority of clips, connectors, supports and framing hardware are manufactured from mil-certified, ASTM A1003 Structural Grade 50 Type H steel. KSI = kips/square inch = 1,000 lbs

METRIC SPECIFICATIONS

At your request, ClarkDietrich will provide "soft" metric conversions on its products and systems to help specifiers match metric design sizes. In addition, some products are available with hard metric dimensions from selected manufacturing facilities.

Support and Services

CLARKDIETRICH ENGINEERING SERVICES

**Smarter engineering and technical expertise.
It's support that extends beyond the structure itself.**

From the initial design phase to jobsite installation, we are all about providing inventive, yet practical and hands-on know-how to help you think outside the box—or to help you just get it done.

ClarkDietrich Engineering Services is a full-service consulting firm that believes strongly in value engineering and customer input. Our engineering fees and lead times are competitive, and our customer service exceeds the industry standard with consistent point-of-contact through our regional project managers.

We offer Building Information Modeling (BIM) services that include specialty engineering collaborative design. We support the BIM movement by offering add-on tools that allow our products, and the rich data attached to them, to quickly be imported into digital designs. Our team is also comprised of LEED®-accredited professionals to consult on sustainable building design.

- Electronically sealed shop drawings and calculations
- Preliminary sizing and pre-bid engineering pricing
- Reference plan on large projects
- Detailed wall sections, full elevation opening design and C-stud truss design

Our technical services team provides immediate response to questions ranging from general installation to detailed specification requirements, and can deliver one-day turnaround on technical sizing. We are experts on industry standards such as AISI, ASTM and SFIA. Our team also supports our online product submittal system, SubmittalPro®, and our design/engineering software is available as a free download from www.clarkdietrich.com.

- Product support and typical member sizing
- Framing detail recommendations
- Compliance and industry standards, such as AISI, ASTM and SFIA
- Engineering software and product submittal support
- LEED requirements support



ClarkDietrich Engineering Services

Toll-Free Phone: 877.832.3206
Toll-Free Fax: 877.832.3208
Technical Services: 888.437.3244
Email: engineering@clarkdietrich.com

CENTRAL Crown Point, IN

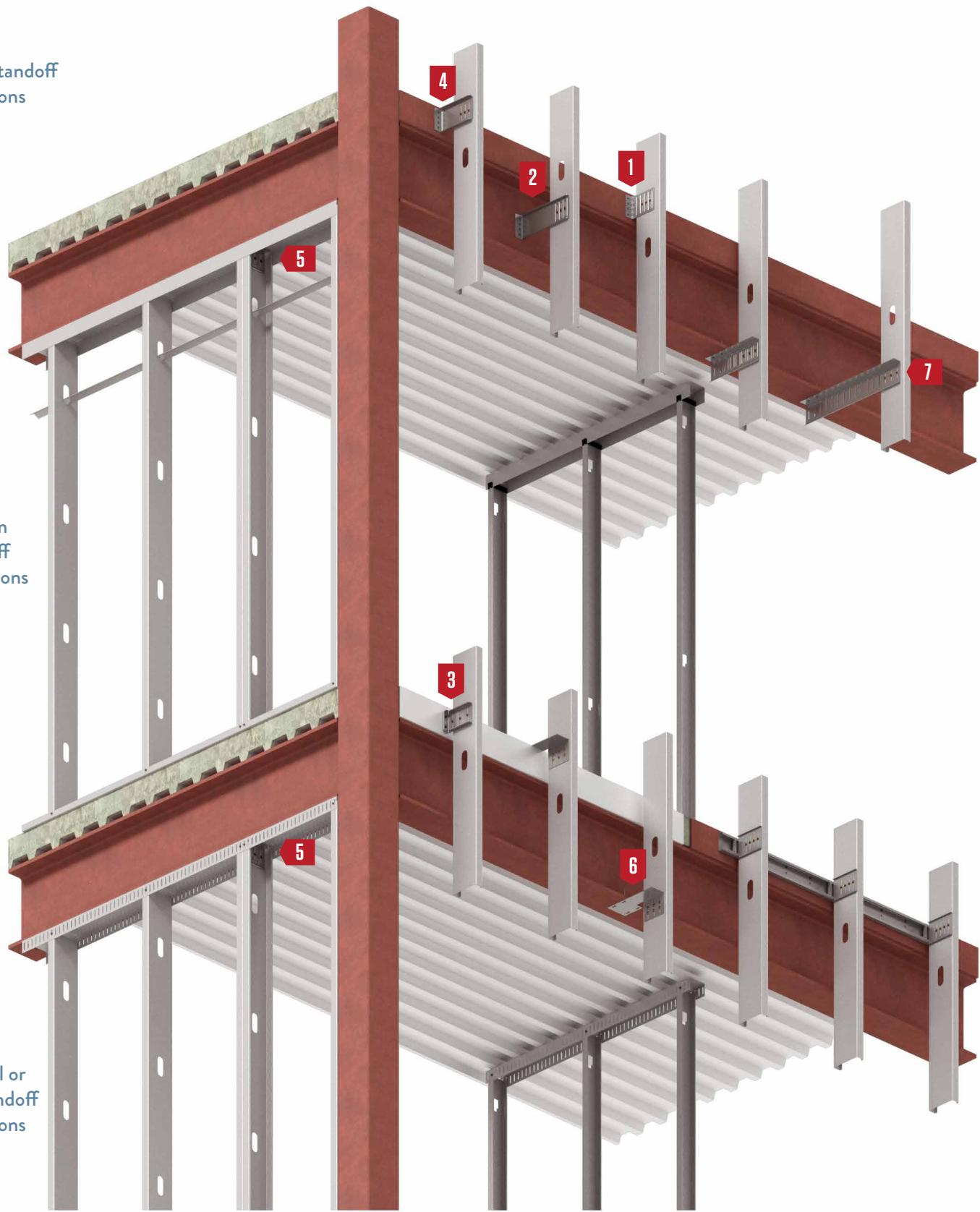
NORTHEAST Bristol, CT

SOUTHEAST McDonough, GA

WEST Carlsbad, CA

Product Detail

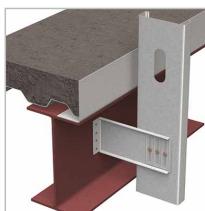
Large Standoff
Conditions



1 FastClip™ Slide Clip
pages 14-16



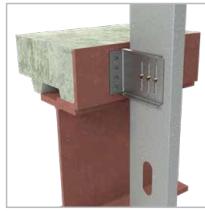
2 Extended FastClip™ Slide Clip
pages 17-19



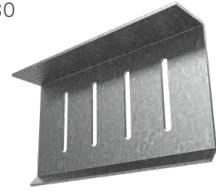
3 FastClip Slide Clip™-HD
pages 20-21



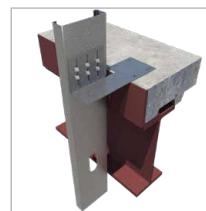
4 Universal Bypass Clip
pages 22-27



5 Fast Top™ Clip
pages 28-30



6 Flat Tail Slide Clip™
pages 31-39



7 Fast Strut™
pages 40-41



Fixed Universal Slip Clip
pages 42-43



FastClip™ Slide Clip

Curtain Wall/Bypass

Vertical building movement up to 3".

ClarkDietrich FCSC deflection clips are used to attach exterior curtain wall studs to the building structure and provide for vertical building movement independent of the cold-formed steel framing.

A ClarkDietrich FastClip™ deflection clip installs quickly with screws or powder-actuated fasteners, and provides adjustable standoff to ensure a plumb wall plane. Proprietary Deflection Screws are provided with each clip to ensure friction-free sliding. Each clip is also embossed with fastening patterns to ensure accurate placement of fasteners.

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Coating: G90

Yield Strength: 50ksi

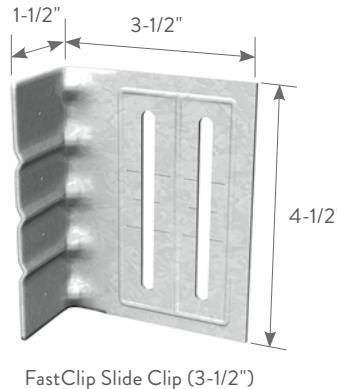
ASTM: A653/A653M



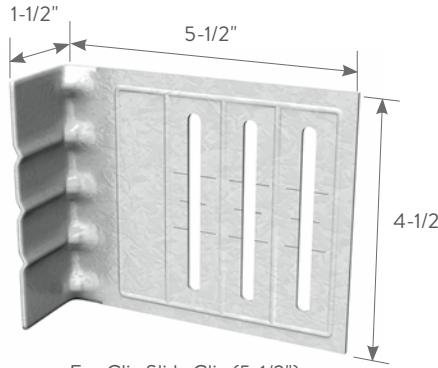
Proprietary Deflection Screw



Proprietary HD Deflection Screw
(10ga and 12ga Clips Only)



FastClip Slide Clip (3-1/2")



FastClip Slide Clip (5-1/2")

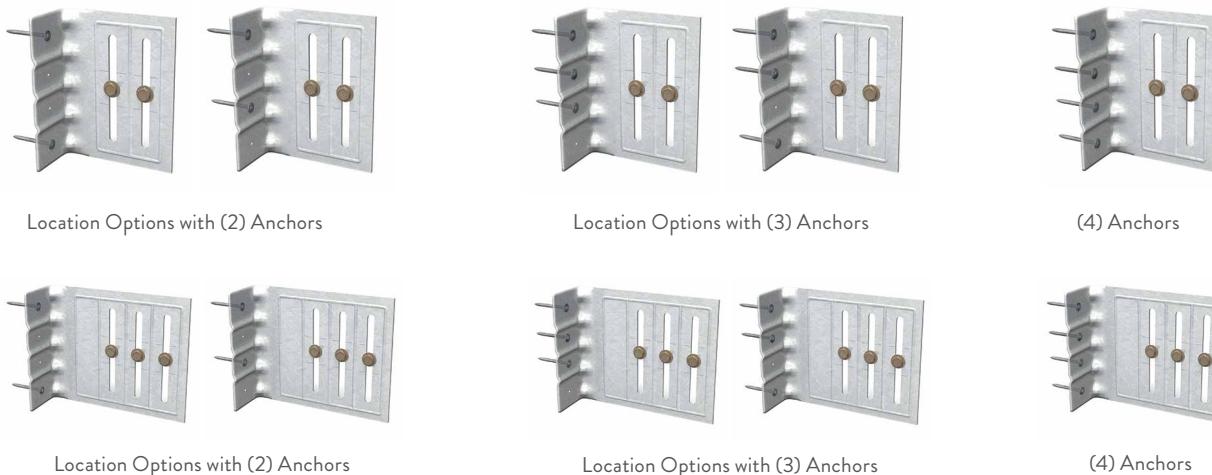
FastClip™ Slide Clips (FCSC)

| Product Code | Product Thickness | | Size (in) | Packaging Pcs./Carton |
|--------------|-------------------|-----------------------|-----------------------|--------------------------|
| | Mils (Gauge) | Design Thickness (in) | | |
| FCSC3.5-68 | 68mils (14ga) | 0.0713 | 1-1/2 x 3-1/2 x 4-1/2 | 25 |
| FCSC5.5-68 | 68mils (14ga) | 0.0713 | 1-1/2 x 5-1/2 x 4-1/2 | 25 |
| FCSC5.5-97 | 97mils (12ga) | 0.1017 | 1-1/2 x 5-1/2 x 4-1/2 | 25 |

3-1/2" FCSC includes 55 Proprietary Deflection Screws per carton.

5-1/2" FCSC includes 80 Proprietary Deflection Screws for 14ga clip and 80 Proprietary HD Deflection Screw for 12ga clip per carton.

Intertek CCRR-0208
U.S. Patent No. 6,688,069



3-1/2" FastClip™ Allowable Loads (lbs)

| Anchor Type | Stud Thickness / Yield Strength | No. Anchors to Structure | Allowable Load (lbs) |
|--|---------------------------------|--------------------------|----------------------|
| Buildex #12-24 Tek 5 Self-Drilling Screws to 3/16" Steel | 33mils (20ga) 33ksi | 2 | 425 |
| | | 3 | 425 |
| | | 4 | 425 |
| | 43mils (18ga) 33ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 54mils (16ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 68mils (14ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 97mils (12ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| PAF to 3/16" Steel* | 20ga (33mils) 33ksi | 2 | 511 |
| | | 3 | 587 |
| | | 4 | 587 |
| | 43mils (18ga) 33ksi | 2 | 511 |
| | | 3 | 767 |
| | | 4 | 852 |
| | 54mils (16ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 68mils (14ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 97mils (12ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |

5-1/2" FastClip™ Allowable Loads (lbs)

| Anchor Type | Stud Thickness / Yield Strength | No. Anchors to Structure | Allowable Load (lbs) |
|--|---------------------------------|--------------------------|----------------------|
| Buildex #12-24 Tek 5 Self-Drilling Screws to 3/16" Steel | 33mils (20ga) 33ksi | 2 | 689 |
| | | 3 | 689 |
| | | 4 | 689 |
| | 43mils (18ga) 33ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 54mils (16ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 68mils (14ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 97mils (12ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| PAF to 3/16" Steel* | 33mils (20ga) 33ksi | 2 | 510 |
| | | 3 | 689 |
| | | 4 | 689 |
| | 43mils (18ga) 33ksi | 2 | 510 |
| | | 3 | 765 |
| | | 4 | 852 |
| | 54mils (16ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 68mils (14ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 97mils (12ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |

*See General Note #6 on page 7 for the definition of PAF, minimum requirements and other additional information.

Notes:

- 1 The 1/3 stress increase for wind shall not be used.
- 2 Attach building anchors to the structure according to the manufacturer's instructions. Anchors shall be installed through the embossments on the scored line of the clip as shown on the drawings above. In no case shall anchors be installed more than 3/4" from the bend on the short leg of the clip. In cases of discrepancy between this information and the design engineer's details, the design engineer's details shall be followed.
- 3 It is the responsibility of the design professional to detail the project drawings for proper clip installation.
- 4 For connections to concrete, or other technical assistance, contact ClarkDietrich at 888-437-3244.
- 5 Buildex is a registered trademark of Illinois Tool Works, Inc.



5-1/2" FastClip™ Slide Clip

Curtain Wall/Bypass

5-1/2" 12ga FastClip™ (FCSC) Allowable Loads (lbs)

| Anchor Type | Stud Thickness / Yield Strength | No. Anchors to Structure | Allowable Load* (lbs) | Allowable Load# (lbs) |
|---|---------------------------------|--------------------------|-----------------------|-----------------------|
| Buildex #12-24 Self-Drilling Screws to 3/16" Steel | 33mils (20ga) 33ksi | 2 | 608 | 608 |
| | | 3 | 608 | 608 |
| | | 4 | 608 | 608 |
| | 43mils (18ga) 33ksi | 2 | 905 | 905 |
| | | 3 | 905 | 905 |
| | | 4 | 905 | 905 |
| | 54mils (16ga) 50ksi | 2 | 1004 | 1004 |
| | | 3 | 1506 | 1506 |
| | | 4 | 1553 | 1710 |
| | 68mils (14ga) 50ksi | 2 | 1004 | 1004 |
| | | 3 | 1506 | 1506 |
| | | 4 | 1553 | 1710 |
| | 97mils (12ga) 50ksi | 2 | 1004 | 1004 |
| | | 3 | 1506 | 1506 |
| | | 4 | 1553 | 1710 |
| Hilti 0.157" X-U Powder-Actuated Fasteners (PAF) to 3/16" Steel | 33mils (20ga) 33ksi | 2 | 608 | 608 |
| | | 3 | 608 | 608 |
| | | 4 | 608 | 608 |
| | 43mils (18ga) 33ksi | 2 | 905 | 905 |
| | | 3 | 905 | 905 |
| | | 4 | 905 | 905 |
| | 54mils (16ga) 50ksi | 2 | 1064 | 1064 |
| | | 3 | 1553 | 1596 |
| | | 4 | 1553 | 1710 |
| | 68mils (14ga) 50ksi | 2 | 1064 | 1064 |
| | | 3 | 1553 | 1596 |
| | | 4 | 1553 | 1710 |
| | 97mils (12ga) 50ksi | 2 | 1064 | 1064 |
| | | 3 | 1553 | 1596 |
| | | 4 | 1553 | 1710 |
| Generic Fasteners to 3/16" Steel | 33mils (20ga) 33ksi | n | 608 | 608 |
| | 43mils (18ga) 33ksi | n | 905 | 905 |
| | 54mils (16ga) 50ksi | n | 1553 | 1710 |
| | 68mils (14ga) 50ksi | n | 1553 | 1710 |
| | 97mils (12ga) 50ksi | n | 1553 | 1710 |
| Ultimate Clip Capacity | 33mils (20ga) 33ksi | — | 1825 | |
| | 43mils (18ga) 33ksi | — | 2715 | |
| | 54mils (16ga) 50ksi | — | 5130 | |
| | 68mils (14ga) 50ksi | — | 5130 | |
| | 97mils (12ga) 50ksi | — | 5130 | |

Notes:

- 1 Tabulated allowable loads do not include a 1/3 stress increase for wind.
- 2 * - Allowable capacity includes 1/8" service load limit.
- 3 # - Allowable capacity does not include 1/8" service load limit.
- 4 Mechanical fasteners should be attached to the structure in accordance with the manufacturer's instructions. All fasteners were assumed to be installed at a distance of 3/4" from the bend of the structural leg.
- 5 n - Number of generic mechanical fasteners required for connection to be determined by a design professional. Capacity should not exceed tabulated allowable loads.
- 6 Generic fastener capacities were calculated by considering clip-stud interaction, behavior of clip in tension and compression only. The design professional has to detail for clip and desired fastener installation.
- 7 Ultimate clip capacities were tabulated for the purpose of blast loads and they do not assume a safety factor.
- 8 Ultimate clip capacities were calculated by assuming that the structural leg of the clip fastened to 3/16" steel using (4) Buildex #12-24 fasteners or (4) Hilti X-U fasteners.
- 9 It is the responsibility of the design professional to detail the project drawings for proper clip and fastener installation.
- 10 Buildex is a registered trademark of Illinois Tool Works, Inc.
- 11 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.

Extended FastClip™ Slide Clip

Curtain Wall/Bypass

Vertical building movement up to 3" and commonly used for large standoff conditions.

ClarkDietrich FCEC deflection clips are used to attach exterior curtain wall studs to the building structure and provide for vertical building movement independent of the cold-formed steel framing. The clips are available in standard lengths of 6", 8", 10" and 12" and are ideal for medium to larger standoff conditions. Extended FastClip™ deflection clips install quickly with screws, welds or powder-actuated fasteners, and provide adjustable standoff to ensure a plumb wall plane. Proprietary Deflection Screws are provided with each clip to ensure friction-free sliding.

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

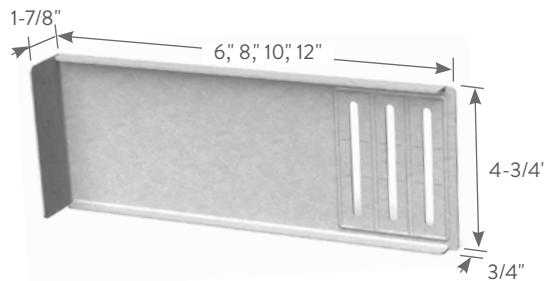
Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

INSTALLATION

Connections to the building can be made with screws, welds, powder-actuated fasteners or drill-in concrete anchors. Mechanical fasteners shall be located on the embossed marks given on the scored line of the 1-7/8" flange. Three Proprietary Deflection Screws are used to attach the clip to the cold-formed steel framing. Screws shall be driven through the slotted holes and positioned to allow for the appropriate building deflection.



PRODUCT DIMENSIONS

6" Extended FastClip: 1-7/8" x 6" x 4-3/4"

8" Extended FastClip: 1-7/8" x 8" x 4-3/4"

10" Extended FastClip: 1-7/8" x 10" x 4-3/4"

12" Extended FastClip: 1-7/8" x 12" x 4-3/4"

ALTERNATIVE PRODUCTS

Fast Strut™

Universal Bypass Clip

Extended FastClip™ Slide Clip (FCEC)

| Product Code | Product Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|-------------------|-----------------------|--------------------|-----------------------|
| | Mils (Gauge) | Design Thickness (in) | | |
| FCEC6-68 | 68mils (14ga) | 0.0713 | 1-7/8 x 6 x 4-3/4 | 25 |
| FCEC8-68 | 68mils (14ga) | 0.0713 | 1-7/8 x 8 x 4-3/4 | 25 |
| FCEC10-68 | 68mils (14ga) | 0.0713 | 1-7/8 x 10 x 4-3/4 | 25 |
| FCEC12-68 | 68mils (14ga) | 0.0713 | 1-7/8 x 12 x 4-3/4 | 25 |
| FCEC8-97 | 97mils (12ga) | 0.1017 | 1-7/8 x 8 x 4-3/4 | 25 |

Includes 80 Proprietary Deflection Screws for 14ga clip and 80 Proprietary HD Deflection Screw for 12ga clip per carton.

Intertek CCRR-0208
U.S. Patent No. 6,688,069



Proprietary
Deflection Screw
(14ga)



Proprietary
HD Deflection Screw
(10ga and 12ga Clips Only)

Extended FastClip™ Slide Clip

Curtain Wall/Bypass

Extended FastClip™ (FCEC) Allowable Loads (lbs)

| Anchor Type | Stud Thickness / Yield Strength | No. Anchors to Structure | Allowable Load (lbs) |
|--|---------------------------------|--------------------------|----------------------|
| Buildex #12-24 Tek 5 Self-Drilling Screws to 3/16" Steel | 33mils (20ga) 33ksi | 2 | 689 |
| | | 3 | 689 |
| | | 4 | 689 |
| | 43mils (18ga) 33ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 54mils (16ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 68mils (14ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 97mils (12ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| PAF to 3/16" Steel* | 33mils (20ga) 33ksi | 2 | 689 |
| | | 3 | 689 |
| | | 4 | 689 |
| | 43mils (18ga) 33ksi | 2 | 510 |
| | | 3 | 765 |
| | | 4 | 852 |
| | 54mils (16ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 68mils (14ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |
| | 97mils (12ga) 50ksi | 2 | 852 |
| | | 3 | 852 |
| | | 4 | 852 |

*See General Note #6 on page 7 for the definition of PAF, minimum requirements and other additional information.

Notes:

- 1 The 1/3 stress increase for wind shall not be used.
- 2 Attach building anchors to the structure according to the manufacturer's instructions. Anchors shall be installed through the embossments on the scored line of the clip as shown to the right. In no case shall anchors be installed more than 3/4" from the bend on the short leg of the clip. In cases of discrepancy between this information and the design engineer's details, the design engineer's details shall be followed.
- 3 It is the responsibility of the design professional to detail the project drawings for proper clip installation.
- 4 For connections to concrete, or other technical assistance, contact ClarkDietrich at 888-437-3244.
- 5 Buildex is a registered trademark of Illinois Tool Works, Inc.



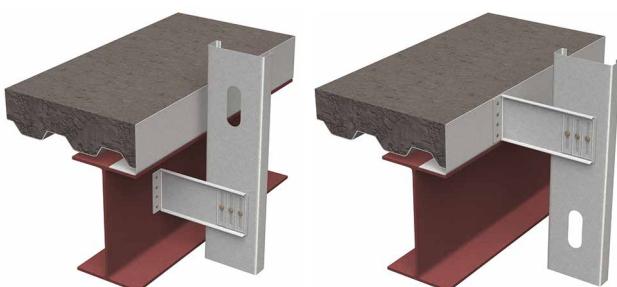
Location Options with (2) Anchors



Location Options with (3) Anchors



(4) Anchors



8" 97mils Extended FastClip™ Slide Clip

12ga Extended FastClip (FCEC) Allowable Loads (lbs)

| Anchor Type | Stud Thickness / Yield Strength | No. Anchors to Structure | Allowable Load* (lbs) | Allowable Load [#] (lbs) |
|--|---------------------------------|--------------------------|-----------------------|-----------------------------------|
| Weld (Fillet/Flare Groove) E60XX | 33mils (20ga) 33ksi | (3) 1" x 1/16" | 608 | 608 |
| | 43mils (18ga) 33ksi | (3) 1" x 1/16" | 905 | 905 |
| | 54mils (16ga) 50ksi | (3) 1" x 1/16" | 1838 | 1838 |
| | 68mils (14ga) 50ksi | (3) 1" x 1/16" | 2180 | 2180 |
| | 97mils (12ga) 50ksi | (3) 1" x 1/16" | 2587 | 2587 |
| Buildex #12-24 Self-Drilling Screws to 3/16" Steel | 33mils (20ga) 33ksi | 2 | 608 | 608 |
| | | 3 | 608 | 608 |
| | | 4 | 608 | 608 |
| | 43mils (18ga) 33ksi | 2 | 905 | 905 |
| | | 3 | 905 | 905 |
| | | 4 | 905 | 905 |
| | 54mils (16ga) 50ksi | 2 | 1004 | 1004 |
| | | 3 | 1261 | 1506 |
| | | 4 | 1261 | 1838 |
| | 68mils (14ga) 50ksi | 2 | 1004 | 1004 |
| | | 3 | 1261 | 1506 |
| | | 4 | 1261 | 2008 |
| | 97mils (12ga) 50ksi | 2 | 1004 | 1004 |
| | | 3 | 1261 | 1506 |
| | | 4 | 1261 | 2008 |
| Hilti 0.157" X-UP Powder-Actuated Fasteners (PAF) to 3/16" Steel | 33mils (20ga) 33ksi | 2 | 608 | 608 |
| | | 3 | 608 | 608 |
| | | 4 | 608 | 608 |
| | 43mils (18ga) 33ksi | 2 | 905 | 905 |
| | | 3 | 905 | 905 |
| | | 4 | 905 | 905 |
| | 54mils (16ga) 50ksi | 2 | 1064 | 1064 |
| | | 3 | 1261 | 1596 |
| | | 4 | 1261 | 1838 |
| | 68mils (14ga) 50ksi | 2 | 1064 | 1064 |
| | | 3 | 1261 | 1596 |
| | | 4 | 1261 | 2129 |
| | 97mils (12ga) 50ksi | 2 | 1064 | 1064 |
| | | 3 | 1261 | 1596 |
| | | 4 | 1261 | 2129 |
| Generic Fasteners to 3/16" Steel | 33mils (20ga) 33ksi | n | 608 | 608 |
| | 43mils (18ga) 33ksi | n | 905 | 905 |
| | 54mils (16ga) 50ksi | n | 1261 | 1835 |
| | 68mils (14ga) 50ksi | n | 1261 | 2180 |
| | 97mils (12ga) 50ksi | n | 1261 | 2587 |
| Ultimate Clip Capacity | 33mils (20ga) 33ksi | — | 1825 | |
| | 43mils (18ga) 33ksi | — | 2715 | |
| | 54mils (16ga) 50ksi | — | 5514 | |
| | 68mils (14ga) 50ksi | — | 6541 | |
| | 97mils (12ga) 50ksi | — | 7762 | |

Notes:

- 1 Tabulated allowable loads do not include a 1/3 stress increase for wind.
- 2 * - Allowable capacity includes 1/8" service load limit.
- 3 # - Allowable capacity does not include 1/8" service load limit.
- 4 Allowable weld capacities were calculated by assuming 3 x 1" long welds at the ends and center of the clip bend.
- 5 Listed weld capacities were calculated assuming an E60XX electrode.
- 6 Mechanical fasteners should be attached to the structure in accordance with the manufacturer's instructions. All fasteners were assumed to be installed at a distance of 3/4" from the bend of the structural leg.
- 7 Generic fastener capacities were calculated by considering clip-stud interaction, behavior of clip in tension and compression only. The design professional has to detail for clip and desired fastener installation.
- 8 n - Number of generic mechanical fasteners required for connection to be determined by a design professional. Capacity should not exceed tabulated allowable loads.
- 9 Ultimate clip capacities were tabulated for the purpose of blast loads and they do not assume a safety factor.
- 10 Ultimate clip capacities were calculated by assuming 3 x 1" long weld at the structural leg of the clip (clip bend) welded to 3/16" steel.
- 11 It is the responsibility of the design professional to detail the project drawings for proper clip and fastener installation.
- 12 Buildex is a registered trademark of Illinois Tool Works, Inc.
- 13 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.

FastClip™ Slide Clip w/Anchor Holes

Curtain Wall/Bypass Connected to Slab w/Anchor Bolt

Vertical building movement up to 3".

ClarkDietrich FCSC-HD 68mils (14ga) is used to attach exterior curtain-wall studs to the building concrete structure and provide for vertical building movement independent of the cold-formed steel framing. Proprietary Deflection Screws are provided with each clip for attachment to the wall studs and allow for 3" vertical deflection (1-1/2" up and down) to ensure friction-free sliding. A 5/8" hole in the short leg of the clip allows for a 1/2" concrete anchor to be attached to the slab. (2) 3/8" holes allow 1/4" anchors.

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Yield Strength: 50ksi

Coating: G90

ASTM: A653/A1003

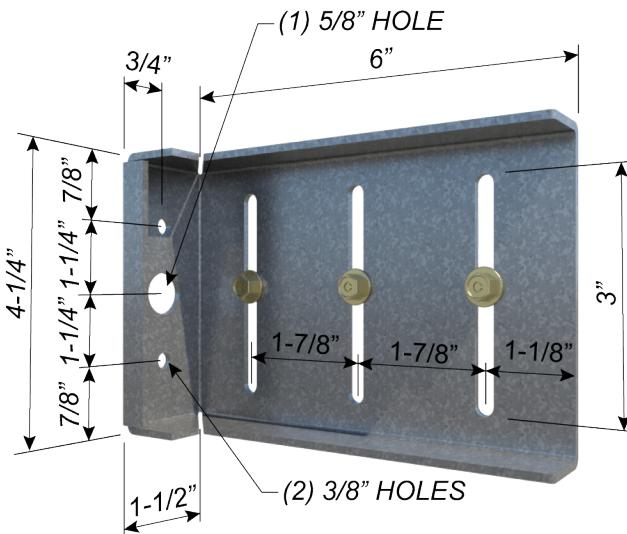
PRODUCT DIMENSIONS

FCSC-HD: 1-1/2" x 4-1/4" x 6" long

INSTALLATION

To attach the clip to the cold-formed steel framing stud, three Proprietary Deflection Screws, shall be driven through the slotted holes and positioned to allow for the appropriate building deflection.

Attachment to the structure concrete slab can be made with 1/2" bolt anchors. Anchor connection design and edge distance requirements must be approved by a design professional before installation.



FCSC-HD Clips

| Product Code | Product Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|-------------------|-----------------------|-------------------|-----------------------|
| | Mils (Gauge) | Design Thickness (in) | | |
| FCSC-HD | 68mils (14ga) | 0.0713 | 1-1/2 x 6 x 4-1/4 | 25 |

Includes (80) Proprietary Deflection Screws per carton.



Proprietary
Deflection Screw

FastClip™ Slide Clip w/Anchor Holes (FCSC-HD)

| Product Code | Stud Thickness | Yield Strength (Mils) Gauge | Anchors to Structure | ASD Allowable Loads (lbs) | | |
|--------------------------|----------------|--------------------------------|---|---------------------------|----------------------------------|----------------------------------|
| | | | | F1 | F2 w/ (2) screws into stud | F2 w/ (3) screws into stud |
| FCSC-HD 68mils (14ga) | 33mils (20ga) | 33ksi | (1) 1/2" x 2" Hilti KWIK Bolt ³ | 50 | 433 | 650 |
| | 43mils (18ga) | 33ksi | | 95 | 592 | 887 |
| | 54mils (16ga) | 50ksi | | 152 | 1054 | 1054 |
| | 68mils (14ga) | 50ksi | | 188 | 1107 | 1107 |
| | 97mils (12ga) | 50ksi | | 188 | 1107 | 1107 |

Notes:

- 1 Capacities listed in the table represent the capacity of the clip and the screws to the stud. Capacities listed in notes 3 are limits if the specified connector to the structure is used.
- 2 Capacities listed in the table/notes assume that no load reduction are required for spacing or edge distance of anchors.
- 3 Tension capacity is limited to 1069-lbs when using 1/2" x 2" Hilti KWIK Bolt TZ anchor into 3000psi cracked concrete.
- 4 Other anchors may be used to achieve the full clip capacity but must be designed separately.
- 5 Allowable loads have not been increased for wind, seismic, or other factors.
- 6 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.
- 7 It is the responsibility of the designer to properly detail connections on the contract drawings.



Universal Bypass Clip

Provides either a rigid connection or vertical building movement up to 3"

Universal Bypass Clips are used to attach exterior curtain wall studs to the building structure and provide either a rigid connection or deflecting connection for vertical building movement independent of the cold-formed steel framing.

The clips are available in standard lengths of 6", 8", 10" and 12" and are ideal for medium to larger standoff conditions. Universal Bypass Clips install quickly with screws, welds or powder-actuated fasteners, and provide adjustable standoff to ensure a plumb wall plane. For deflection application, proprietary deflection screws are provided with each clip to ensure friction-free sliding.

- Eliminates shims and scabs.
- Provides vertical movement up to 3" (1-1/2" up and 1-1/2" down) when installed as a deflection application.
- Specially designed to simplify welding installation.
- Fast, one-piece universal installation. No left or right handed clips.
- Proprietary Deflection Screws provide frictionless slip connections. One bag (80 screws) included.

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Gauge: 12 gauge (97mils)

Design Thickness: 0.0713 inches

Design Thickness: 0.1017 inches

Yield Strength: Structural Grade 50 Type H (ST50H), 50ksi (340 MPa)

Coating: G90 (Z275) hot-dipped galvanized coating

ASTM: A653, A1003

ALTERNATIVE PRODUCTS

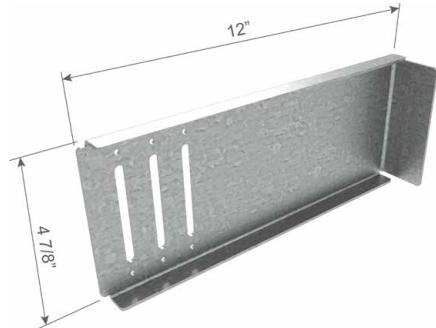
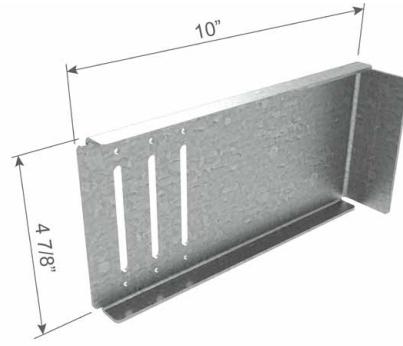
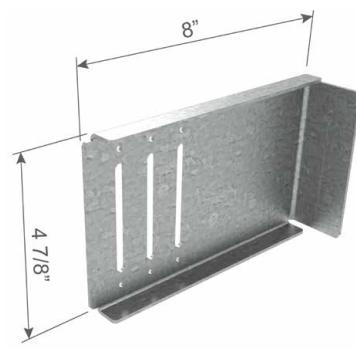
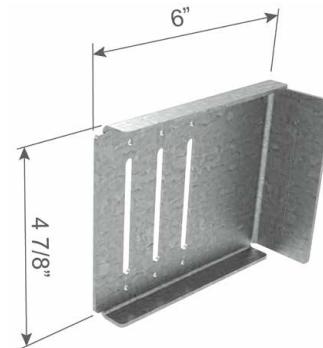
FastClip™ Slide Clip

Extended FastClip™ Slide Clip

Extended Uni-Clip™

Universal Bypass Clip (UBC)

| Product code | Mils (Gauge) | Design thickness (in) | Size (in) | Pcs/Bucket |
|--------------|---------------|-----------------------|--------------------|------------|
| UBC6-68 | 68mils (14ga) | 0.0713 | 1-7/8 x 6 x 4-7/8 | 25 |
| UBC8-68 | 68mils (14ga) | 0.0713 | 1-7/8 x 8 x 4-7/8 | 25 |
| UBC10-68 | 68mils (14ga) | 0.0713 | 1-7/8 x 10 x 4-7/8 | 25 |
| UBC12-68 | 68mils (14ga) | 0.0713 | 1-7/8 x 12 x 4-7/8 | 25 |
| UBC6-97 | 97mils (12ga) | 0.1017 | 1-7/8 x 6 x 4-7/8 | 25 |
| UBC8-97 | 97mils (12ga) | 0.1017 | 1-7/8 x 8 x 4-7/8 | 25 |
| UBC10-97 | 97mils (12ga) | 0.1017 | 1-7/8 x 10 x 4-7/8 | 25 |
| UBC12-97 | 97mils (12ga) | 0.1017 | 1-7/8 x 12 x 4-7/8 | 25 |



INSTALLATION

Connections to the building can be made with screws, welds powder-actuated fasteners. Mechanical fasteners shall be located on the embossed marks given on the scored line of the 1-7/8" flange. Attach building anchors to the structure according to the manufacturer's instructions. Anchors shall be installed through the embossments on the scored line of the clip as shown on the attached drawings. In no case shall anchors be installed more than 3/4" from the bend on the short leg of the clip. In cases of discrepancy between this information and the Design Engineer's details, the Design Engineer's details shall be followed.

For a Rigid Connection:

Attach the Universal Bypass Clip to cold-formed steel framing members using (6) #10-16 minimum self-drilling screws (not included) for the 14ga clip and (6) #12-14 minimum self-drilling screws (not included) for the 12ga clip, through the clip holes into the steel framing.



For a Deflection Connection:

Attach the Universal Bypass Clip to the cold-formed steel framing using (3) #14 Proprietary Deflection Screws (included) through the (3) slotted holes and positioned to allow for the appropriate building deflection.



Proprietary Deflection Screws:

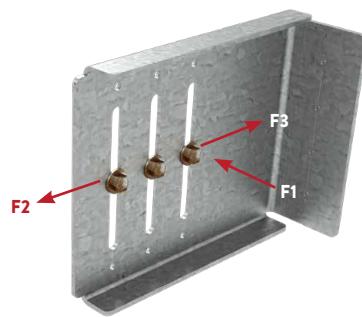
Many of the ClarkDietrich deflection clips include our proprietary deflection fastener that has been specifically designed to provide friction-free deflection. These fasteners eliminate drag, binding or resistance that can often occur with common fasteners.

Universal Bypass Clip

UBC - 14ga (As a Deflection Connection)

ATTACHMENT TO STRUCTURAL: DESIGNED BY OTHERS

| Product Code | Stud Thickness / Yield Strength | ASD Allowable Loads (lbs) | | |
|---------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (3) #14 | F2 (Tension) w/ (3) #14 | F3 (Compression) w/ (3) #14 |
| UBC6-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 255 | 1280 | 1430 |
| | 68mils (14ga) 50ksi | 255 | 1280 | 1430 |
| | 97mils (12ga) 50ksi | 255 | 1280 | 1430 |
| UBC8-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 190 | 1235 | 1340 |
| | 68mils (14ga) 50ksi | 190 | 1235 | 1340 |
| | 97mils (12ga) 50ksi | 190 | 1235 | 1340 |
| UBC10-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 150 | 1185 | 1325 |
| | 68mils (14ga) 50ksi | 150 | 1185 | 1325 |
| | 97mils (12ga) 50ksi | 150 | 1185 | 1325 |
| UBC12-68 68mils (14ga) | 33mils (20ga) 33ksi | 90 | 605 | 605 |
| | 43mils (18ga) 33ksi | 90 | 905 | 905 |
| | 54mils (16ga) 50ksi | 90 | 1190 | 1300 |
| | 68mils (14ga) 50ksi | 90 | 1190 | 1300 |
| | 97mils (12ga) 50ksi | 90 | 1190 | 1300 |



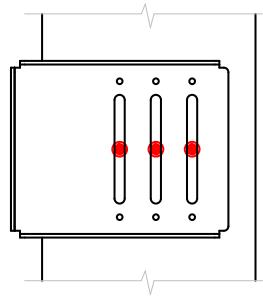
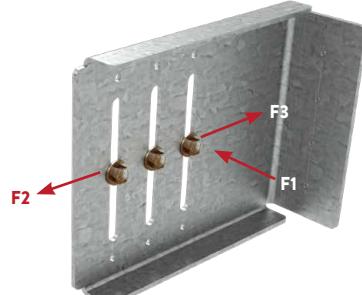
Notes:

- 1 Allowable loads (ASD) listed represent the capacity of the clip to the stud only (framing connection).
- 2 Allowable Loads have not been increased for the wind, seismic, or other factors.
- 3 An 1/8-in service deflection load limit was applied to clips resisting F2 and F3 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 4 For Deflection connection, one #14 shouldered screw (Deflection Screw) shall be installed per slot, placed at the center. #14 Deflection Screws are provided with each Universal Bypass Clip.
- 5 Listed capacities are based on the maximum screw pattern. For maximum screw pattern, fill #14 Deflection screws in each slot for a Deflection Clip.
- 6 It is the responsibility of the design professional to design the attachment of the clips to the structure and verify that their capacity meets the requirements of the intended application.
- 7 Nominal or LRFD loads are available upon request.

UBC - 14ga (As a Deflection Connection)

ATTACHMENT TO STRUCTURAL: WELDED

| Product Code | Stud Thickness / Yield Strength | ASD Allowable Loads (lbs) | | |
|---------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (3) #14 | F2 (Tension) w/ (3) #14 | F3 (Compression) w/ (3) #14 |
| UBC6-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 255 | 1275 | 1430 |
| | 68mils (14ga) 50ksi | 255 | 1275 | 1430 |
| | 97mils (12ga) 50ksi | 255 | 1275 | 1430 |
| UBC8-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 190 | 1275 | 1340 |
| | 68mils (14ga) 50ksi | 190 | 1275 | 1340 |
| | 97mils (12ga) 50ksi | 190 | 1275 | 1340 |
| UBC10-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 150 | 1275 | 1325 |
| | 68mils (14ga) 50ksi | 150 | 1275 | 1325 |
| | 97mils (12ga) 50ksi | 150 | 1275 | 1325 |
| UBC12-68 68mils (14ga) | 33mils (20ga) 33ksi | 90 | 605 | 605 |
| | 43mils (18ga) 33ksi | 90 | 905 | 905 |
| | 54mils (16ga) 50ksi | 90 | 1275 | 1300 |
| | 68mils (14ga) 50ksi | 90 | 1275 | 1300 |
| | 97mils (12ga) 50ksi | 90 | 1275 | 1300 |



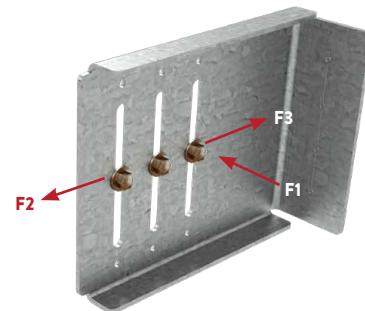
(3) #14 Deflection Screw Pattern
Shown in a UBC6 Clip

Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 For Deflection clip, one #14 shouldered screw (UBC Deflection Screw) shall be installed per slot, placed at the center. Clip gauge-specific #14 UBC Deflection Screws are provided with each Universal Bypass Clip.
- 3 Listed capacities are based on the maximum screw pattern. For maximum screw pattern, fill #14 Deflection screws in each slot for a Deflection Clip.
- 4 The Allowable loads listed for welds are based on the following weld lengths:
- (2) Welds - 1" along back of short leg clip bend (each weld equally distanced from center of clip)
- 5 Use E70XX (min.) electrodes.
- 6 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 7 Nominal or LRFD loads are available upon request.

UBC - 14ga (As a Deflection Connection)**ATTACHMENT TO STRUCTURAL: (4) #12-24 FASTENERS**

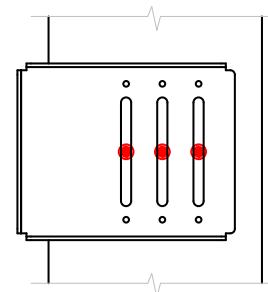
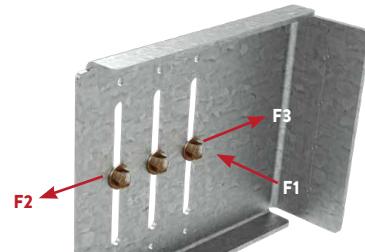
| Product Code | Stud Thickness / Yield Strength | ASD Allowable Loads (lbs) | | |
|---------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (3) #14 | F2 (Tension) w/ (3) #14 | F3 (Compression) w/ (3) #14 |
| UBC6-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 255 | 1280 | 1430 |
| | 68mils (14ga) 50ksi | 255 | 1280 | 1430 |
| | 97mils (12ga) 50ksi | 255 | 1280 | 1430 |
| UBC8-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 190 | 1235 | 1340 |
| | 68mils (14ga) 50ksi | 190 | 1235 | 1340 |
| | 97mils (12ga) 50ksi | 190 | 1235 | 1340 |
| UBC10-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 150 | 1185 | 1325 |
| | 68mils (14ga) 50ksi | 150 | 1185 | 1325 |
| | 97mils (12ga) 50ksi | 150 | 1185 | 1325 |
| UBC12-68 68mils (14ga) | 33mils (20ga) 33ksi | 90 | 605 | 605 |
| | 43mils (18ga) 33ksi | 90 | 905 | 905 |
| | 54mils (16ga) 50ksi | 90 | 1190 | 1300 |
| | 68mils (14ga) 50ksi | 90 | 1190 | 1300 |
| | 97mils (12ga) 50ksi | 90 | 1190 | 1300 |

**Notes:**

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 An 1/8-in service deflection load limit was applied to clips resisting F2 and F3 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 3 For Deflection clip, one #14 shouldered screw (UBC Deflection Screw) shall be installed per slot, placed at the center. Clip gauge-specific #14 UBC Deflection Screws are provided with each UBC.
- 4 Listed capacities are based on the maximum screw pattern. For maximum screw pattern, fill #14 Deflection screws in each slot for a Deflection Clip.
- 5 #12-24 Fasteners shall be used for attachment to 3/16" steel structure. (4) Fastener configuration shall be used. Screws should be placed at indentations scribed on the short leg of the UBC clip.
- 6 The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- 7 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 8 Nominal or LRFD loads are available upon request.

UBC - 14ga (As a Deflection Connection)**ATTACHMENT TO STRUCTURAL: (4) 0.157" PAFs**

| Product Code | Stud Thickness / Yield Strength | ASD Allowable Loads (lbs) | | |
|---------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (3) #14 | F2 (Tension) w/ (3) #14 | F3 (Compression) w/ (3) #14 |
| UBC6-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 255 | 1280 | 1430 |
| | 68mils (14ga) 50ksi | 255 | 1280 | 1430 |
| | 97mils (12ga) 50ksi | 255 | 1280 | 1430 |
| UBC8-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 190 | 1235 | 1340 |
| | 68mils (14ga) 50ksi | 190 | 1235 | 1340 |
| | 97mils (12ga) 50ksi | 190 | 1235 | 1340 |
| UBC10-68 68mils (14ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 150 | 1185 | 1325 |
| | 68mils (14ga) 50ksi | 150 | 1185 | 1325 |
| | 97mils (12ga) 50ksi | 150 | 1185 | 1325 |
| UBC12-68 68mils (14ga) | 33mils (20ga) 33ksi | 90 | 605 | 605 |
| | 43mils (18ga) 33ksi | 90 | 905 | 905 |
| | 54mils (16ga) 50ksi | 90 | 1190 | 1300 |
| | 68mils (14ga) 50ksi | 90 | 1190 | 1300 |
| | 97mils (12ga) 50ksi | 90 | 1190 | 1300 |



(3) #14 Deflection Screw Pattern
Shown in a UBC6 Clip

Notes:

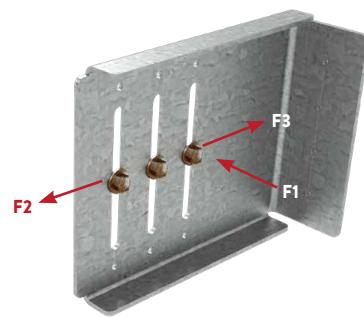
- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 Capacities considered for Hilti PAFs are based on fastener strengths listed in ICC ESR-2269.
- 3 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 4 Listed capacities are based on the maximum screw pattern. For maximum screw pattern, fill #14 Deflection screws in each slot for a Deflection Clip.
- 5 Nominal or LRFD loads are available upon request.
- 6 An 1/8-in service deflection load limit was applied to clips resisting F2 and F3 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 7 For Deflection clip, one #14 shouldered screw (UBC Deflection Screw) shall be installed per slot, placed at the center. Clip gauge-specific #14 UBC Deflection Screws are provided with each UBC.
- 8 0.157" Hilti X-U PAFs shall be used for attachment to 3/16" steel structure. (4) Fastener configuration shall be used. PAFs should be placed at indentations scribed on the short leg of the UBC clip.

Universal Bypass Clip

UBC - 12ga (As a Deflection Connection)

ATTACHMENT TO STRUCTURAL: DESIGNED BY OTHERS

| Product Code | Stud Thickness / Yield Strength | ASD Allowable Loads (lbs) | | |
|---------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (3) #14 | F2 (Tension) w/ (3) #14 | F3 (Compression) w/ (3) #14 |
| UBC6-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 260 | 1535 | 1680 |
| | 68mils (14ga) 50ksi | 280 | 1535 | 1680 |
| | 97mils (12ga) 50ksi | 280 | 1535 | 1680 |
| UBC8-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 225 | 1525 | 1685 |
| | 68mils (14ga) 50ksi | 225 | 1525 | 1685 |
| | 97mils (12ga) 50ksi | 225 | 1525 | 1685 |
| UBC10-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 185 | 1490 | 1630 |
| | 68mils (14ga) 50ksi | 185 | 1490 | 1630 |
| | 97mils (12ga) 50ksi | 185 | 1490 | 1630 |
| UBC12-97 97mils (12ga) | 33mils (20ga) 33ksi | 90 | 605 | 605 |
| | 43mils (18ga) 33ksi | 90 | 905 | 905 |
| | 54mils (16ga) 50ksi | 90 | 1490 | 1630 |
| | 68mils (14ga) 50ksi | 90 | 1490 | 1630 |
| | 97mils (12ga) 50ksi | 90 | 1490 | 1630 |



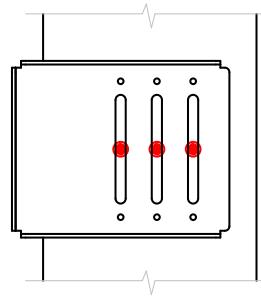
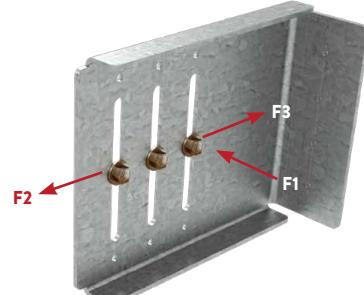
Notes:

- 1 Allowable loads (ASD) listed represent the capacity of the clip to the stud only. (Framing connection).
- 2 Allowable Loads have not been increased for the wind, seismic, or other factors.
- 3 An 1/8-in service deflection load limit was applied to clips resisting F2 and F3 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 4 For Deflection connection, one #14 shouldered screw (Deflection Screw) shall be installed per slot, placed at the center. #14 Deflection Screws are provided with each Universal Bypass Clip.
- 5 Listed capacities are based on the maximum screw pattern. For maximum screw pattern, fill #14 Deflection screws in each slot for a Deflection Clip.
- 6 It is the responsibility of the design professional to design the attachment of the clips to the structure and verify that their capacity meets the requirements of the intended application.
- 7 Nominal or LRFD loads are available upon request.

UBC - 12ga (As a Deflection Connection)

ATTACHMENT TO STRUCTURAL: WELDED

| Product Code | Stud Thickness / Yield Strength | ASD Allowable Loads (lbs) | | |
|---------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (3) #14 | F2 (Tension) w/ (3) #14 | F3 (Compression) w/ (3) #14 |
| UBC6-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 260 | 1535 | 1680 |
| | 68mils (14ga) 50ksi | 280 | 1535 | 1680 |
| | 97mils (12ga) 50ksi | 280 | 1535 | 1680 |
| UBC8-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 225 | 1535 | 1685 |
| | 68mils (14ga) 50ksi | 225 | 1535 | 1685 |
| | 97mils (12ga) 50ksi | 225 | 1535 | 1685 |
| UBC10-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 185 | 1535 | 1630 |
| | 68mils (14ga) 50ksi | 185 | 1535 | 1630 |
| | 97mils (12ga) 50ksi | 185 | 1535 | 1630 |
| UBC12-97 97mils (12ga) | 33mils (20ga) 33ksi | 90 | 605 | 605 |
| | 43mils (18ga) 33ksi | 90 | 905 | 905 |
| | 54mils (16ga) 50ksi | 90 | 1535 | 1630 |
| | 68mils (14ga) 50ksi | 90 | 1535 | 1630 |
| | 97mils (12ga) 50ksi | 90 | 1535 | 1630 |



(3) #14 Deflection Screw Pattern
Shown in a UBC6 Clip

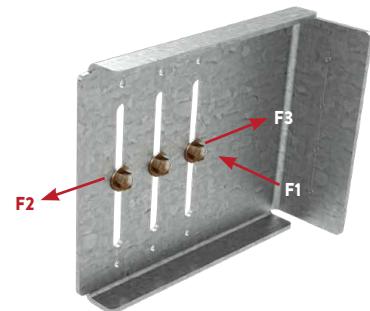
Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 For Deflection clip, one #14 shouldered screw (UBC Deflection Screw) shall be installed per slot, placed at the center. Clip gauge-specific #14 UBC Deflection Screws are provided with each Universal Bypass Clip.
- 3 Listed capacities are based on the maximum screw pattern. For maximum screw pattern, fill #14 Deflection screws in each slot for a Deflection Clip.
- 4 The Allowable loads listed for welds are based on the following weld lengths:
- (2) Welds - 1" along back of short leg clip bend (each weld equally distanced from center of clip)
- 5 Use E70XX (min.) electrodes.
- 6 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 7 Nominal or LRFD loads are available upon request.

UBC - 12ga (As a Deflection Connection)

ATTACHMENT TO STRUCTURAL: (4) #12-24 FASTENERS

| Product Code | Stud Thickness / Yield Strength | ASD Allowable Loads (lbs) | | |
|---------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (3) #14 | F2 (Tension) w/ (3) #14 | F3 (Compression) w/ (3) #14 |
| UBC6-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 260 | 1535 | 1680 |
| | 68mils (14ga) 50ksi | 280 | 1535 | 1680 |
| | 97mils (12ga) 50ksi | 280 | 1535 | 1680 |
| UBC8-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 225 | 1525 | 1685 |
| | 68mils (14ga) 50ksi | 225 | 1525 | 1685 |
| | 97mils (12ga) 50ksi | 225 | 1525 | 1685 |
| UBC10-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 185 | 1490 | 1630 |
| | 68mils (14ga) 50ksi | 185 | 1490 | 1630 |
| | 97mils (12ga) 50ksi | 185 | 1490 | 1630 |
| UBC12-97 97mils (12ga) | 33mils (20ga) 33ksi | 90 | 605 | 605 |
| | 43mils (18ga) 33ksi | 90 | 905 | 905 |
| | 54mils (16ga) 50ksi | 90 | 1490 | 1630 |
| | 68mils (14ga) 50ksi | 90 | 1490 | 1630 |
| | 97mils (12ga) 50ksi | 90 | 1490 | 1630 |



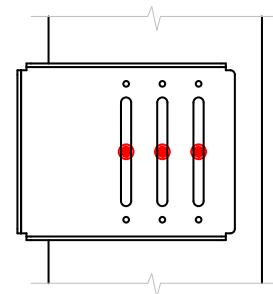
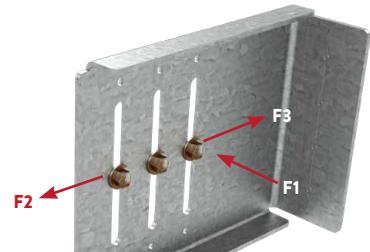
Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 An 1/8-in service deflection load limit was applied to clips resisting F2 and F3 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 3 For Deflection clip, one #14 shouldered screw (UBC Deflection Screw) shall be installed per slot, placed at the center. Clip gauge-specific #14 UBC Deflection Screws are provided with each UBC.
- 4 Listed capacities are based on the maximum screw pattern. For maximum screw pattern, fill #14 Deflection screws in each slot for a Deflection Clip.
- 5 #12-24 Fasteners shall be used for attachment to 3/16" steel structure. (4) Fastener configuration shall be used. Screws should be placed at indentations scribed on the short leg of the UBC clip.
- 6 The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- 7 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 8 Nominal or LRFD loads are available upon request.

UBC - 12ga (As a Deflection Connection)

ATTACHMENT TO STRUCTURAL: (4) 0.157" PAFs

| Product Code | Stud Thickness / Yield Strength | ASD Allowable Loads (lbs) | | |
|---------------------------|---------------------------------|---------------------------|-------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (3) #14 | F2 (Tension) w/ (3) #14 | F3 (Compression) w/ (3) #14 |
| UBC6-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 260 | 1535 | 1680 |
| | 68mils (14ga) 50ksi | 280 | 1535 | 1680 |
| | 97mils (12ga) 50ksi | 280 | 1535 | 1680 |
| UBC8-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 225 | 1525 | 1685 |
| | 68mils (14ga) 50ksi | 225 | 1525 | 1685 |
| | 97mils (12ga) 50ksi | 225 | 1525 | 1685 |
| UBC10-97 97mils (12ga) | 33mils (20ga) 33ksi | 110 | 605 | 605 |
| | 43mils (18ga) 33ksi | 140 | 905 | 905 |
| | 54mils (16ga) 50ksi | 185 | 1490 | 1630 |
| | 68mils (14ga) 50ksi | 185 | 1490 | 1630 |
| | 97mils (12ga) 50ksi | 185 | 1490 | 1630 |
| UBC12-97 97mils (12ga) | 33mils (20ga) 33ksi | 90 | 605 | 605 |
| | 43mils (18ga) 33ksi | 90 | 905 | 905 |
| | 54mils (16ga) 50ksi | 90 | 1490 | 1630 |
| | 68mils (14ga) 50ksi | 90 | 1490 | 1630 |
| | 97mils (12ga) 50ksi | 90 | 1490 | 1630 |



(3) #14 Deflection Screw Pattern
Shown in a UBC6 Clip

Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 Capacities considered for Hilti PAFs are based on fastener strengths listed in ICC ESR-2269.
- 3 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 4 Listed capacities are based on the maximum screw pattern. For maximum screw pattern, fill #14 Deflection screws in each slot for a Deflection Clip.
- 5 Nominal or LRFD loads are available upon request.
- 6 An 1/8-in service deflection load limit was applied to clips resisting F2 and F3 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 7 For Deflection clip, one #14 shouldered screw (UBC Deflection Screw) shall be installed per slot, placed at the center. Clip gauge-specific #14 UBC Deflection Screws are provided with each UBC.
- 8 0.157" Hilti X-U PAFs shall be used for attachment to 3/16" steel structure. (4) Fastener configuration shall be used. PAFs should be placed at indentations scribed on the short leg of the UBC clip.

Fast Top™ Clip

Head-of-wall connection

Head-of-wall deflection conditions for exterior curtain wall and interior, nonload-bearing walls.

ClarkDietrich Fast Top™ Clips are used in head-of-wall deflection conditions for in-fill curtain wall assemblies and/or interior nonload-bearing partitions to provide for vertical movement. These clips are used in place of, or in combination with, deflection track. They also make a positive attachment and eliminate the need to install bridging continuously throughout the upper-most punchouts. The Fast Top clip connectors can be attached to the underside of structural members, concrete decks or floor assemblies. Studs must be cut less than full height to enable vertical movement up to 2-1/2" (1-1/4" up and down). Fast Top clips install quickly with welds, screws or powder-actuated fasteners. Proprietary Deflection Screws are used to attach the clip to the cold-formed framing and to ensure frictionless deflection. These clips are also embossed with fastening patterns to ensure accurate placement of fasteners.

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

ALTERNATIVE PRODUCTS

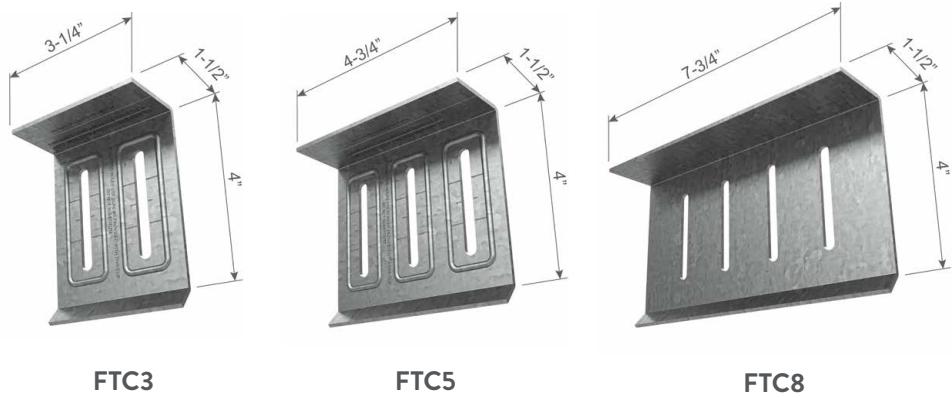
MaxTrak® Slotted Deflection Track

INSTALLATION

Connections to the building can be made with screws, powder-actuated fasteners, drill-in concrete anchors or welding.

Mechanical fasteners shall be equally spaced along the scored line of the 1-1/2" flange. When using the tabulated allowable loads in the tables on the opposite page, connections to the building structure must be made according to the notes.

Proprietary Deflection Screws are used to attach the clip to the cold-formed steel framing. Screws shall be driven through the slotted holes and positioned to allow for the appropriate building deflection. Two deflection screws are required with the FTC3, three deflection screws are required with the FTC5, and four deflection screws are required with the FTC8, FTC10, FTC12.



Fast Top™ Clip (FTC)

| Product Code | Product Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|-------------------|-----------------------|--------------------|-----------------------|
| | Mils (Gauge) | Design Thickness (in) | | |
| FTC3 | 68mils (14ga) | 0.0713 | 1-1/2 x 4 x 3-1/4 | 25 |
| FTC5 | 68mils (14ga) | 0.0713 | 1-1/2 x 4 x 4-3/4 | 30 |
| FTC8 | 68mils (14ga) | 0.0713 | 1-1/2 x 4 x 7-3/4 | 25 |
| FTC10 | 68mils (14ga) | 0.0713 | 1-1/2 x 4 x 9-3/4 | 25 |
| FTC12 | 68mils (14ga) | 0.0713 | 1-1/2 x 4 x 11-3/4 | 25 |

FTC3 includes 55 Proprietary Deflection Screws per carton.

FTC5 includes 110 Proprietary Deflection Screws per carton.

FTC8 includes 110 Proprietary Deflection Screws per carton.

FTC10 includes 110 Proprietary Deflection Screws per carton.

FTC12 includes 110 Proprietary Deflection Screws per carton.

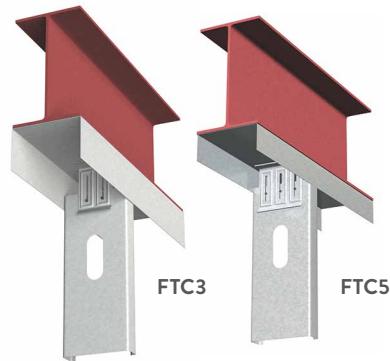


Proprietary Deflection Screw

U.S. Patent No. 6,688,069

FTC3 Allowable Loads (lbs)

| Stud Thickness / Yield Strength | Slip Allowance (in) | Welded direct to structural steel | Mechanically Anchored | | | | |
|---------------------------------|---------------------|-----------------------------------|-----------------------|---------------------|----------------------|--------------------------------|---|
| | | | Number of Anchors | PAF in steel (FS=5) | PAF in steel (FS=10) | Buildex #12-24 screws in steel | Hilti 1/4" x 1-3/4" Kwik-Cons in concrete |
| 20ga (33mils) 33ksi | 0.75 | 259 | 2 | 259 | 252 | 259 | 241 |
| | | 259 | 3 | 259 | 259 | 259 | — |
| | 1.25 | 259 | 2 | 259 | 219 | 259 | 206 |
| | | 259 | 3 | 259 | 241 | 259 | — |
| 18ga (43mils) 33ksi | 0.75 | 471 | 2 | 471 | 252 | 471 | 241 |
| | | 471 | 3 | 471 | 286 | 471 | — |
| | 1.25 | 471 | 2 | 437 | 219 | 471 | 206 |
| | | 471 | 3 | 471 | 241 | 471 | — |
| 16ga (54mils) 33ksi | 0.75 | 551 | 2 | 504 | 252 | 551 | 241 |
| | | 551 | 3 | 551 | 286 | 551 | — |
| | 1.25 | 551 | 2 | 437 | 219 | 551 | 206 |
| | | 551 | 3 | 477 | 241 | 551 | — |



FTC5 Allowable Loads (lbs)

| Stud Thickness / Yield Strength | Slip Allowance (in) | Welded direct to structural steel | Mechanically Anchored | | | | |
|---------------------------------|---------------------|-----------------------------------|-----------------------|---------------------|----------------------|--------------------------------|---|
| | | | Number of Anchors | PAF in steel (FS=5) | PAF in steel (FS=10) | Buildex #12-24 screws in steel | Hilti 1/4" x 1-3/4" Kwik-Cons in concrete |
| 20ga (33mils) 33ksi | 0.75 | 386 | 2 | 386 | 317 | 386 | 386 |
| | | 386 | 3 | 386 | 386 | 386 | 386 |
| | | 386 | 4 | 386 | 386 | 386 | — |
| | 1.25 | 386 | 2 | 386 | 286 | 386 | 386 |
| | | 386 | 3 | 386 | 338 | 386 | 386 |
| | | 386 | 4 | 386 | 371 | 386 | — |
| 18ga (43mils) 33ksi | 0.75 | 505 | 2 | 505 | 317 | 505 | 469 |
| | | 505 | 3 | 505 | 389 | 505 | 466 |
| | | 505 | 4 | 505 | 440 | 505 | — |
| | 1.25 | 505 | 2 | 505 | 286 | 505 | 411 |
| | | 505 | 3 | 505 | 338 | 505 | 399 |
| | | 505 | 4 | 505 | 371 | 505 | — |
| 16ga (54mils) 33ksi | 0.75 | 638 | 2 | 634 | 317 | 638 | 469 |
| | | 638 | 3 | 638 | 389 | 638 | 466 |
| | | 638 | 4 | 638 | 440 | 638 | — |
| | 1.25 | 638 | 2 | 571 | 286 | 638 | 411 |
| | | 638 | 3 | 638 | 338 | 638 | 399 |
| | | 638 | 4 | 638 | 371 | 638 | — |
| 16ga (54mils) 50ksi | 0.75 | 1061 | 2 | 634 | 317 | 852 | 469 |
| | | 1061 | 3 | 779 | 389 | 1061 | 466 |
| | | 1061 | 4 | 879 | 440 | 1061 | — |
| | 1.25 | 1061 | 2 | 571 | 286 | 789 | 411 |
| | | 1061 | 3 | 676 | 338 | 922 | 399 |
| | | 1061 | 4 | 738 | 371 | 922 | — |

Notes:

- For the FTC3, tabulated values for welds are based on 3-1/4" of weld along each edge of the 1-1/2" clip leg.
- For the FTC3, tabulated values for the PAFs and Buildex screws are based on the following: the outermost anchors are placed 1/2" (min.) away from the clip edge and/or bearing edge, anchors are spaced at 2-1/4" (min.) when using two anchors, and 1-1/8" (min.) when using three anchors.
- For the FTC3, tabulated values for Hilti Kwik-Cons are based on the following: anchors are spaced at 2-1/4" o.c. (min.); anchors are placed 3/4" (min.) away from edge of building structure, and 1/2" (min.) away from edge of the Fast Top Clip. The tabulated values are based on 3000psi normal weight concrete.
- For the FTC5, tabulated values for welds are based on 4-1/2" of weld along each edge of the 1-1/2" clip leg.
- For the FTC5, tabulated values for the PAFs and Buildex screws are based on the following: the outermost anchors are placed 1/2" (min.) away from the clip edge and/or bearing edge; anchors are spaced at 3-3/4" (min.) when using two anchors, 1-7/8" (min.) when using three anchors, and 1-1/4" when using four anchors.

6 For the FTC5, tabulated values for Hilti Kwik-Cons are based on the following: anchors are spaced at 3-3/4" (min.) when using two anchors, and 1-7/8" when using three anchors; anchors are placed 3/4" (min.) away from edge of building structure and 1/2" (min.) away from edge of the Fast Top Clip. The tabulated values are based on 3000psi normal weight concrete.

7 Capacities listed for PAFs are based on minimum PAF requirements listed in General Note #6 on page 9.

8 #12-24 screws shall have ultimate shear and tension capacities equal to or greater than those listed on page 6.

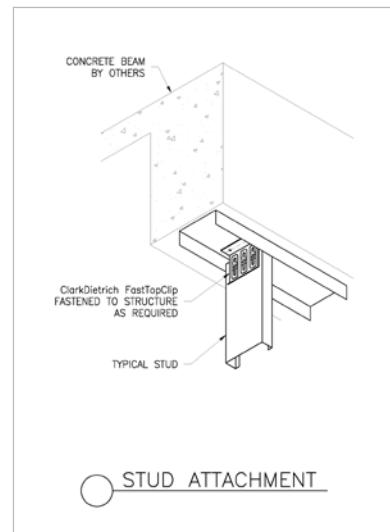
9 It is the responsibility of the design professional to detail the project drawings for proper clip attachment.

10 Contact ClarkDietrich at 888-437-3244 for technical assistance.

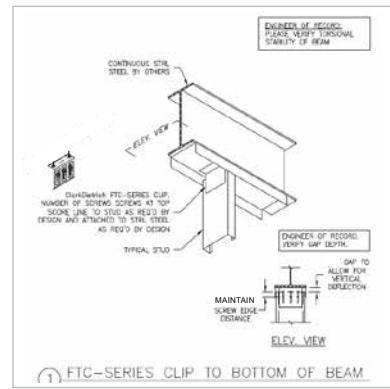
11 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.

12 Buildex is a registered trademark of Illinois Tool Works, Inc.

TYPICAL CONSTRUCTION DETAILS



STUD ATTACHMENT



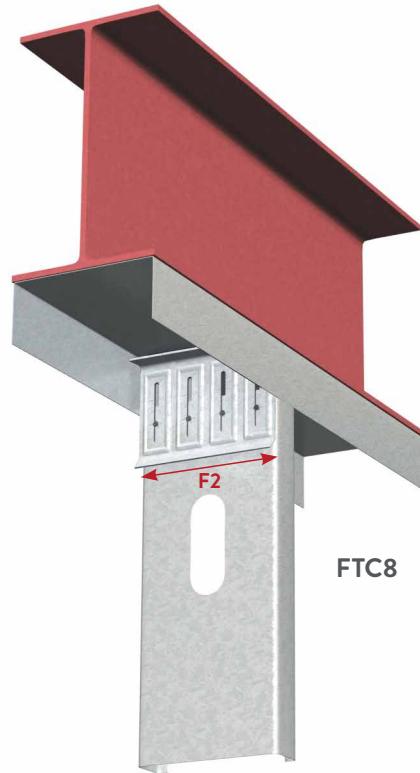
Visit our CAD Library at cad.clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

Fast Top™ Clip

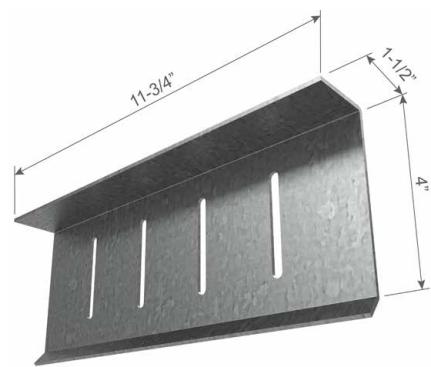
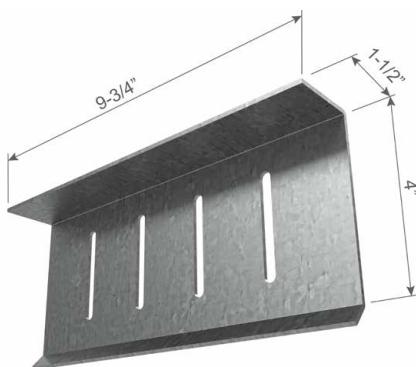
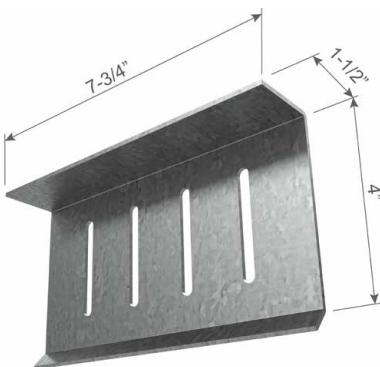
Head-of-wall connection

FTC8/FTC10/FTC12 Allowable Loads (lbs)

| Stud Thickness / Yield strength | Number of screws to CFS framing | Weld capacity (5-in weld) F2 Load | Mechanically Anchored | | | |
|---------------------------------|---------------------------------|-----------------------------------|-----------------------|--------------------------------|----------------------------------|-----------------------------|
| | | | Number of anchors | (0.157" XU) PAFs (3/16" steel) | (0.145" XU15) PAFs (3/16" steel) | #12-24 screws (3/16" steel) |
| 33mils (20ga) 33ksi | 4 | 450 | 3 | 450 | 320 | 450 |
| | | | 4 | 450 | 410 | 450 |
| | | | 5 | 450 | 450 | 450 |
| 43mils (18ga) 33ksi | 4 | 890 | 3 | 850 | 320 | 890 |
| | | | 4 | 890 | 410 | 890 |
| | | | 5 | 890 | 490 | 890 |
| 54mils (16ga) 50ksi | 4 | 1300 | 3 | 850 | 320 | 1300 |
| | | | 4 | 1070 | 410 | 1300 |
| | | | 5 | 1290 | 490 | 1300 |
| 68mils (14ga) 50ksi | 4 | 1670 | 3 | 850 | 320 | 1380 |
| | | | 4 | 1070 | 410 | 1670 |
| | | | 5 | 1290 | 490 | 1670 |
| 97mils (12ga) 50ksi | 4 | 2230 | 3 | 850 | 320 | 1380 |
| | | | 4 | 1070 | 410 | 1750 |
| | | | 5 | 1290 | 490 | 2100 |

**Notes:**

- 1 Tabulated capacities are for end reaction load directed parallel with the axis of the clip bend, F2 as shown in right image.
- 2 The tabulated values for weld capacities are based on a minimum weld length of 5" centered along the clip bend. E70xx weld assumed to a minimum 3/16" thick A36 structural steel component.
- 3 The tabulated values for #12-24 screws and Hilti PAFs assume a connection centered on a minimum 3/16" thick x 6" wide ASTM A36 structural steel component. These fasteners are to be placed in a single line 3/4" from the 90° bend in the clip.
- 4 Minimum fastener spacing assumed to vary with the number of mechanical fasteners used:
 - a) Three anchors assumed to be spaced 2.5" on-center;
 - b) Four anchors assumed to be spaced 1.67" on-center;
 - c) Five anchors assumed to be spaced 1.25" on-center.
- 5 The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- 6 Capacities listed for #12-24 screws are based on screw strengths listed in CFSEI Tech Note F701-12.
- 7 Capacities listed for Hilti PAFs are based on fastener strengths listed in ICC ESR-2269.
- 8 The FTC shall be connected to the steel framing using ClarkDietrich Proprietary screws (included) installed in all slots of the FTC clip leg; Listed capacities are for the ClarkDietrich Proprietary screws centered in the slotted openings.
- 9 It is the responsibility of the design professional to detail the attachment of the clips and verify that their capacity meets the requirements of the intended application.



Flat Tail™ Slide Clip

Curtain Wall/Bypass

Allows for vertical building movement and provides a horizontal standoff.

ClarkDietrich's Flat Tail™ Slide Clip is used to attach exterior curtain wall studs to the building structure and provide for 2-1/4" vertical building movement independent of the cold-formed steel framing. A Flat Tail Slide Clip provides variable standoff and eliminates the need for shims or additional framing components. The clip easily fastens to the floor/ceiling beam and is secured to the stud with ClarkDietrich Proprietary HD Deflection Screws. The clip restricts lateral movement, but enables vertical movement.

CLIP THICKNESS

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Gauge: 10 gauge (118mils)

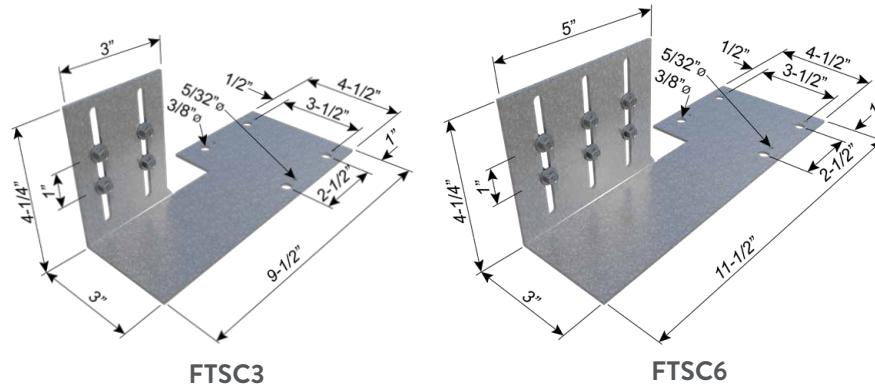
Design Thickness: 0.1242 inches

MATERIAL SPECIFICATIONS

Coatings: G90

Yield Strength: 50ksi

ASTM: A653/A1003



Flat Tail™ Slide Clip (FTSC)

| Product code | Product Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|-------------------|-----------------------|--------------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| FTSC3-97 | 97mils (12ga) | 0.1017 | 4-1/2" x 9-1/2" x 4-1/4" | 25 |
| FTSC3-118 | 118mils (10ga) | 0.1242 | 4-1/2" x 9-1/2" x 4-1/4" | 25 |

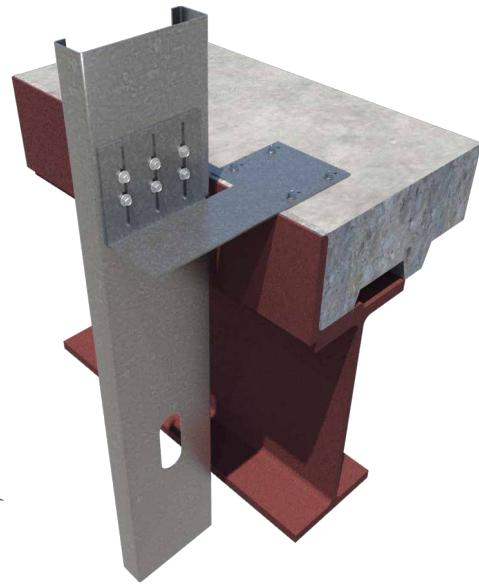
| Product code | Product Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|-------------------|-----------------------|---------------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| FTSC6-97 | 97mils (12ga) | 0.1017 | 4-1/2" x 11-1/2" x 4-1/4" | 25 |
| FTSC6-118 | 118mils (10ga) | 0.1242 | 4-1/2" x 11-1/2" x 4-1/4" | 25 |

Notes:

- Clips: 25 clips per bucket.
- Includes 110 Proprietary HD Deflection Screws for FTSC3 per bucket.
- Includes 160 Proprietary HD Deflection Screws for FTSC6 per bucket.

PROPRIETARY DEFLECTION SCREWS

Many of the ClarkDietrich deflection clips include our Proprietary Deflection Screw that has been specifically designed to provide friction-free deflection. These fasteners eliminate drag, binding or resistance that can often occur with common fasteners.



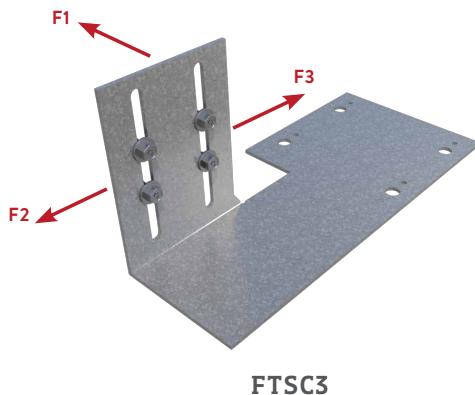
Proprietary
HD Deflection Screw
(10ga and 12ga Clips Only)

Flat Tail™ Slide Clip

ATTACHMENT TO STRUCTURE: DESIGNED BY OTHERS

3-5/8" Flat Tail™ Slide Clip (FTSC3)

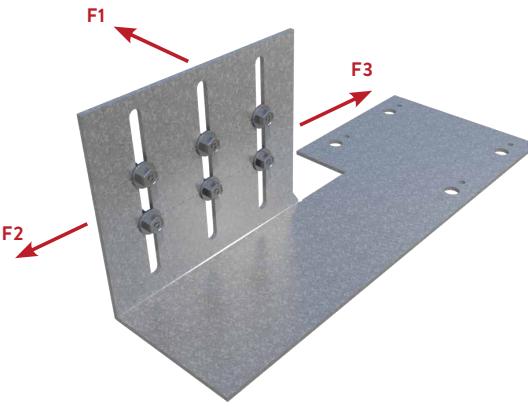
| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|--|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 33mils (20ga) 33ksi | (2) Fasteners to be designed by others | 110 | 416 | 388 |
| | 43mils (18ga) 33ksi | | 144 | 548 | 397 |
| | 54mils (16ga) 50ksi | | 261 | 759 | 596 |
| | 68mils (14ga) 50ksi | | 268 | 766 | 673 |
| | 97mils (12ga) 50ksi | | 468 | 909 | 699 |
| | 33mils (20ga) 33ksi | (4) Fasteners to be designed by others | 110 | 506 | 428 |
| | 43mils (18ga) 33ksi | | 144 | 660 | 397 |
| | 54mils (16ga) 50ksi | | 261 | 759 | 596 |
| | 68mils (14ga) 50ksi | | 268 | 766 | 673 |
| | 97mils (12ga) 50ksi | | 468 | 909 | 769 |
| FTSC3-118 | 33mils (20ga) 33ksi | (2) Fasteners to be designed by others | 110 | 607 | 406 |
| | 43mils (18ga) 33ksi | | 144 | 816 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 816 | 774 |
| | 68mils (14ga) 50ksi | | 328 | 924 | 834 |
| | 97mils (12ga) 50ksi | | 468 | 924 | 924 |
| | 33mils (20ga) 33ksi | (4) Fasteners to be designed by others | 110 | 607 | 445 |
| | 43mils (18ga) 33ksi | | 144 | 816 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 816 | 789 |
| | 68mils (14ga) 50ksi | | 328 | 924 | 860 |
| | 97mils (12ga) 50ksi | | 468 | 924 | 924 |



FTSC3

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|--|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 33mils (20ga) 33ksi | (2) Fasteners to be designed by others | 165 | 845 | 551 |
| | 43mils (18ga) 33ksi | | 216 | 946 | 724 |
| | 54mils (16ga) 50ksi | | 316 | 1057 | 914 |
| | 68mils (14ga) 50ksi | | 444 | 1163 | 962 |
| | 97mils (12ga) 50ksi | | 444 | 1383 | 1063 |
| | 33mils (20ga) 33ksi | (4) Fasteners to be designed by others | 165 | 869 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 959 | 755 |
| | 54mils (16ga) 50ksi | | 392 | 1057 | 930 |
| | 68mils (14ga) 50ksi | | 476 | 1220 | 1055 |
| | 97mils (12ga) 50ksi | | 650 | 1558 | 1314 |
| FTSC6-118 | 33mils (20ga) 33ksi | (2) Fasteners to be designed by others | 165 | 861 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 1173 | 874 |
| | 54mils (16ga) 50ksi | | 337 | 1515 | 1181 |
| | 68mils (14ga) 50ksi | | 492 | 1682 | 1265 |
| | 97mils (12ga) 50ksi | | 492 | 2026 | 1439 |
| | 33mils (20ga) 33ksi | (4) Fasteners to be designed by others | 165 | 953 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 1221 | 891 |
| | 54mils (16ga) 50ksi | | 392 | 1515 | 1215 |
| | 68mils (14ga) 50ksi | | 492 | 1682 | 1439 |
| | 97mils (12ga) 50ksi | | 702 | 2026 | 1523 |



FTSC6

Notes:

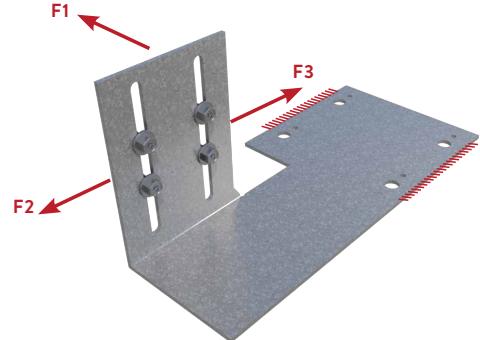
- 1 Allowable loads (ASD) listed represent the capacity of the clip to the stud only (framing connection).
- 2 Allowable loads have not been increased for wind, seismic, or other factors.
- 3 (2) #14 Shouldered screws (Proprietary HD Deflection Screws) shall be used per slot, placed with 1-in center-to-center spacing.
 - (4) total screws for the FTSC3 (3-5/8" Clip)
 - (6) total screws for the FTSC6 (6" Clip)
 - #14 Proprietary HD Deflection Screws are provided with each Flat Tail Slide Clip
- 4 It is the responsibility of the design professional to detail the attachment of the clips and verify that their capacity meets the requirements of the intended application.

Flat Tail™ Slide Clip

ATTACHMENT TO STRUCTURE: WELDED

3-5/8" Flat Tail™ Slide Clip (FTSC3)

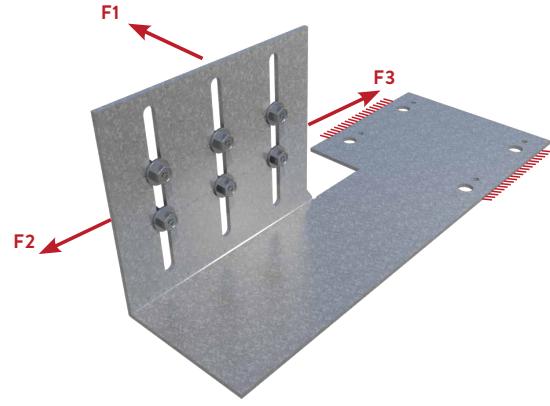
| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|--|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 33mils (20ga) 33ksi | (2) Welds - min. 2" length each on either ends | 110 | 506 | 428 |
| | 43mils (18ga) 33ksi | | 144 | 660 | 397 |
| | 54mils (16ga) 50ksi | | 261 | 759 | 596 |
| | 68mils (14ga) 50ksi | | 268 | 766 | 673 |
| | 97mils (12ga) 50ksi | | 468 | 909 | 769 |
| FTSC3-118 | 33mils (20ga) 33ksi | (2) Welds - min. 2" length each on either ends | 110 | 607 | 445 |
| | 43mils (18ga) 33ksi | | 144 | 816 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 816 | 789 |
| | 68mils (14ga) 50ksi | | 328 | 924 | 860 |
| | 97mils (12ga) 50ksi | | 468 | 924 | 924 |



FTSC3

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|--|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 33mils (20ga) 33ksi | (2) Welds - min. 2-3/4" length each on either ends | 165 | 869 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 959 | 755 |
| | 54mils (16ga) 50ksi | | 392 | 1057 | 930 |
| | 68mils (14ga) 50ksi | | 476 | 1220 | 1055 |
| | 97mils (12ga) 50ksi | | 650 | 1558 | 1314 |
| FTSC6-118 | 33mils (20ga) 33ksi | (2) Welds - min. 2-3/4" length each on either ends | 165 | 953 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 1221 | 891 |
| | 54mils (16ga) 50ksi | | 392 | 1515 | 1215 |
| | 68mils (14ga) 50ksi | | 492 | 1682 | 1316 |
| | 97mils (12ga) 50ksi | | 702 | 2026 | 1523 |



FTSC6

Notes:

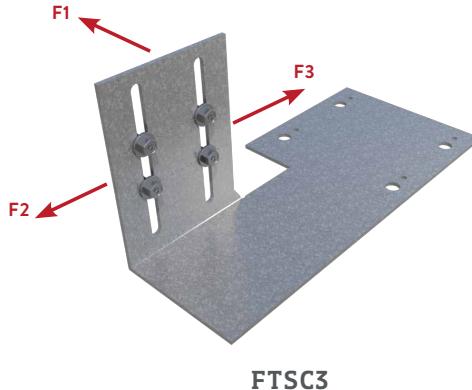
- 1 Allowable loads have not been increased for wind, seismic, or other factors.
- 2 (2) #14 Shouldered screws (Proprietary HD Deflection Screws) shall be used per slot - placed with 1-in center-to-center spacing.
 - (4) total screws for the FTSC3 (3-5/8" Clip)
 - (6) total screws for the FTSC6 (6" Clip)
 - #14 Proprietary HD Deflection Screws are provided with each Flat Tail Slide Clip
- 3 The tabulated values for welds are based on the following weld lengths:
 - For FTSC3 (3-5/8" Clip) use (2) 2" of weld along parallel edges of the Flat Tail structural attachment leg. (As shown)
 - For FTSC6 (6" Clip) use (2) 2-3/4" of weld along parallel edges of the Flat Tail structural attachment leg. (As shown)
- 4 Use E70XX (min.) electrodes.
- 5 It is the responsibility of the design professional to detail the attachment of the clips and verify that their capacity meets the requirements of the intended application.

Flat Tail™ Slide Clip

ATTACHMENT TO STRUCTURE: 1/4-28 FASTENERS INTO STEEL

3-5/8" Flat Tail™ Slide Clip (FTSC3)

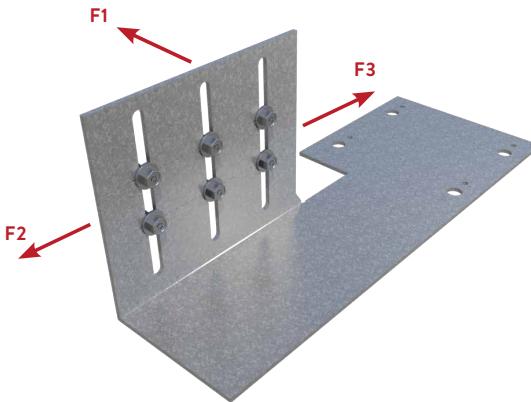
| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|-------------------------------------|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 33mils (20ga) 33ksi | (2) 1/4-28 Fasteners to 3/16" Steel | 110 | 416 | 388 |
| | 43mils (18ga) 33ksi | | 144 | 548 | 397 |
| | 54mils (16ga) 50ksi | | 261 | 759 | 596 |
| | 68mils (14ga) 50ksi | | 268 | 766 | 673 |
| | 97mils (12ga) 50ksi | | 305 | 847 | 699 |
| | 33mils (20ga) 33ksi | (4) 1/4-28 Fasteners to 3/16" Steel | 110 | 506 | 428 |
| | 43mils (18ga) 33ksi | | 144 | 660 | 397 |
| | 54mils (16ga) 50ksi | | 261 | 759 | 596 |
| | 68mils (14ga) 50ksi | | 268 | 766 | 673 |
| | 97mils (12ga) 50ksi | | 468 | 909 | 769 |
| FTSC3-118 | 33mils (20ga) 33ksi | (2) 1/4-28 Fasteners to 3/16" Steel | 110 | 607 | 406 |
| | 43mils (18ga) 33ksi | | 144 | 816 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 816 | 774 |
| | 68mils (14ga) 50ksi | | 328 | 924 | 834 |
| | 97mils (12ga) 50ksi | | 337 | 924 | 924 |
| | 33mils (20ga) 33ksi | (4) 1/4-28 Fasteners to 3/16" Steel | 110 | 607 | 445 |
| | 43mils (18ga) 33ksi | | 144 | 816 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 816 | 789 |
| | 68mils (14ga) 50ksi | | 328 | 924 | 860 |
| | 97mils (12ga) 50ksi | | 468 | 924 | 924 |



FTSC3

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|-------------------------------------|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 33mils (20ga) 33ksi | (2) 1/4-28 Fasteners to 3/16" Steel | 165 | 845 | 551 |
| | 43mils (18ga) 33ksi | | 216 | 847 | 724 |
| | 54mils (16ga) 50ksi | | 283 | 847 | 847 |
| | 68mils (14ga) 50ksi | | 283 | 847 | 847 |
| | 97mils (12ga) 50ksi | | 283 | 847 | 847 |
| | 33mils (20ga) 33ksi | (4) 1/4-28 Fasteners to 3/16" Steel | 165 | 869 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 959 | 755 |
| | 54mils (16ga) 50ksi | | 392 | 1057 | 930 |
| | 68mils (14ga) 50ksi | | 476 | 1220 | 1055 |
| | 97mils (12ga) 50ksi | | 639 | 1288 | 1288 |
| FTSC6-118 | 33mils (20ga) 33ksi | (2) 1/4-28 Fasteners to 3/16" Steel | 165 | 861 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 931 | 874 |
| | 54mils (16ga) 50ksi | | 314 | 931 | 931 |
| | 68mils (14ga) 50ksi | | 314 | 931 | 931 |
| | 97mils (12ga) 50ksi | | 314 | 931 | 931 |
| | 33mils (20ga) 33ksi | (4) 1/4-28 Fasteners to 3/16" Steel | 165 | 953 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 1221 | 891 |
| | 54mils (16ga) 50ksi | | 392 | 1375 | 1215 |
| | 68mils (14ga) 50ksi | | 492 | 1375 | 1316 |
| | 97mils (12ga) 50ksi | | 702 | 1375 | 1375 |



FTSC6

Notes:

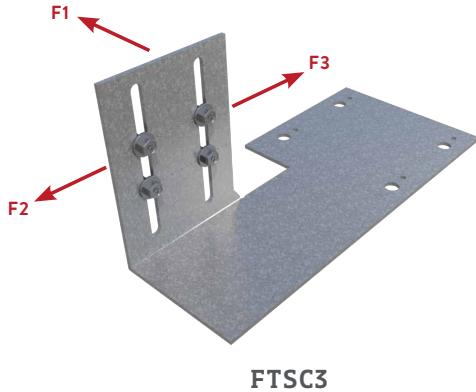
- 1 Allowable loads have not been increased for wind, seismic, or other factors.
- 2 (2) #14 Shouldered screws (Proprietary HD Deflection Screws) shall be used per slot - placed with 1-in center-to-center spacing.
 - (4) total screws for the FTSC3 (3-5/8" Clip)
 - (6) total screws for the FTSC6 (6" Clip)
 - #14 Proprietary HD Deflection Screws are provided with each Flat Tail Slide Clip
- 3 1/4-28 Fasteners shall be used for attachment to steel structure. (2) Fastener condition shall be used when a larger offset is required between the structure and the stud. In all other conditions (4) Fastener condition shall be used. Screws to be placed through $\frac{5}{32}$ " pilot holes in FTSC.
- 4 The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- 5 Capacities listed for 1/4-28 Fasteners are based on screw strengths listed in ICC ESR-1976.
- 6 It is the responsibility of the design professional to detail the attachment of the clips and verify that their capacity meets the requirements of the intended application.

Flat Tail™ Slide Clip

ATTACHMENT TO STRUCTURE: 12-24 FASTENERS INTO STEEL

3-5/8" Flat Tail™ Slide Clip (FTSC3)

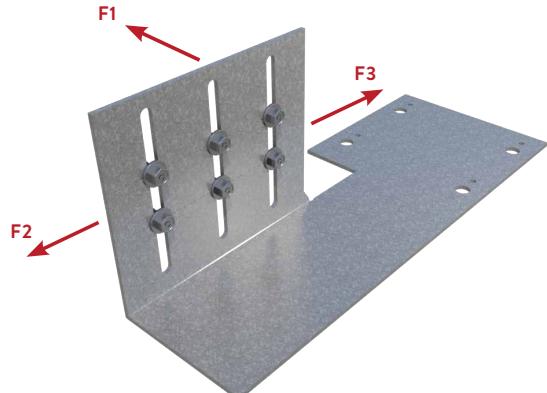
| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|------------------------------------|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 33mils (20ga) 33ksi | (2) 12-24 Fasteners to 3/16" Steel | 110 | 416 | 388 |
| | 43mils (18ga) 33ksi | | 144 | 548 | 397 |
| | 54mils (16ga) 50ksi | | 258 | 716 | 596 |
| | 68mils (14ga) 50ksi | | 258 | 716 | 673 |
| | 97mils (12ga) 50ksi | | 258 | 716 | 699 |
| | 33mils (20ga) 33ksi | (4) 12-24 Fasteners to 3/16" Steel | 110 | 506 | 428 |
| | 43mils (18ga) 33ksi | | 144 | 660 | 397 |
| | 54mils (16ga) 50ksi | | 261 | 759 | 596 |
| | 68mils (14ga) 50ksi | | 268 | 766 | 673 |
| | 97mils (12ga) 50ksi | | 468 | 909 | 769 |
| FTSC3-118 | 33mils (20ga) 33ksi | (2) 12-24 Fasteners to 3/16" Steel | 110 | 607 | 406 |
| | 43mils (18ga) 33ksi | | 144 | 763 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 763 | 763 |
| | 68mils (14ga) 50ksi | | 276 | 763 | 763 |
| | 97mils (12ga) 50ksi | | 276 | 763 | 763 |
| | 33mils (20ga) 33ksi | (4) 12-24 Fasteners to 3/16" Steel | 110 | 607 | 445 |
| | 43mils (18ga) 33ksi | | 144 | 816 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 816 | 789 |
| | 68mils (14ga) 50ksi | | 328 | 924 | 860 |
| | 97mils (12ga) 50ksi | | 468 | 924 | 924 |



FTSC3

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|------------------------------------|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 33mils (20ga) 33ksi | (2) 12-24 Fasteners to 3/16" Steel | 165 | 716 | 551 |
| | 43mils (18ga) 33ksi | | 216 | 716 | 716 |
| | 54mils (16ga) 50ksi | | 239 | 716 | 716 |
| | 68mils (14ga) 50ksi | | 239 | 716 | 716 |
| | 97mils (12ga) 50ksi | | 239 | 716 | 716 |
| | 33mils (20ga) 33ksi | (4) 12-24 Fasteners to 3/16" Steel | 165 | 869 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 959 | 755 |
| | 54mils (16ga) 50ksi | | 392 | 1057 | 930 |
| | 68mils (14ga) 50ksi | | 476 | 1096 | 1055 |
| | 97mils (12ga) 50ksi | | 541 | 1096 | 1096 |
| FTSC6-118 | 33mils (20ga) 33ksi | (2) 12-24 Fasteners to 3/16" Steel | 165 | 763 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 763 | 763 |
| | 54mils (16ga) 50ksi | | 256 | 763 | 763 |
| | 68mils (14ga) 50ksi | | 256 | 763 | 763 |
| | 97mils (12ga) 50ksi | | 256 | 763 | 763 |
| | 33mils (20ga) 33ksi | (4) 12-24 Fasteners to 3/16" Steel | 165 | 953 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 1145 | 891 |
| | 54mils (16ga) 50ksi | | 392 | 1145 | 1145 |
| | 68mils (14ga) 50ksi | | 492 | 1145 | 1145 |
| | 97mils (12ga) 50ksi | | 576 | 1145 | 1145 |



FTSC6

Notes:

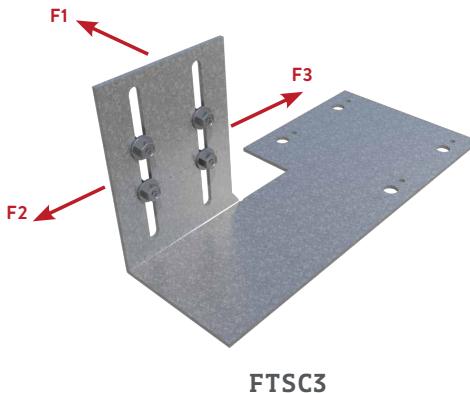
- 1 Allowable loads have not been increased for wind, seismic, or other factors.
- 2 (2) #14 Shouldered screws (Proprietary HD Deflection Screws) shall be used per slot - placed with 1-in center-to-center spacing.
 - (4) total screws for the FTSC3 (3-5/8" Clip)
 - (6) total screws for the FTSC6 (6" Clip)
 - #14 Proprietary HD Deflection Screws are provided with each Flat Tail Slide Clip
- 3 #12-24 Fasteners shall be used for attachment to steel structure. (2) Fastener condition shall be used when a larger offset is required between the structure and the stud. In all other conditions (4) Fastener condition shall be used. Screws to be placed through $\frac{1}{2}$ " pilot holes in FTSC.
- 4 The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- 5 Capacities listed for 12-24 Fasteners are based on screw strengths listed in ICC ESR-1976.
- 6 It is the responsibility of the design professional to detail the attachment of the clips and verify that their capacity meets the requirements of the intended application.

Flat Tail™ Slide Clip

ATTACHMENT TO STRUCTURE: PAF's INTO STEEL

3-5/8" Flat Tail™ Slide Clip (FTSC3)

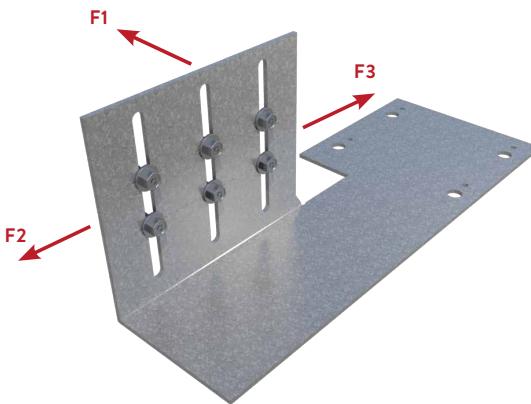
| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|--------------------------------|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 33mils (20ga) 33ksi | (2) 0.157" PAFs in 3/16" Steel | 110 | 416 | 388 |
| | 43mils (18ga) 33ksi | | 144 | 548 | 397 |
| | 54mils (16ga) 50ksi | | 230 | 641 | 596 |
| | 68mils (14ga) 50ksi | | 230 | 641 | 641 |
| | 97mils (12ga) 50ksi | | 230 | 641 | 641 |
| | 33mils (20ga) 33ksi | (4) 0.157" PAFs in 3/16" Steel | 110 | 506 | 428 |
| | 43mils (18ga) 33ksi | | 144 | 660 | 397 |
| | 54mils (16ga) 50ksi | | 261 | 759 | 596 |
| | 68mils (14ga) 50ksi | | 268 | 766 | 673 |
| | 97mils (12ga) 50ksi | | 468 | 909 | 769 |
| FTSC3-118 | 33mils (20ga) 33ksi | (2) 0.157" PAFs in 3/16" Steel | 110 | 607 | 406 |
| | 43mils (18ga) 33ksi | | 144 | 641 | 603 |
| | 54mils (16ga) 50ksi | | 230 | 641 | 641 |
| | 68mils (14ga) 50ksi | | 230 | 641 | 641 |
| | 97mils (12ga) 50ksi | | 230 | 641 | 641 |
| | 33mils (20ga) 33ksi | (4) 0.157" PAFs in 3/16" Steel | 110 | 607 | 445 |
| | 43mils (18ga) 33ksi | | 144 | 816 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 816 | 789 |
| | 68mils (14ga) 50ksi | | 328 | 924 | 860 |
| | 97mils (12ga) 50ksi | | 468 | 924 | 924 |



FTSC3

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|--------------------------------|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 33mils (20ga) 33ksi | (2) 0.157" PAFs in 3/16" Steel | 165 | 641 | 551 |
| | 43mils (18ga) 33ksi | | 211 | 641 | 641 |
| | 54mils (16ga) 50ksi | | 211 | 641 | 641 |
| | 68mils (14ga) 50ksi | | 211 | 641 | 641 |
| | 97mils (12ga) 50ksi | | 211 | 641 | 641 |
| | 33mils (20ga) 33ksi | (4) 0.157" PAFs in 3/16" Steel | 165 | 869 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 959 | 755 |
| | 54mils (16ga) 50ksi | | 392 | 1025 | 930 |
| | 68mils (14ga) 50ksi | | 476 | 1025 | 1025 |
| | 97mils (12ga) 50ksi | | 484 | 1025 | 1025 |
| FTSC6-118 | 33mils (20ga) 33ksi | (2) 0.157" PAFs in 3/16" Steel | 165 | 641 | 594 |
| | 43mils (18ga) 33ksi | | 211 | 641 | 641 |
| | 54mils (16ga) 50ksi | | 211 | 641 | 641 |
| | 68mils (14ga) 50ksi | | 211 | 641 | 641 |
| | 97mils (12ga) 50ksi | | 211 | 641 | 641 |
| | 33mils (20ga) 33ksi | (4) 0.157" PAFs in 3/16" Steel | 165 | 953 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 1025 | 891 |
| | 54mils (16ga) 50ksi | | 392 | 1025 | 1025 |
| | 68mils (14ga) 50ksi | | 484 | 1025 | 1025 |
| | 97mils (12ga) 50ksi | | 484 | 1025 | 1025 |



FTSC6

Notes:

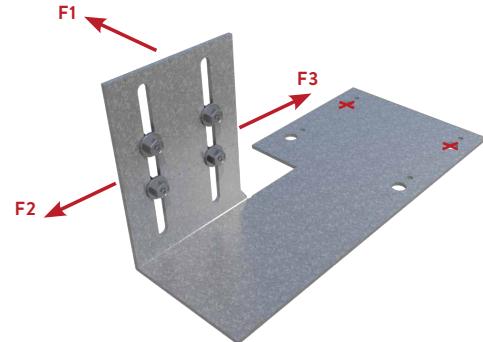
- 1 Allowable loads have not been increased for wind, seismic, or other factors.
- 2 (2) #14 Shouldered screws (Proprietary HD Deflection Screws) shall be used per slot - placed with 1-in center-to-center spacing.
 - (4) total screws for the FTSC3 (3-5/8" Clip)
 - (6) total screws for the FTSC6 (6" Clip)
- 3 #14 Proprietary HD Deflection Screws are provided with each Flat Tail Slide Clip
- 4 0.157" Hilti XU PAF's shall be used for attachment to steel structure. (2) Fastener condition shall be used when a larger offset is required between the structure and the stud. In all other conditions (4) Fastener condition shall be used. PAF's should be located at cross intersections scribed on the FTSC clip.
- 5 The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- 6 Capacities listed for Hilti PAFs are based on fastener strengths listed in ICC ESR-2269.
- 7 It is the responsibility of the design professional to detail the attachment of the clips and verify that their capacity meets the requirements of the intended application.

Flat Tail™ Slide Clip

ATTACHMENT TO STRUCTURE HILTI KWIK IN CONCRETE

3-5/8" Flat Tail™ Slide Clip (FTSC3)

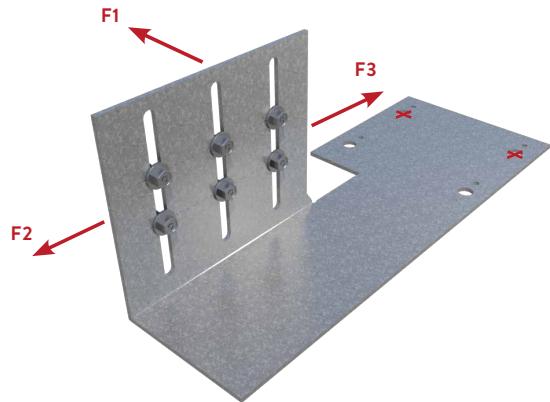
| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|--|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 33mils (20ga) 33ksi | (2) 1/4" Hilti KWIK HUS-EZ (2-1/2" Embedment into 3000 psi uncracked concrete) | 110 | 416 | 388 |
| | 43mils (18ga) 33ksi | | 144 | 548 | 397 |
| | 54mils (16ga) 50ksi | | 261 | 759 | 596 |
| | 68mils (14ga) 50ksi | | 268 | 766 | 673 |
| | 97mils (12ga) 50ksi | | 303 | 847 | 699 |
| FTSC3-118 | 33mils (20ga) 33ksi | (2) 1/4" Hilti KWIK HUS-EZ (2-1/2" Embedment into 3000 psi uncracked concrete) | 110 | 607 | 406 |
| | 43mils (18ga) 33ksi | | 144 | 816 | 603 |
| | 54mils (16ga) 50ksi | | 261 | 816 | 774 |
| | 68mils (14ga) 50ksi | | 303 | 847 | 834 |
| | 97mils (12ga) 50ksi | | 303 | 847 | 847 |



FTSC3

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Attachment to Structure | ASD Allowable Loads (lbs) | | |
|--------------|---------------------------------|--|---------------------------|---------|---------|
| | | | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 33mils (20ga) 33ksi | (2) 1/4" Hilti KWIK HUS-EZ (2-1/2" Embedment into 3000 psi uncracked concrete) | 165 | 845 | 551 |
| | 43mils (18ga) 33ksi | | 216 | 847 | 724 |
| | 54mils (16ga) 50ksi | | 277 | 847 | 847 |
| | 68mils (14ga) 50ksi | | 277 | 847 | 847 |
| | 97mils (12ga) 50ksi | | 277 | 847 | 847 |
| FTSC6-118 | 33mils (20ga) 33ksi | (2) 1/4" Hilti KWIK HUS-EZ (2-1/2" Embedment into 3000 psi uncracked concrete) | 165 | 847 | 594 |
| | 43mils (18ga) 33ksi | | 216 | 847 | 847 |
| | 54mils (16ga) 50ksi | | 277 | 847 | 847 |
| | 68mils (14ga) 50ksi | | 277 | 847 | 847 |
| | 97mils (12ga) 50ksi | | 277 | 847 | 847 |



FTSC6

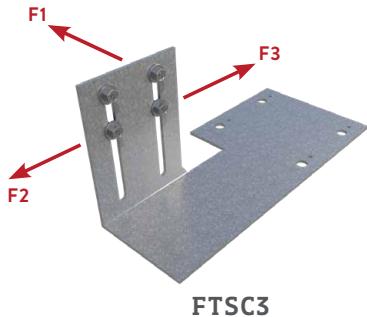
Notes:

- 1 Allowable loads have not been increased for wind, seismic, or other factors.
- 2 (2) #14 Shouldered screws (Proprietary HD Deflection Screws) shall be used per slot - placed with 1-in center-to-center spacing.
 - (4) total screws for the FTSC3 (3-5/8" Clip)
 - (6) total screws for the FTSC6 (6" Clip)
 - #14 Proprietary HD Deflection Screws are provided with each Flat Tail Slide Clip
- 3 1/4" Hilti KWIK HUS-EZ Anchors shall be used for attachment to concrete structure. Anchors shall only be placed in 3/8" diameter holes.
- 4 Capacities listed in the table/notes consider a 3" minimum edge distance for 1/4" Hilti KWIK HUS-EZ anchors embedded 2-1/2" deep into 3000 psi uncracked concrete.
- 5 The load adjustment for 3-1/2" spacing between concrete anchors has been accounted in the tabulated values.
- 6 The minimum concrete thickness (7" thick for 2-1/2" embedment) shall comply with the fastener manufacturer's recommendation.
- 7 It is the responsibility of the design professional to detail the attachment of the clips and verify that their capacity meets the requirements of the intended application.

Flat Tail™ Slide Clip

3-5/8" Flat Tail™ Slide Clip (FTSC3)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|--|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 97mils (12ga) 50ksi | (2) Fasteners to be designed by others | 468 | 909 | 699 | 468 | 918 | 647 |
| FTSC3-118 | 118mils (10ga) 50ksi | | 468 | 924 | 924 | 468 | 866 | 822 |



3-5/8" Flat Tail™ Slide Clip (FTSC3)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|-------------------------------------|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 97mils (12ga) 50ksi | (2) 1/4-28 Fasteners in 3/16" steel | 305 | 847 | 699 | 251 | 689 | 647 |
| FTSC3-118 | 118mils (10ga) 50ksi | | 337 | 924 | 924 | 272 | 744 | 744 |

3-5/8" Flat Tail™ Slide Clip (FTSC3)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|------------------------------------|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 97mils (12ga) 50ksi | (2) 12-24 Fasteners in 3/16" steel | 258 | 716 | 699 | 213 | 585 | 585 |
| FTSC3-118 | 118mils (10ga) 50ksi | | 276 | 763 | 763 | 225 | 616 | 616 |

3-5/8" Flat Tail™ Slide Clip (FTSC3)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|------------------------------------|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 97mils (12ga) 50ksi | (2) 0.157" PAFs in 3/16" steel | 230 | 641 | 641 | 195 | 538 | 538 |
| FTSC3-118 | 118mils (10ga) 50ksi | | 230 | 641 | 641 | 195 | 538 | 538 |

3-5/8" Flat Tail™ Slide Clip (FTSC3)

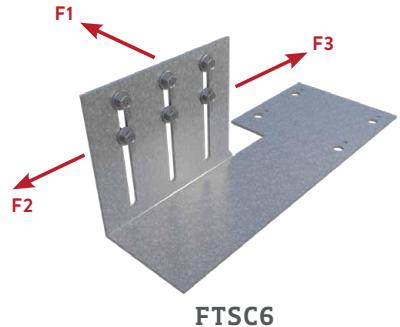
| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|---|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC3-97 | 97mils (12ga) 50ksi | (2) 1/4" Hilti Kwik HUS-EZ 2-1/2" Embedment in to 3000psi uncracked | 303 | 847 | 699 | 259 | 717 | 647 |
| FTSC3-118 | 118mils (10ga) 50ksi | | 303 | 847 | 847 | 259 | 717 | 717 |

Notes:

- FTSC3 loads based on (4) Proprietary HD Deflection Screws
- FTSC6 loads based on (6) Proprietary HD Deflection Screws

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|--|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 97mils (12ga) 50ksi | (2) Fasteners to be designed by others | 444 | 1383 | 1063 | 407 | 1474 | 1051 |
| FTSC6-118 | 118mils (10ga) 50ksi | | 492 | 2026 | 1439 | 622 | 1962 | 1629 |



6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|-------------------------------------|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 97mils (12ga) 50ksi | (2) 1/4-28 Fasteners in 3/16" steel | 283 | 847 | 847 | 236 | 689 | 689 |
| FTSC6-118 | 118mils (10ga) 50ksi | | 314 | 931 | 931 | 257 | 744 | 744 |

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|------------------------------------|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 97mils (12ga) 50ksi | (2) 12-24 Fasteners in 3/16" steel | 239 | 716 | 716 | 200 | 585 | 585 |
| FTSC6-118 | 118mils (10ga) 50ksi | | 256 | 763 | 763 | 212 | 616 | 616 |

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|------------------------------------|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 97mils (12ga) 50ksi | (2) 0.157" PAFs in 3/16" steel | 211 | 641 | 641 | 181 | 538 | 538 |
| FTSC6-118 | 118mils (10ga) 50ksi | | 211 | 641 | 641 | 181 | 538 | 538 |

6" Flat Tail™ Slide Clip (FTSC6)

| Product code | Stud Thickness / Yield Strength | Mechanically Anchored to Structure | ASD Allowable Loads (lbs) | | | | | |
|--------------|---------------------------------|---|---------------------------|---------|---------|-----------|---------|---------|
| | | | Concentric | | | Eccentric | | |
| | | | F1 Load | F2 Load | F3 Load | F1 Load | F2 Load | F3 Load |
| FTSC6-97 | 97mils (12ga) 50ksi | (2) 1/4" Hilti Kwik HUS-EZ 2-1/2" Embedment in to 3000psi uncracked | 277 | 847 | 847 | 240 | 717 | 717 |
| FTSC6-118 | 118mils (10ga) 50ksi | | 277 | 847 | 847 | 240 | 717 | 717 |

Notes:

- FTSC3 loads based on (4) Proprietary HD Deflection Screws
- FTSC6 loads based on (6) Proprietary HD Deflection Screws

Fast Strut™

Curtain Wall/Bypass

Commonly used for large standoff conditions.

The ClarkDietrich Fast Strut™ curtain wall connector employs the FastClip™ technology for curtain wall stud attachment and is commonly used when large standoff conditions exist. Fast Strut products are available in standard lengths of 12-1/4" and 15-1/4" and custom lengths of 18", 20", 22" and 24" long to allow framing attachment well beyond the perimeter of the structural steel—or when the spandrel beams are set back from the edge of the structure. Fast Struts are attached to the underside of structural members with screws, welds or powder-actuated fasteners. Studs are plumbed and secured with propriety screws for friction-free deflection. Each clip is also embossed with fastening patterns to ensure accurate placement of fasteners.

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

PRODUCT DIMENSIONS

FS12: 4" x 1-1/2" x 12-1/4"

FS15: 4" x 1-1/2" x 15-1/4"

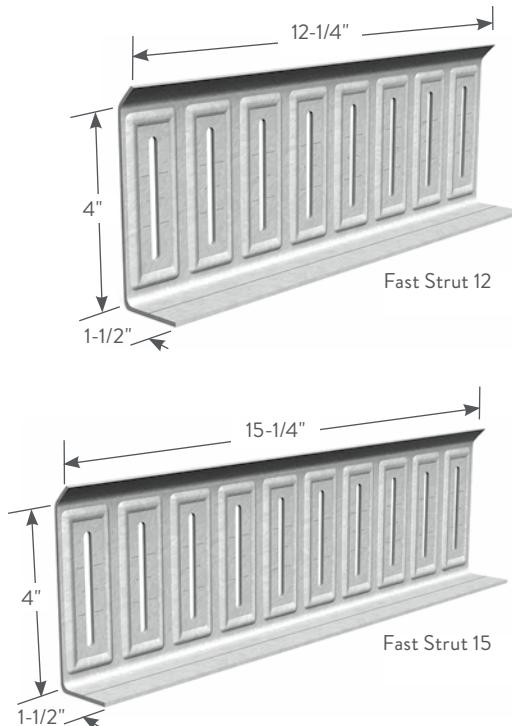
Extended Lengths: 4" x 1-1/2" x 18", 20", 22" and 24"

ALTERNATIVE PRODUCTS

FastClip™ Slide Clip

INSTALLATION

Connections to the building can be made with screws, powder-actuated fasteners, drill-in concrete anchors or welding. Mechanical fasteners shall be equally spaced along the scored line of the 1-1/2" flange. The Fast Strut must engage the building structure a minimum of 4". When using the tabulated allowable loads indicated in the table on the opposite page, connections to the building structure must be made according to the notes. Three Proprietary Deflection Screws are used to attach the Fast Strut to the cold-formed steel framing. Screws shall be driven through the slotted holes and positioned to allow for the appropriate building deflection.



Fast Strut™ (FS12, FS15, FS18, FS20, FS22, FS24)

| Product code | Thickness | | Size (in) | Packaging Pcs./Carton |
|----------------|---------------|-----------------------|--------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| FS12 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 12-1/4 | 10 |
| FS15 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 15-1/4 | 10 |
| FS18 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 18 | 10 |
| FS20 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 20 | 10 |
| FS22 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 22 | 10 |
| FS24 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 24 | 10 |
| Custom lengths | 68mils (14ga) | 0.0713 | per customer specs | 10 |

Includes 55 deflection screws per carton.

U.S. Patent No. 6,688,069



Proprietary
Deflection Screw

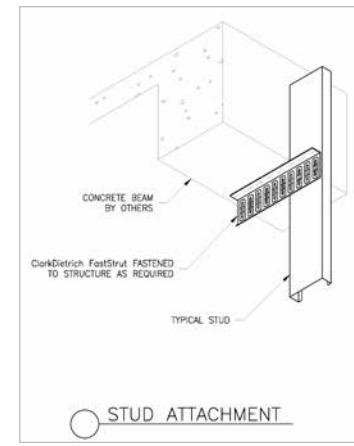
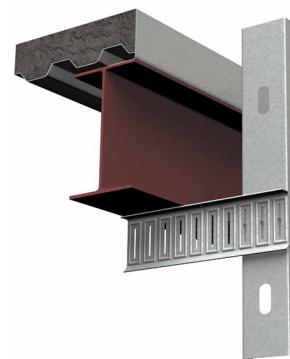
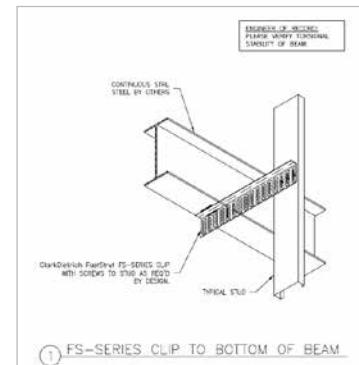
Fast Strut™ FS12, FS15 and FS24 Allowable Loads (lbs)

| Stud thickness | Yield strength | Slip allowance (in) | Welded direct to structural steel | Mechanically Anchored | | | | |
|----------------|----------------|---------------------|-----------------------------------|-----------------------|---------------------|----------------------|--------------------------------|---|
| | | | | Number of anchors | PAF in steel (FS=5) | PAF in steel (FS=10) | Buildex #12-24 screws in steel | Hilti 1/4" x 1-3/4" Kwik-Cons in concrete |
| 33mils (20ga) | 33ksi | 0.75 | 546 | 2 | 546 | 290 | 546 | 269 |
| | | 0.75 | 546 | 3 | 546 | 343 | 546 | — |
| | | 1.25 | 546 | 2 | 513 | 257 | 546 | 232 |
| | | 1.25 | 546 | 3 | 546 | 294 | 546 | — |
| 43mils (18ga) | 33ksi | 0.75 | 1522 | 2 | 579 | 290 | 789 | 269 |
| | | 0.75 | 1522 | 3 | 686 | 343 | 963 | — |
| | | 1.25 | 1522 | 2 | 513 | 257 | 720 | 232 |
| | | 1.25 | 1522 | 3 | 587 | 294 | 760 | — |
| 54mils (16ga) | 33ksi | 0.75 | 1612 | 2 | 579 | 290 | 789 | 269 |
| | | 0.75 | 1612 | 3 | 686 | 343 | 963 | — |
| | | 1.25 | 1612 | 2 | 513 | 257 | 720 | 232 |
| | | 1.25 | 1612 | 3 | 587 | 294 | 760 | — |
| 54mils (16ga) | 50ksi | 0.75 | 1705 | 2 | 579 | 290 | 789 | 269 |
| | | 0.75 | 1705 | 3 | 686 | 343 | 963 | — |
| | | 1.25 | 1705 | 2 | 513 | 257 | 720 | 232 |
| | | 1.25 | 1705 | 3 | 587 | 294 | 760 | — |
| 68mils (14ga) | 33ksi | 0.75 | 1792 | 2 | 579 | 290 | 789 | 269 |
| | | 0.75 | 1792 | 3 | 686 | 343 | 963 | — |
| | | 1.25 | 1792 | 2 | 513 | 257 | 720 | 232 |
| | | 1.25 | 1792 | 3 | 587 | 294 | 760 | — |
| 68mils (14ga) | 50ksi | 0.75 | 1978 | 2 | 579 | 290 | 789 | 269 |
| | | 0.75 | 1978 | 3 | 686 | 343 | 963 | — |
| | | 1.25 | 1978 | 2 | 513 | 257 | 720 | 232 |
| | | 1.25 | 1978 | 3 | 587 | 294 | 760 | — |
| 97mils (12ga) | 33ksi | 0.75 | 2481 | 2 | 579 | 290 | 789 | 269 |
| | | 0.75 | 2481 | 3 | 686 | 343 | 963 | — |
| | | 1.25 | 2481 | 2 | 513 | 257 | 720 | 232 |
| | | 1.25 | 2481 | 3 | 587 | 294 | 760 | — |
| 97mils (12ga) | 50ksi | 0.75 | 2997 | 2 | 579 | 290 | 789 | 269 |
| | | 0.75 | 2997 | 3 | 686 | 343 | 963 | — |
| | | 1.25 | 2997 | 2 | 513 | 257 | 720 | 232 |
| | | 1.25 | 2997 | 3 | 587 | 294 | 760 | — |

Notes:

- 1 Except when welding, tabulated values require a minimum of 4" of structure engagement. For other conditions or technical assistance, contact ClarkDietrich at 888-437-3244.
- 2 The tabulated values for welds are based on the following weld lengths: use 4-1/2" of weld along each edge of the 1-1/2" FastStrut leg for 20, and 18 gauge, use 5-1/2" along each edge for 16 and 14 gauge, use 6-1/2" along each edge for 12 gauge. Use E70XX (min.) electrodes. (Note that the welded values may require more than 4" of structure engagement.)
- 3 Tabulated values for PAFs and Buildex screws are based on the following: fasteners are spaced at 3" o.c. (min.) when using two anchors, and 1-1/2" o.c. (min.) when using three anchors; anchors are placed 1/2" (min.) away from the edge of the building structure, and 1/2" (min.) away from edge of the Fast Strut.
- 4 Tabulated values for Hilti Kwik-Cons are based on the following: anchors are spaced at 2-3/4" o.c. (min.), anchors are placed 3/4" (min.) away from edge of building structure and 1/2" (min.) away from edge of Fast Strut. The tabulated values are based on 3000psi normal weight concrete.
- 5 For 3/4" deflection, center the propriety screws along the topmost hash mark. For 1-1/4" deflection, center the screws along the center hash mark.
- 6 Capacities listed for PAFs are based on minimum PAF requirements listed in General Note #6 on page 9.
- 7 It is the responsibility of the design professional to detail the project drawings for proper clip attachment.
- 8 Buildex is a registered trademark of Illinois Tool Works, Inc.
- 9 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.

TYPICAL CONSTRUCTION DETAILS



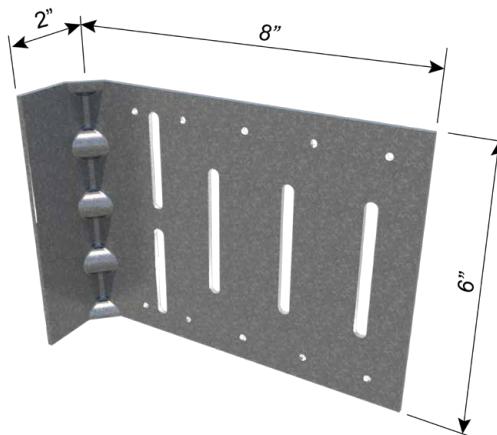
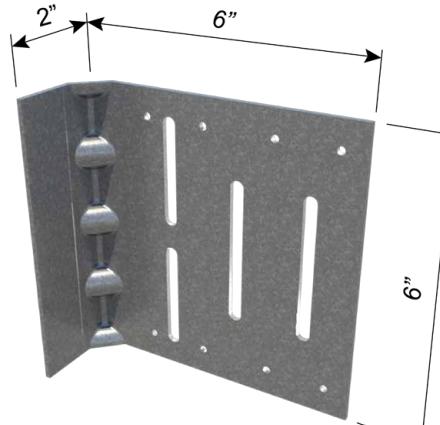
Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

Fixed Universal Slip Clip

10 and 12 gauge fixed universal slip clip.

The clips are available in standard lengths of 6" and 8" in 12 and 10 gauge. They are ideal for medium to larger standoff conditions. FUS clips install quickly and provide adjustable standoff to ensure a plumb wall plane. For deflection application, proprietary heavy duty deflection screws are provided with each clip to ensure friction-free sliding.

- Eliminates shims and scabs.
- Provides vertical movement up to 1" when installed as a deflection application
- Fast, one-piece universal installation. No left- or right-handed clips.
- Can be used in applications where significantly higher capacities are required.
- Proprietary heavy duty deflection screws provide frictionless slip connections.



PRODUCT DIMENSIONS

Lengths: 6" or 8"

MATERIAL SPECIFICATIONS

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

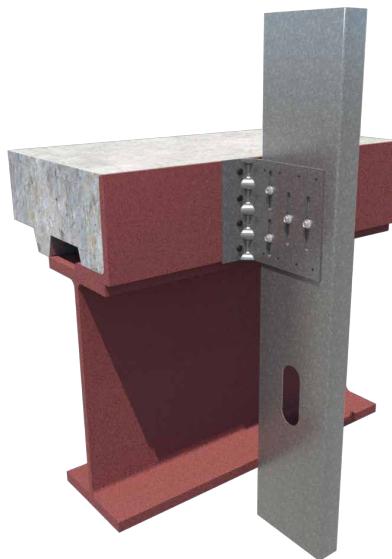
Gauge: 10 gauge (118mils)

Design Thickness: 0.1242 inches

Coating: G90 (Z275 hot-dipped galvanized coating)

Material: Structural Grade 50 Type H (ST50H), 50ksi

ASTM: A653/A653M, ASTM A1003



Fixed Universal Slip Clip (FUS6, FUS8)

| Product code | Thickness | | Clip length (in) | Packaging Pcs./Box |
|--------------|----------------|-----------------------|------------------|--------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| FUS6-97 | 97mils (12ga) | 0.1017 | 6 | 10 |
| FUS8-97 | | | 8 | 10 |
| FUS6-118 | 118mils (10ga) | 0.1242 | 6 | 10 |
| FUS8-118 | | | 8 | 10 |

INSTALLATION

Connections to the building can be made with screws, welds powder-actuated fasteners. Mechanical fasteners shall be located on the embossed marks given on the scored line of the 2" flange. Attach building anchors to the structure according to the manufacturer's instructions. Anchors shall be installed through the embossments on the scored line of the clip as shown on the attached drawings. In no case shall anchors be installed more than 3/4" from the bend on the short leg of the clip. In cases of discrepancy between this information and the Design Engineer's details, the Design Engineer's details shall be followed.

For a Deflection Connection:

Attach the FUS clip to cold-formed steel framing members using proprietary #14 heavy duty deflection screws (included) through the slotted holes and position for the appropriate building deflection. For the FUS6 clip all slotted holes shall have a screw. For the FUS8 clip the (2) outer slotted holes and the (2) stacked slotted holes must have screws. For a deflection connection, screws should not be installed in any unslotted holes.

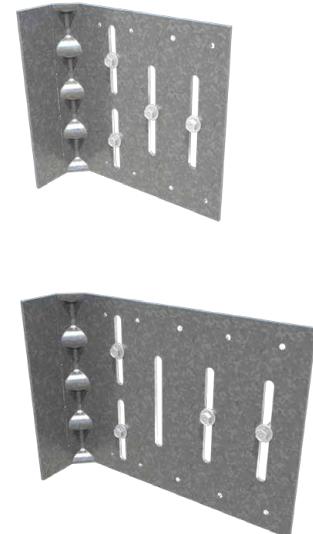
Proprietary HD Deflection Screws:

Many of the ClarkDietrich deflection clips include our proprietary heavy duty deflection fasteners that have been specifically designed to provide friction-free deflection. These fasteners eliminate drag, binding or resistance that can often occur with common fasteners.

For the FUS clip, we supply a heavy duty version of the deflection screw. ClarkDietrich's Proprietary HD screws are utilized on the FUS clip only when used for a deflection condition.



Proprietary HD
Deflection Screws



Fixed Universal Slip Clip Design Capacities

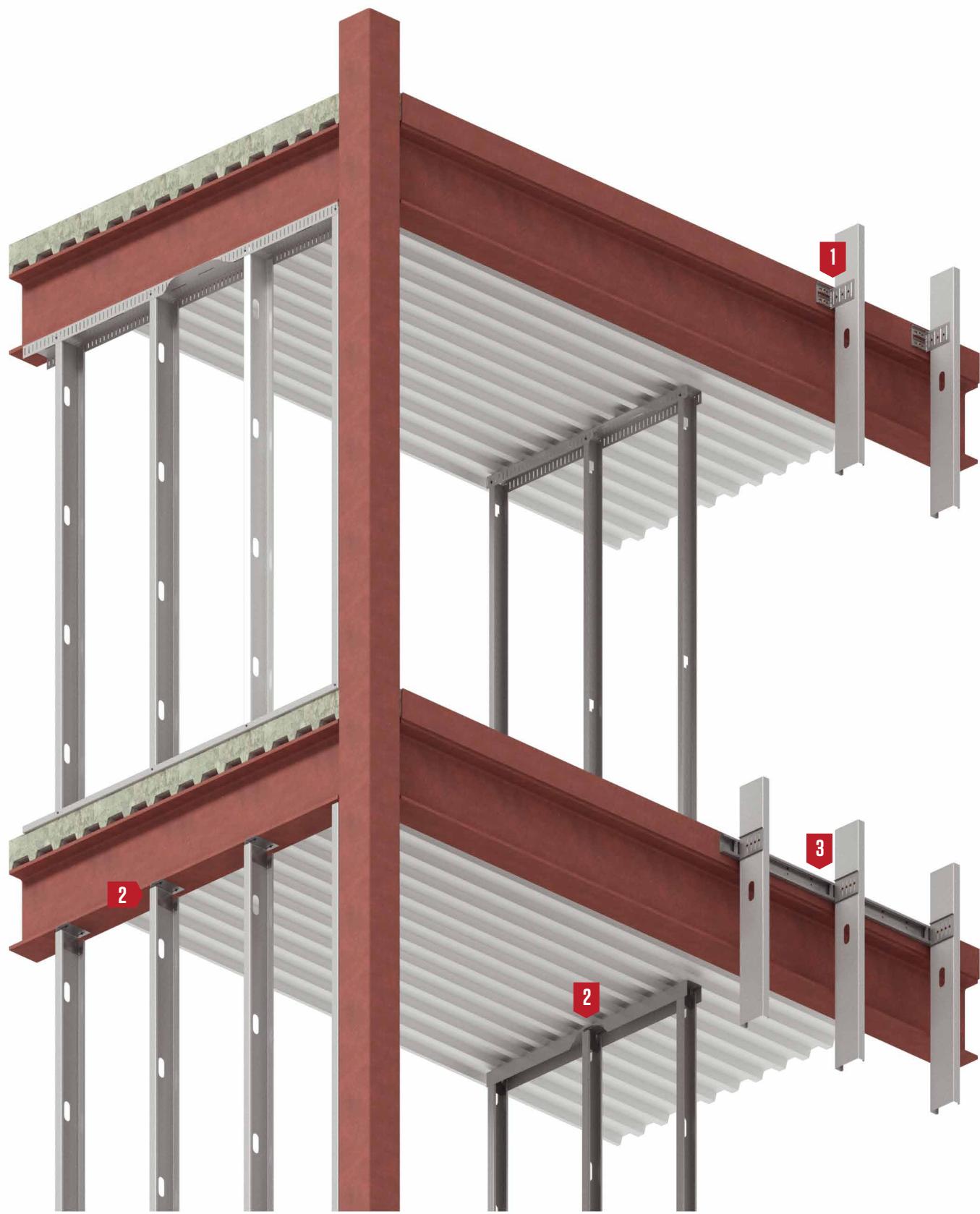
DEFLECTION CONNECTIONS

| Product code | Clip thickness Mils (Gauge) | Clip length (in) | No. of #14 screws to framing | Stud thickness Mils (Gauge) | Capacities (lbs) | | |
|--------------|--------------------------------|---------------------|------------------------------------|--------------------------------|------------------|---------|-------------|
| | | | | | In-Plane | Tension | Compression |
| | | | | | F1 | F2 | F3 |
| FUS6-97 | 97mils (12ga) | 6 | 4 | 33mils (20ga) | 115 | 922 | 1030 |
| | | | | 43mils (18ga) | 194 | 1288 | 1429 |
| | | | | 54mils (16ga) | 280 | 1689 | 1866 |
| | | | | 68mils (14ga) | 443 | 1928 | 2339 |
| | | | | 97mils (12ga) | 780 | 2423 | 3318 |
| FUS8-97 | 97mils (12ga) | 8 | 4 | 33mils (20ga) | 115 | 922 | 1030 |
| | | | | 43mils (18ga) | 206 | 1288 | 1347 |
| | | | | 54mils (16ga) | 306 | 1689 | 1693 |
| | | | | 68mils (14ga) | 457 | 1947 | 2283 |
| | | | | 97mils (12ga) | 769 | 2482 | 3503 |
| FUS6-118 | 118mils (10ga) | 6 | 4 | 33mils (20ga) | 137 | 1134 | 998 |
| | | | | 43mils (18ga) | 211 | 1550 | 1607 |
| | | | | 54mils (16ga) | 291 | 2006 | 2275 |
| | | | | 68mils (14ga) | 450 | 2458 | 2812 |
| | | | | 97mils (12ga) | 779 | 3392 | 3923 |
| FUS8-118 | 118mils (10ga) | 8 | 4 | 33mils (20ga) | 137 | 1134 | 998 |
| | | | | 43mils (18ga) | 240 | 1550 | 1581 |
| | | | | 54mils (16ga) | 354 | 2006 | 2221 |
| | | | | 68mils (14ga) | 536 | 2458 | 2797 |
| | | | | 97mils (12ga) | 913 | 3392 | 3987 |

Notes:

- 1 Tabulated loads are based on maximum stud standoff distance of 1" from base structure.
- 2 FUS clip was tested in compliance with ICC-ES AC-261 (2019).
- 3 #14 shouldered screws (proprietary) were used to attach clips to framing members.
- 4 The ultimate screw shear strength and screw tension strength for #14 screws shall be at least 3048-lbs, and 3201-lbs respectively.
- 5 The screw strength capacities are based of CFSEI Tech Note (F701-12).
- 6 Allowable loads have not been increased for seismic or wind.

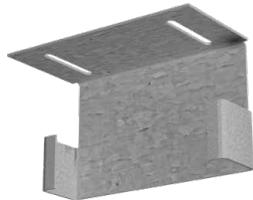
Product Detail



1 Drift FastClip™ Slide Clip
pages 46-49



2 Drift Head-of-Wall Clip
pages 50-53



3 Drift Rail and Clip
Drift Headed Rail & Clip
pages 54-71



Drift FastClip™ Slide Clip - 68mils (14ga)

Curtain Wall/Bypass with Drift & Vertical Deflection

Vertical and lateral building movement up to 2".

ClarkDietrich Drift FastClip™ Slide Clip 68mils (14ga) is used to attach exterior curtain-wall studs to the building structure and provide for both vertical and lateral movement. Proprietary Deflection Screws are provided with each clip for attachment to the wall studs and allow for 2" vertical deflection (1" up and down) to ensure friction-free sliding. Step bushings are provided for the connection to the structure and allow for 2" lateral deflection (1" left and right).

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)**Design Thickness:** 0.0713 inches**Yield Strength:** 50ksi**Coating:** G90**ASTM:** A653/A1003

PRODUCT DIMENSIONS

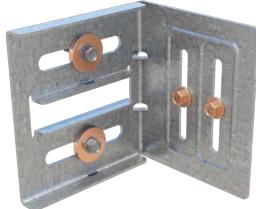
D-FCSC3.5: 3-3/4" x 4" x 3-1/2" long

D-FCSC6: 3-3/4" x 4" x 6" long

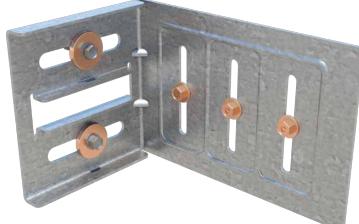
D-FCSC8: 3-3/4" x 4" x 8" long

ALTERNATIVE PRODUCTS

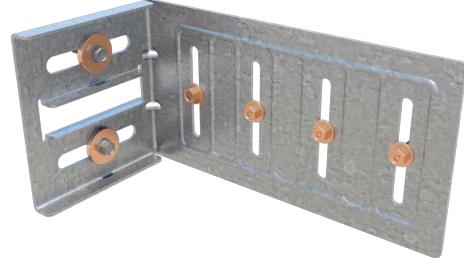
Drift Rail and Clip



D-FCSC3.5

(2) Bushings per Clip
(2) Slots & Deflection Screws per Clip

D-FCSC6

(2) Bushings per Clip
(3) Slots & Deflection Screws per Clip

D-FCSC8

(2) Bushings per Clip
(4) Slots & Deflection Screws per Clip

Drift FastClip™ Slide Clip (D-FCSC)

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|-------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| D-FCSC3.5-68 | 68mils (14ga) | 0.0713 | 3-3/4 x 4 x 3-1/2 | 25 |
| D-FCSC6-68 | 68mils (14ga) | 0.0713 | 3-3/4 x 4 x 6 | 25 |
| D-FCSC8-68 | 68mils (14ga) | 0.0713 | 3-3/4 x 4 x 7-3/4 | 25 |

Packaging:

D-FCSC3.5 includes (55) Proprietary Deflection Screws & (50) Bushings

D-FCSC6 includes (80) Proprietary Deflection Screws & (50) Bushings

D-FCSC8 includes (110) Proprietary Deflection Screws & (50) Bushings



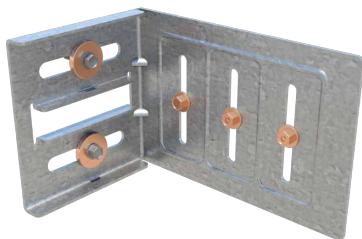
Copper Colored Bushing for 14ga Clips

Proprietary Deflection Screws (For Stud Connection)

INSTALLATION

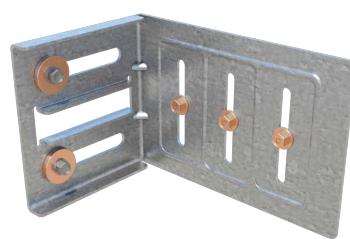
To attach the clip to the cold-formed steel framing, two, three or four Proprietary Deflection Screws (based upon clip size), shall be driven through the slotted holes and positioned to allow for the appropriate building deflection.

Attachment to the primary structure can be made with screws, or bolt anchors. Structure attachments shall be driven through the drift bushings and the Drift FastClip™ - centered in the drift slots.



STRUCTURE CENTER CONNECTION*

Drift Bushings centered in slots



STRUCTURE OFFSET CONNECTION*

Drift Bushings at far end of slots

Drift FastClip™ Slide Clip (D-FCSC) Allowable Loads

ATTACHED TO MIN. 3/16" STRUCTURAL STEEL WITH (2) 1/4"-20 SCREWS

| Clip designation | Stud thickness Mils (ga) | Fasteners | | Tension or Compression Load Capacity | | | |
|----------------------------|-----------------------------|--------------------------------------|-------------------------------------|--------------------------------------|----------------|---------------|----------------|
| | | to Framing | to Structure | ASD | | LRFD | |
| | | | | Center (lbs)* | Offset (lbs)** | Center (lbs)* | Offset (lbs)** |
| D-FCSC3.5 68mils (14ga) | 33mils (20ga) 33ksi | (2) Proprietary Deflection Screws | (2) 1/4" - 20 with Drift Bushing | 395 | 383 | 632 | 613 |
| | 43mils (18ga) 33ksi | | | 579 | 487 | 926 | 779 |
| | 54mils (16ga) 50ksi | | | 612 | 526 | 979 | 841 |
| | 68mils (14ga) 50ksi | | | 612 | 548 | 979 | 876 |
| | 97mils (12ga) 50ksi | | | 648 | 548 | 1037 | 876 |
| D-FCSC6 68mils (14ga) | 33mils (20ga) 33ksi | (3) Proprietary Deflection Screws | (2) 1/4" - 20 with Drift Bushing | 627 | 509 | 1003 | 815 |
| | 43mils (18ga) 33ksi | | | 640 | 534 | 1024 | 855 |
| | 54mils (16ga) 50ksi | | | 640 | 541 | 1024 | 866 |
| | 68mils (14ga) 50ksi | | | 667 | 559 | 1067 | 895 |
| | 97mils (12ga) 50ksi | | | 667 | 559 | 1067 | 895 |
| D-FCSC8 68mils (14ga) | 43mils (18ga) 33ksi | (4) Proprietary Deflection Screws | (2) 1/4" - 20 with Drift Bushing | 597 | 499 | 955 | 798 |
| | 54mils (16ga) 50ksi | | | 636 | 566 | 1018 | 906 |
| | 68mils (14ga) 50ksi | | | 671 | 574 | 1074 | 918 |
| | 97mils (12ga) 50ksi | | | 671 | 645 | 1074 | 1032 |

Notes:

* Proprietary Deflection Screws centered in slots, Drift bushings centered in slots.

** Proprietary Deflection Screws centered in slots, Drift bushings at end of slots.

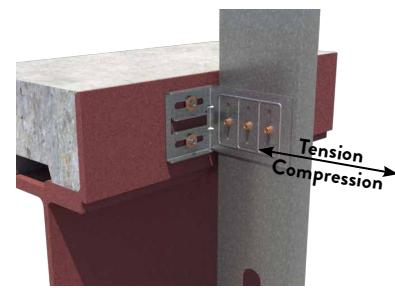
1 Load capacities have not been increased for wind, seismic, or other factors.

2 Load Capacities include 1/8" service load limitation.

3 Load Capacities calculated considering (2) 1/4"-20 screws for structure connection to 3/16" steel.

4 Refer to ICC-ESR-3332 for allowable loads using 1/4"-20 screw fasteners with various plate connection thickness.

5 Proprietary Deflection Screws for framing connection and step bushings for structure connection are provided with D-FCSC clip.



Drift FastClip™ Slide Clip - 97mils (12ga)

Curtain Wall/Bypass with Drift & Vertical Deflection

Vertical and lateral building movement up to 2".

ClarkDietrich Drift FastClip™ Slide Clip 97mils (12ga) is used to attach exterior curtain-wall studs to the building structure and provide for both vertical and lateral movement. Proprietary HD Deflection Screws are provided with each clip for attachment to the wall studs and allow for 2" vertical deflection (1" up and down) to ensure friction-free sliding. Step bushings are provided for the connection to the structure and allow for 2" lateral deflection (1" left and right).

MATERIAL SPECIFICATIONS

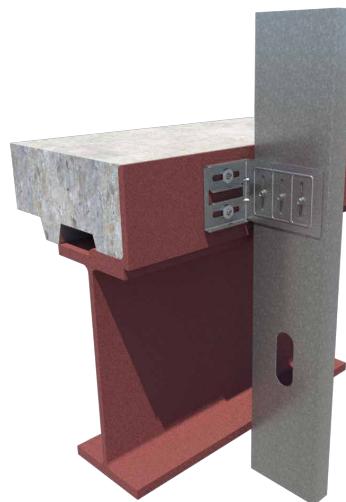
Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Yield Strength: 50ksi

Coating: G90

ASTM: A653/A1003



PRODUCT DIMENSIONS

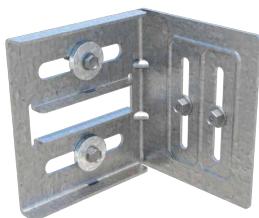
D-FCSC3.5: 3-3/4" x 4" x 3-1/2" long

D-FCSC6: 3-3/4" x 4" x 6" long

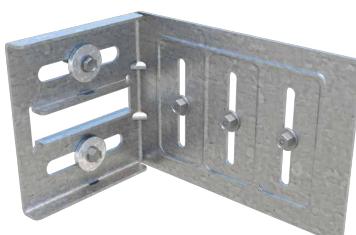
D-FCSC8: 3-3/4" x 4" x 8" long

ALTERNATIVE PRODUCTS

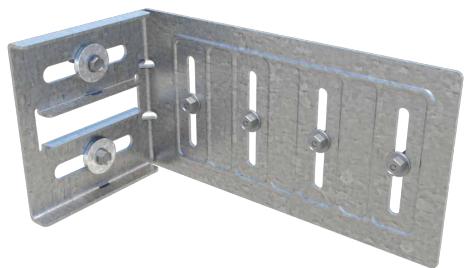
Drift Rail and Clip



D-FCSC3.5



D-FCSC6



D-FCSC8

Drift FastClip™ Slide Clip (D-FCSC)

| Product code | Thickness | | Size (in) | No. of Bushings per Clip | No. of Slots & Deflection Screws per Clip |
|--------------|---------------|-----------------------|-----------|--------------------------|---|
| | Mils (Gauge) | Design thickness (in) | | | |
| D-FCSC3.5-97 | 97mils (12ga) | 0.1017 | 3-1/2" | 2 | 2 |
| D-FCSC6-97 | 97mils (12ga) | 0.1017 | 6" | 2 | 3 |
| D-FCSC8-97 | 97mils (12ga) | 0.1017 | 7-3/4" | 2 | 4 |

Packaging: 25 Clips per Bucket

D-FCSC3.5 includes (55) Proprietary HD Deflection Screws & (50) Bushings

D-FCSC6 includes (80) Proprietary HD Deflection Screws & (50) Bushings

D-FCSC8 includes (110) Proprietary HD Deflection Screws & (50) Bushings



Silver Colored Bushing for 12ga Clips

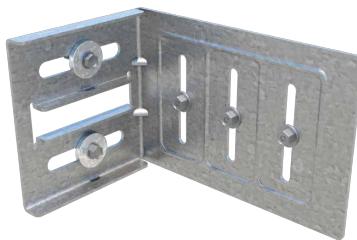


Proprietary HD Deflection Screws (10ga and 12ga clips only)

INSTALLATION

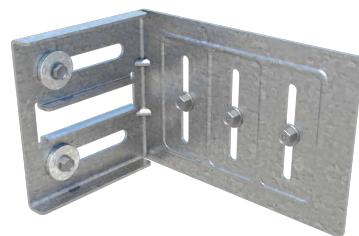
To attach the clip to the cold-formed steel framing, two, three or four Proprietary HD Deflection Screws (based upon clip size), shall be driven through the slotted holes and positioned to allow for the appropriate building deflection.

Attachment to the primary structure can be made with screws, or bolt anchors. Structure attachments shall be driven through the drift bushings and the Drift FastClip™ - centered in the drift slots.



STRUCTURE CENTER CONNECTION¹

Drift Bushings centered in slots



STRUCTURE OFFSET CONNECTION²

Drift Bushings at far end of slots

Drift FastClip™ Slide Clip (D-FCSC) Allowable Loads

ATTACHED TO MIN. 3/16" STRUCTURAL STEEL
WITH (2) 1/4"-20 SCREWS

| Clip designation | Stud thickness Mils (Gauge) | Fasteners | | Tension or Compression Load Capacity | | | |
|----------------------------|--------------------------------|--------------------------------------|---------------------------------|--------------------------------------|----------------|---------------|----------------|
| | | to Framing | to Structure | ASD | | LRFD | |
| | | | | Center (lbs)* | Offset (lbs)** | Center (lbs)* | Offset (lbs)** |
| D-FCSC3.5 97mils (12ga) | 33mils (20ga) 33ksi | (2) Proprietary HD Deflection Screws | (2) 1/4"- 20 with Drift Bushing | 488 | 443 | 781 | 709 |
| | 43mils (18ga) 33ksi | | | 740 | 499 | 1183 | 798 |
| | 54mils (16ga) 50ksi | | | 877 | 877 | 1402 | 1402 |
| | 68mils (14ga) 50ksi | | | 877 | 877 | 1402 | 1402 |
| | 97mils (12ga) 50ksi | | | 877 | 877 | 1402 | 1402 |
| D-FCSC6 97mils (12ga) | 33mils (20ga) 33ksi | (3) Proprietary HD Deflection Screws | (2) 1/4"- 20 with Drift Bushing | 777 | 592 | 1243 | 948 |
| | 43mils (18ga) 33ksi | | | 934 | 934 | 1494 | 1494 |
| | 54mils (16ga) 50ksi | | | 978 | 967 | 1564 | 1548 |
| | 68mils (14ga) 50ksi | | | 978 | 967 | 1564 | 1548 |
| | 97mils (12ga) 50ksi | | | 978 | 967 | 1564 | 1548 |
| D-FCSC8 97mils (12ga) | 43mils (18ga) 33ksi | (4) Proprietary HD Deflection Screws | (2) 1/4"- 20 with Drift Bushing | 822 | 822 | 1316 | 1316 |
| | 54mils (16ga) 50ksi | | | 845 | 845 | 1353 | 1353 |
| | 68mils (14ga) 50ksi | | | 845 | 845 | 1353 | 1353 |
| | 97mils (12ga) 50ksi | | | 845 | 845 | 1353 | 1353 |

Notes:

* Proprietary HD Deflection Screws centered in slots, Drift bushings centered in slots.

** Proprietary HD Deflection Screws centered in slots, Drift bushings at end of slots.

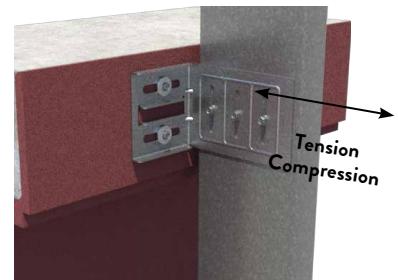
1 Load capacities have not been increased for wind, seismic, or other factors.

2 Load capacities include 1/8" service load limitation.

3 Load capacities calculated considering (2) 1/4"-20 screws for structure connection to 3/16" steel.

4 Refer to ICC-ESR-3332 for allowable loads using 1/4"-20 screw fasteners with various plate connection thickness.

5 Proprietary HD Deflection Screws for framing connection and step bushings for structure connection are provided with D-FCSC clip.



Drift Head-of-Wall

Head-of-Wall drift and deflection connection

Head-of-Wall drift and deflection for exterior curtain wall and interior nonload-bearing walls

ClarkDietrich's Drift Head-of-Wall Clips are used in deflection conditions for in-fill curtain wall assemblies and/or interior nonload-bearing partitions to provide for both vertical (deflection) and lateral (drift) movement.

The Drift Head-of-Wall Clips can be attached to the underside of structural members, concrete decks or floor assemblies. Structural attachments are positioned in the center of the slot with a bushing to allow building drift. The Drift Head-of-Wall clip can be installed on the hard or soft side of the stud.

MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

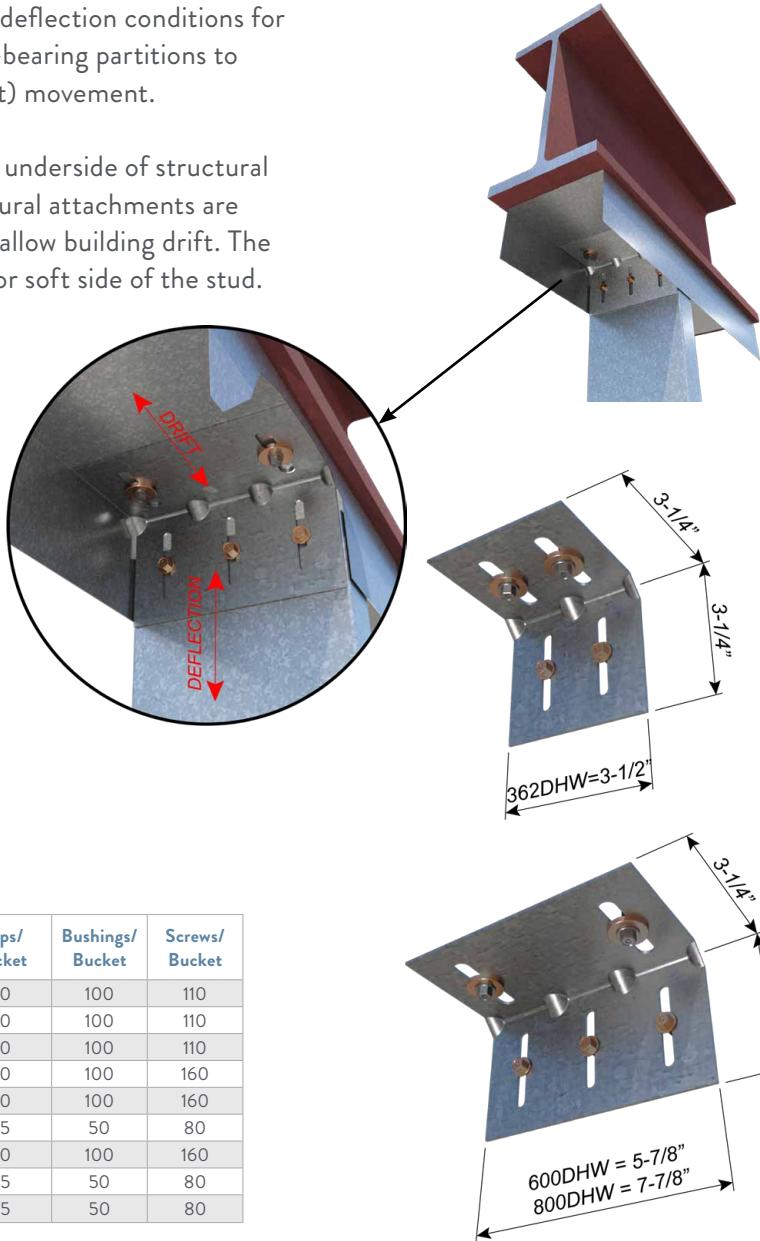
Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Yield Strength: 50ksi

Coating: G90

ASTM: A1003



Drift Head-of-Wall (DHW)

| Product code | Mils (Gauge) | Design thickness (in) | Clip Length | Clips/ Bucket | Bushings/ Bucket | Screws/ Bucket |
|--------------|---------------|-----------------------|-------------|---------------|------------------|----------------|
| 362DHW-43 | 43mils (18ga) | 0.0451 | 3-1/2" | 50 | 100 | 110 |
| 362DHW-68 | 68mils (14ga) | 0.0713 | 3-1/2" | 50 | 100 | 110 |
| 362DHW-97 | 97mils (12ga) | 0.1017 | 3-1/2" | 50 | 100 | 110 |
| 600DHW-43 | 43mils (18ga) | 0.0451 | 5-7/8" | 50 | 100 | 160 |
| 600DHW-68 | 68mils (14ga) | 0.0713 | 5-7/8" | 50 | 100 | 160 |
| 600DHW-97 | 97mils (12ga) | 0.1017 | 5-7/8" | 25 | 50 | 80 |
| 800DHW-43 | 43mils (18ga) | 0.0451 | 7-7/8" | 50 | 100 | 160 |
| 800DHW-68 | 68mils (14ga) | 0.0713 | 7-7/8" | 25 | 50 | 80 |
| 800DHW-97 | 97mils (12ga) | 0.1017 | 7-7/8" | 25 | 50 | 80 |

Drift Bushing and Deflection Screws

Step bushings are provided for the connection to the structure and allow for 2" lateral deflection (1" left and right). Proprietary Deflection Screws are provided for the connection of the clip to the stud, and allow for 2" vertical deflection (1" up and down). These fasteners eliminate drag, binding or resistance that can often occur with common fasteners.



INSTALLATION

Attach to primary structure using 1/4" fasteners with Drift bushings for steel applications or 1/4" anchors with Drift bushings for concrete. Proprietary Deflection Screws are used to attach the clip to the cold-formed steel framing. Screws shall be driven through the slotted holes and positioned to allow for the appropriate building deflection.

Drift Head-of-Wall (DHW-43)

| Clip designation | Stud thickness Mils (Gauge) | Yield strength (ksi) | Mechanically anchored to structure | Allowable Loads (lbs) | | | | | | | |
|------------------|-----------------------------|----------------------|------------------------------------|---------------------------------|--------------|---------------------|----------------------|-------------------------------|--------------|---------------------|----------------------|
| | | | | Shear (F4) - Centered Condition | | | | Shear (F4) - Offset Condition | | | |
| | | | | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) |
| 362DHW-43 (18ga) | 33mils (20ga) | 33 | 1/4" - 20 Fasteners in 3/16" Steel | 40 | 505 | 260 | 415 | 15 | 575 | 295 | 475 |
| | 43mils (18ga) | 33 | | 45 | 545 | 280 | 445 | 15 | 795 | 410 | 655 |
| | 54mils (16ga) | 50 | | 80 | 545 | 280 | 445 | 20 | 1040 | 535 | 855 |
| | 33mils (20ga) | 33 | | 135 | 765 | 395 | 630 | 55 | 990 | 510 | 815 |
| | 43mils (18ga) | 33 | | 235 | 805 | 415 | 665 | 75 | 1255 | 605 | 905 |
| | 54mils (16ga) | 50 | | 265 | 860 | 440 | 705 | 90 | 1700 | 605 | 905 |
| | 33mils (20ga) | 33 | | 480 | 1095 | 560 | 900 | 155 | 1160 | 400 | 640 |
| | 43mils (18ga) | 33 | | 490 | 1355 | 605 | 905 | 185 | 1575 | 540 | 870 |
| | 54mils (16ga) | 50 | | 530 | 1810 | 605 | 905 | 225 | 1810 | 605 | 905 |

Drift Head-of-Wall (DHW-43)

| Clip designation | Stud thickness Mils (Gauge) | Yield strength (ksi) | Mechanically anchored to structure | Allowable Loads (lbs) | | | | | | | |
|------------------|-----------------------------|----------------------|---|---------------------------------|--------------|---------------------|----------------------|-------------------------------|--------------|---------------------|----------------------|
| | | | | Shear (F4) - Centered Condition | | | | Shear (F4) - Offset Condition | | | |
| | | | | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) |
| 362DHW-43 (18ga) | 33mils (20ga) | 33 | 1/4" Hilti Kwik HUS-EZ (2-1/2" Embedment in to 3000 psi cracked concrete) | 40 | 505 | 260 | 415 | 15 | 575 | 295 | 475 |
| | 43mils (18ga) | 33 | | 45 | 545 | 280 | 445 | 15 | 795 | 410 | 655 |
| | 54mils (16ga) | 50 | | 80 | 545 | 280 | 445 | 20 | 1040 | 535 | 855 |
| | 33mils (20ga) | 33 | | 135 | 765 | 395 | 630 | 55 | 990 | 510 | 815 |
| | 43mils (18ga) | 33 | | 235 | 805 | 415 | 665 | 75 | 1215 | 605 | 905 |
| | 54mils (16ga) | 50 | | 265 | 860 | 440 | 705 | 90 | 1215 | 605 | 905 |
| | 33mils (20ga) | 33 | | 480 | 1095 | 560 | 900 | 155 | 1160 | 400 | 640 |
| | 43mils (18ga) | 33 | | 490 | 1215 | 605 | 905 | 185 | 1575 | 540 | 870 |
| | 54mils (16ga) | 50 | | 530 | 1215 | 605 | 905 | 225 | 1810 | 605 | 905 |

Notes:

1 Listed Capacities were derived from calculations and structural tests in accordance with provisions of AISI S100-16(R2020)/S2-20, ICC-ES AC261, and ACI 318-19.

2 Table-1 shall be applicable when 1/4" fasteners (w/drift bushings) are used for attachment to steel structure.

3 Table-2 shall be applicable when 1/4" Hilti Kwik HUS-EZ Anchors (w/ drift bushings) are used for attachment to concrete structure.

4 ASD and LRFD loads are based on calculated nominal capacities only. 1/8" service loads are listed in a separate column. Designer shall use governing loads based on 1/8" service and strength.

5 Lateral bridging within 12" of the connection is recommended to minimize torsional effects on the stud.

6 DHW clip allows up to 2" ($\pm 1"$) of vertical displacement, and 2" ($\pm 1"$) of drift in the place of the wall.

a. "Center" condition is for the Center configuration of both Drift and Vertical Displacement

b. "Offset" condition is for the Offset configuration of both Drift and Vertical Displacement

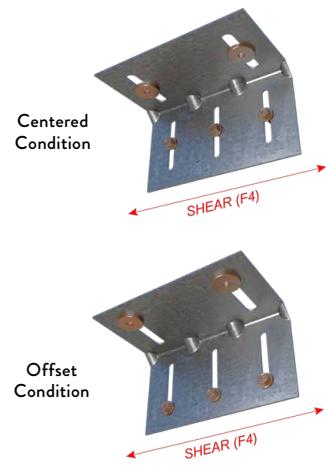
7 ClarkDietrich Deflection Screws (0.25-in dia) shall be used to attach clips to framing members through the provided slotted holes.

8 For anchors in concrete, the listed values are applicable only for following:

- Anchor embedment depth of 2-1/2"
- Minimum of 4.5" edge distance perpendicular to concrete edge
- Anchor attachment spacing provided for 362DHW, 600DHW and 800DHW
- Minimum concrete thickness of 4-1/8"
- 3000 psi normal weight cracked concrete

9 Capacities have not been increased for wind, seismic, or other factors.

10 It is the responsibility of the design professional to detail the project drawings for proper Drift Head-of-Wall installation.



Drift Head-of-Wall

Head-of-wall drift and deflection connection

Drift Head-of-Wall (DHW-68)

| Clip designation | Stud thickness Mils (Gauge) | Yield strength (ksi) | Mechanically anchored to structure | Allowable Loads (lbs) | | | | | | | |
|------------------|-----------------------------|----------------------|------------------------------------|---------------------------------|--------------|---------------------|----------------------|-------------------------------|--------------|---------------------|----------------------|
| | | | | Shear (F4) - Centered Condition | | | | Shear (F4) - Offset Condition | | | |
| | | | | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) |
| 362DHW-68 (14ga) | 33mils (20ga) | 33 | 1/4" - 20 Fasteners in 3/16" Steel | 150 | 835 | 405 | 610 | 85 | 710 | 365 | 585 |
| | 43mils (18ga) | 33 | | 200 | 1275 | 445 | 715 | 85 | 1065 | 525 | 840 |
| | 54mils (16ga) | 50 | | 200 | 1295 | 445 | 715 | 120 | 1530 | 525 | 840 |
| | 68mils (14ga) | 50 | | 215 | 1295 | 445 | 715 | 130 | 1860 | 640 | 1025 |
| | 97mils (12ga) | 50 | | 220 | 1485 | 510 | 820 | 130 | 1960 | 675 | 1080 |
| 600DHW-68 (14ga) | 33mils (20ga) | 33 | 1/4" - 20 Fasteners in 3/16" Steel | 535 | 1155 | 595 | 910 | 195 | 1155 | 595 | 910 |
| | 43mils (18ga) | 33 | | 535 | 1615 | 830 | 1325 | 195 | 1955 | 905 | 1360 |
| | 54mils (16ga) | 50 | | 610 | 2695 | 925 | 1485 | 280 | 2620 | 900 | 1445 |
| | 68mils (14ga) | 50 | | 610 | 2750 | 945 | 1515 | 280 | 3010 | 1035 | 1655 |
| | 97mils (12ga) | 50 | | 620 | 2795 | 965 | 1540 | 315 | 3425 | 1180 | 1885 |
| 800DHW-68 (14ga) | 33mils (20ga) | 33 | 1/4" - 20 Fasteners in 3/16" Steel | 1210 | 1350 | 610 | 910 | 340 | 1490 | 610 | 910 |
| | 43mils (18ga) | 33 | | 1285 | 2145 | 905 | 1360 | 410 | 2660 | 905 | 1360 |
| | 54mils (16ga) | 50 | | 1410 | 3745 | 1290 | 2065 | 455 | 3700 | 1275 | 2040 |
| | 68mils (14ga) | 50 | | 1455 | 3980 | 1370 | 2190 | 455 | 4305 | 1460 | 2195 |
| | 97mils (12ga) | 50 | | 1540 | 4280 | 1460 | 2195 | 460 | 4385 | 1460 | 2195 |

Drift Head-of-Wall (DHW-68)

| Clip designation | Stud thickness Mils (Gauge) | Yield strength (ksi) | Mechanically anchored to structure | Allowable Loads (lbs) | | | | | | | |
|------------------|-----------------------------|----------------------|--|---------------------------------|--------------|---------------------|----------------------|-------------------------------|--------------|---------------------|----------------------|
| | | | | Shear (F4) - Centered Condition | | | | Shear (F4) - Offset Condition | | | |
| | | | | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) |
| 362DHW-68 (14ga) | 33mils (20ga) | 33 | 1/4" Hilti Kwik HUS-EZ (2-1/2" Embedment into 3000 psi cracked concrete) | 150 | 835 | 405 | 610 | 85 | 710 | 365 | 585 |
| | 43mils (18ga) | 33 | | 200 | 1275 | 445 | 715 | 85 | 1065 | 525 | 840 |
| | 54mils (16ga) | 50 | | 200 | 1295 | 445 | 715 | 120 | 1530 | 525 | 840 |
| | 68mils (14ga) | 50 | | 215 | 1295 | 445 | 715 | 130 | 1860 | 640 | 1025 |
| | 97mils (12ga) | 50 | | 220 | 1485 | 510 | 820 | 130 | 1930 | 665 | 1080 |
| 600DHW-68 (14ga) | 33mils (20ga) | 33 | 1/4" Hilti Kwik HUS-EZ (2-1/2" Embedment into 3000 psi cracked concrete) | 535 | 1155 | 595 | 910 | 195 | 1155 | 595 | 910 |
| | 43mils (18ga) | 33 | | 535 | 1295 | 665 | 1110 | 195 | 1295 | 665 | 1110 |
| | 54mils (16ga) | 50 | | 610 | 1930 | 665 | 1110 | 280 | 1930 | 665 | 1110 |
| | 68mils (14ga) | 50 | | 610 | 1930 | 665 | 1110 | 280 | 1930 | 665 | 1110 |
| | 97mils (12ga) | 50 | | 620 | 1930 | 665 | 1110 | 315 | 1930 | 665 | 1110 |
| 800DHW-68 (14ga) | 33mils (20ga) | 33 | 1/4" Hilti Kwik HUS-EZ (2-1/2" Embedment into 3000 psi cracked concrete) | 1210 | 1295 | 610 | 910 | 340 | 1295 | 610 | 910 |
| | 43mils (18ga) | 33 | | 1285 | 1295 | 665 | 1110 | 410 | 1295 | 665 | 1110 |
| | 54mils (16ga) | 50 | | 1410 | 1930 | 665 | 1110 | 455 | 1930 | 665 | 1110 |
| | 68mils (14ga) | 50 | | 1455 | 1930 | 665 | 1110 | 455 | 1930 | 665 | 1110 |
| | 97mils (12ga) | 50 | | 1540 | 1930 | 665 | 1110 | 460 | 1930 | 665 | 1110 |

Notes:

1 Listed Capacities were derived from calculations and structural tests in accordance with provisions of AISI S100-16(R2020)/S2-20, ICC-ES AC261, and ACI 318-19.

2 Table-1 shall be applicable when 1/4" fasteners (w/drift bushings) are used for attachment to steel structure.

3 Table-2 shall be applicable when 1/4" Hilti Kwik HUS-EZ Anchors (w/ drift bushings) are used for attachment to concrete structure.

4 ASD and LRFD loads are based on calculated nominal capacities only. 1/8" service loads are listed in a separate column.

Designer shall use governing loads based on 1/8" service and strength.

5 Lateral bridging within 12" of the connection is recommended to minimize torsional effects on the stud.

6 DHW clip allows up to 2" ($\pm 1"$) of vertical displacement, and 2" ($\pm 1"$) of drift in the place of the wall.

a. "Center" condition is for the Center configuration of both Drift and Vertical Displacement

b. "Offset" condition is for the Offset configuration of both Drift and Vertical Displacement

7 ClarkDietrich Deflection Screws (0.25-in dia) shall be used to attach clips to framing members through the provided slotted holes.

8 For anchors in concrete, the listed values are applicable only for following:

a. Anchor embedment depth of 2-1/2"

b. Minimum of 4.5" edge distance perpendicular to concrete edge

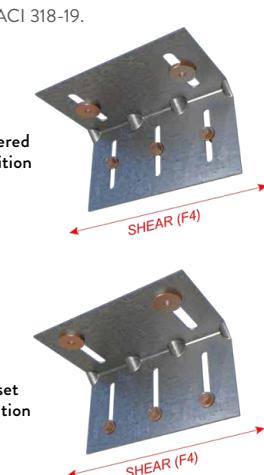
c. Anchor attachment spacing provided for 362DHW, 600DHW and 800DHW

d. Minimum concrete thickness of 4-1/8"

e. 3000 psi normal weight cracked concrete

9 Capacities have not been increased for wind, seismic, or other factors.

10 It is the responsibility of the design professional to detail the project drawings for proper Drift Head-of-Wall installation.



Drift Head-of-Wall (DHW-97)

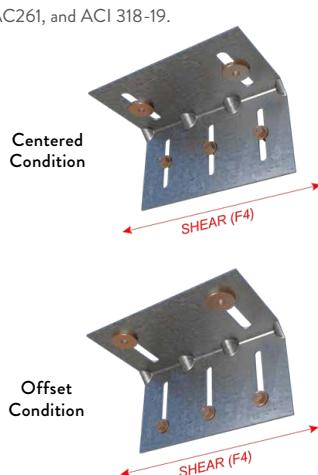
| Clip designation | Stud thickness Mils (Gauge) | Yield strength (ksi) | Mechanically anchored to structure | Allowable Loads (lbs) | | | | | | | |
|------------------|-----------------------------|----------------------|------------------------------------|---------------------------------|--------------|---------------------|----------------------|-------------------------------|--------------|---------------------|----------------------|
| | | | | Shear (F4) - Centered Condition | | | | Shear (F4) - Offset Condition | | | |
| | | | | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) |
| 362DHW-97 (12ga) | 33mils (20ga) | 33 | 1/4" - 20 Fasteners in 3/16" Steel | 150 | 850 | 405 | 610 | 85 | 885 | 405 | 610 |
| | 43mils (18ga) | 33 | | 220 | 1275 | 570 | 905 | 85 | 1430 | 605 | 905 |
| | 54mils (16ga) | 50 | | 240 | 1655 | 570 | 910 | 125 | 1790 | 615 | 985 |
| | 68mils (14ga) | 50 | | 240 | 1675 | 575 | 925 | 130 | 1945 | 670 | 1070 |
| | 97mils (12ga) | 50 | | 330 | 1675 | 575 | 925 | 145 | 1960 | 675 | 1080 |
| | 33mils (20ga) | 33 | | 665 | 1155 | 595 | 910 | 270 | 1490 | 610 | 910 |
| | 43mils (18ga) | 33 | | 690 | 1615 | 830 | 1325 | 325 | 2360 | 905 | 1360 |
| | 54mils (16ga) | 50 | | 875 | 2750 | 945 | 1515 | 325 | 3210 | 1105 | 1770 |
| | 68mils (14ga) | 50 | | 1000 | 2750 | 945 | 1515 | 325 | 3425 | 1180 | 1885 |
| | 97mils (12ga) | 50 | | 1200 | 2970 | 1020 | 1635 | 415 | 3425 | 1180 | 1885 |
| 600DHW-97 (12ga) | 33mils (20ga) | 33 | | 1355 | 1350 | 610 | 910 | 340 | 1725 | 610 | 910 |
| | 43mils (18ga) | 33 | | 1580 | 2145 | 905 | 1360 | 410 | 2715 | 905 | 1360 |
| | 54mils (16ga) | 50 | | 1640 | 4525 | 1560 | 2495 | 520 | 4420 | 1520 | 2435 |
| | 68mils (14ga) | 50 | | 1640 | 5195 | 1790 | 2860 | 740 | 4420 | 1520 | 2435 |
| | 97mils (12ga) | 50 | | 2320 | 5390 | 1855 | 2970 | 740 | 4470 | 1540 | 2460 |
| | 33mils (20ga) | 33 | | 150 | 850 | 405 | 610 | 85 | 885 | 405 | 610 |
| | 43mils (18ga) | 33 | | 220 | 1275 | 570 | 905 | 85 | 1295 | 605 | 905 |
| | 54mils (16ga) | 50 | | 240 | 1655 | 570 | 910 | 125 | 1790 | 615 | 985 |
| | 68mils (14ga) | 50 | | 240 | 1675 | 575 | 925 | 130 | 1930 | 665 | 1070 |
| | 97mils (12ga) | 50 | | 330 | 1675 | 575 | 925 | 145 | 1930 | 665 | 1080 |
| 800DHW-97 (12ga) | 33mils (20ga) | 33 | | 665 | 1155 | 595 | 910 | 270 | 1295 | 610 | 910 |
| | 43mils (18ga) | 33 | | 690 | 1295 | 665 | 1110 | 325 | 1295 | 665 | 1110 |
| | 54mils (16ga) | 50 | | 875 | 1930 | 665 | 1110 | 325 | 1930 | 665 | 1110 |
| | 68mils (14ga) | 50 | | 1000 | 1930 | 665 | 1110 | 325 | 1930 | 665 | 1110 |
| | 97mils (12ga) | 50 | | 1200 | 1930 | 665 | 1110 | 415 | 1930 | 665 | 1110 |
| | 33mils (20ga) | 33 | | 1355 | 1295 | 610 | 910 | 340 | 1295 | 610 | 910 |
| | 43mils (18ga) | 33 | | 1580 | 1295 | 665 | 1110 | 410 | 1295 | 665 | 1110 |
| | 54mils (16ga) | 50 | | 1640 | 1930 | 665 | 1110 | 520 | 1930 | 665 | 1110 |
| | 68mils (14ga) | 50 | | 1640 | 1930 | 665 | 1110 | 740 | 1930 | 665 | 1110 |
| | 97mils (12ga) | 50 | | 2320 | 1930 | 665 | 1110 | 740 | 1930 | 665 | 1110 |

Drift Head-of-Wall (DHW-97)

| Clip designation | Stud thickness Mils (Gauge) | Yield strength (ksi) | Mechanically anchored to structure | Allowable Loads (lbs) | | | | | | | |
|------------------|-----------------------------|----------------------|---|---------------------------------|--------------|---------------------|----------------------|-------------------------------|--------------|---------------------|----------------------|
| | | | | Shear (F4) - Centered Condition | | | | Shear (F4) - Offset Condition | | | |
| | | | | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) | 1/8" Service Load | Nominal Load | ASD Load (Strength) | LRFD Load (Strength) |
| 362DHW-97 (12ga) | 33mils (20ga) | 33 | 1/4" Hilti Kwik HUS-EZ (2-1/2" Embedment in to 3000 psi cracked concrete) | 150 | 850 | 405 | 610 | 85 | 885 | 405 | 610 |
| | 43mils (18ga) | 33 | | 220 | 1275 | 570 | 905 | 85 | 1295 | 605 | 905 |
| | 54mils (16ga) | 50 | | 240 | 1655 | 570 | 910 | 125 | 1790 | 615 | 985 |
| | 68mils (14ga) | 50 | | 240 | 1675 | 575 | 925 | 130 | 1930 | 665 | 1070 |
| | 97mils (12ga) | 50 | | 330 | 1675 | 575 | 925 | 145 | 1930 | 665 | 1080 |
| | 33mils (20ga) | 33 | | 665 | 1155 | 595 | 910 | 270 | 1295 | 610 | 910 |
| | 43mils (18ga) | 33 | | 690 | 1295 | 665 | 1110 | 325 | 1295 | 665 | 1110 |
| | 54mils (16ga) | 50 | | 875 | 1930 | 665 | 1110 | 325 | 1930 | 665 | 1110 |
| | 68mils (14ga) | 50 | | 1000 | 1930 | 665 | 1110 | 325 | 1930 | 665 | 1110 |
| | 97mils (12ga) | 50 | | 1200 | 1930 | 665 | 1110 | 415 | 1930 | 665 | 1110 |
| 600DHW-97 (12ga) | 33mils (20ga) | 33 | | 1355 | 1295 | 610 | 910 | 340 | 1295 | 610 | 910 |
| | 43mils (18ga) | 33 | | 1580 | 1295 | 665 | 1110 | 410 | 1295 | 665 | 1110 |
| | 54mils (16ga) | 50 | | 1640 | 1930 | 665 | 1110 | 520 | 1930 | 665 | 1110 |
| | 68mils (14ga) | 50 | | 1640 | 1930 | 665 | 1110 | 740 | 1930 | 665 | 1110 |
| | 97mils (12ga) | 50 | | 2320 | 1930 | 665 | 1110 | 740 | 1930 | 665 | 1110 |
| | 33mils (20ga) | 33 | | 150 | 850 | 405 | 610 | 85 | 885 | 405 | 610 |
| | 43mils (18ga) | 33 | | 220 | 1275 | 570 | 905 | 85 | 1295 | 605 | 905 |
| | 54mils (16ga) | 50 | | 240 | 1655 | 570 | 910 | 125 | 1790 | 615 | 985 |
| | 68mils (14ga) | 50 | | 240 | 1675 | 575 | 925 | 130 | 1930 | 665 | 1070 |
| | 97mils (12ga) | 50 | | 330 | 1675 | 575 | 925 | 145 | 1930 | 665 | 1080 |
| 800DHW-97 (12ga) | 33mils (20ga) | 33 | | 665 | 1155 | 595 | 910 | 270 | 1295 | 610 | 910 |
| | 43mils (18ga) | 33 | | 690 | 1295 | 665 | 1110 | 325 | 1295 | 665 | 1110 |
| | 54mils (16ga) | 50 | | 875 | 1930 | 665 | 1110 | 325 | 1930 | 665 | 1110 |
| | 68mils (14ga) | 50 | | 1000 | 1930 | 665 | 1110 | 325 | 1930 | 665 | 1110 |
| | 97mils (12ga) | 50 | | 1200 | 1930 | 665 | 1110 | 415 | 1930 | 665 | 1110 |
| | 33mils (20ga) | 33 | | 1355 | 1295 | 610 | 910 | 340 | 1295 | 610 | 910 |
| | 43mils (18ga) | 33 | | 1580 | 1295 | 665 | 1110 | 410 | 1295 | 665 | 1110 |
| | 54mils (16ga) | 50 | | 1640 | 1930 | 665 | 1110 | 520 | 1930 | 665 | 1110 |
| | 68mils (14ga) | 50 | | 1640 | 1930 | 665 | 1110 | 740 | 1930 | 665 | 1110 |
| | 97mils (12ga) | 50 | | 2320 | 1930 | 665 | 1110 | 740 | 1930 | 665 | 1110 |

Notes:

- Listed Capacities were derived from calculations and structural tests in accordance with provisions of AISI S100-16(R2020)/S2-20, ICC-ES AC261, and ACI 318-19.
- Table-1 shall be applicable when 1/4" fasteners (w/drift bushings) are used for attachment to steel structure.
- Table-2 shall be applicable when 1/4" Hilti Kwik HUS-EZ Anchors (w/ drift bushings) are used for attachment to concrete structure.
- ASD and LRFD loads are based on calculated nominal capacities only. 1/8" service loads are listed in a separate column. Designer shall use governing loads based on 1/8" service and strength.
- Lateral bridging within 12" of the connection is recommended to minimize torsional effects on the stud.
- DHW clip allows up to 2" ($\pm 1"$) of vertical displacement, and 2" ($\pm 1"$) of drift in the place of the wall.
 - "Center" condition is for the Center configuration of both Drift and Vertical Displacement
 - "Offset" condition is for the Offset configuration of both Drift and Vertical Displacement
- ClarkDietrich Deflection Screws (0.25-in dia) shall be used to attach clips to framing members through the provided slotted holes.
- For anchors in concrete, the listed values are applicable only for following:
 - Anchor embedment depth of 2-1/2"
 - Minimum of 4.5" edge distance perpendicular to concrete edge
 - Anchor attachment spacing provided for 362DHW, 600DHW and 800DHW
 - Minimum concrete thickness of 4-1/8"
 - 3000 psi normal weight cracked concrete
- Capacities have not been increased for wind, seismic, or other factors.
- It is the responsibility of the design professional to detail the project drawings for proper Drift Head-of-Wall installation.

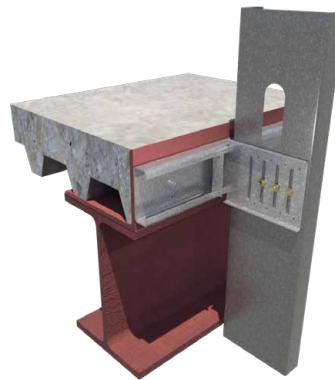


Drift Rail and Clip

Curtain Wall/Bypass with Drift and Vertical Deflection

Vertical and lateral building movement

ClarkDietrich Drift Rail (DR) or Drift Headed Rail (DHR) with Drift Rail Clip (DRC), is a uniquely designed two-piece system that is used to attach curtain-wall studs to the building structure and allows for vertical and lateral movement or to be rigidly attached. The system utilizes a C-Shaped Drift Rail and distinctively designed Drift Rail Clips that rotate into position for easy installation. The multifaceted Drift Rail Clips use Proprietary Deflection Screws for attachment to the wall studs and allows for 3" vertical deflection (1-1/2" up and down) and is also designed with 1/8" holes to rigidly attach wall studs.



Drift Rail
(DR) Installation

MATERIAL SPECIFICATIONS

Yield Strength: 50ksi

Coating: G90

ASTM: A653 / A1003

DRIFT RAIL (S)

Gauge: 12ga (97mils)

Design Thickness: 0.1017"

Min. Thickness: 0.0966"



Drift Headed Rail
(DHR) Installation

HEADED STUD MATERIAL SPECIFICATIONS

Yield Strength: Grade 1010 through 1020, 51ksi

ASTM: A29/A108

AWS: D1.1

Dimensions: 3/8" dia. x 3" long with 3/4" head dia.

DRIFT RAIL CLIP

Gauge: 12ga (97mils)

Gauge: 14ga (68mils)

Design Thickness: 0.1017"

Design Thickness: 0.0713"

Min. Thickness: 0.0966"

Min. Thickness: 0.0677"

ALTERNATIVE PRODUCTS

Drift FastClip™ Slide Clip

DRC - 12ga Clip / 12ga Rail

| Product code | Thickness Mils (Gauge) | Size (in) | No. of slots per Clip | No. of holes per clip | Drift Clips per box | Prop. Screws per box |
|--------------|---------------------------|-----------|--------------------------|--------------------------|------------------------|-------------------------|
| DRC3-97 | 97mils (12ga) | 3.3875" | 2 | 4 | 25 | 55 or 80 |
| DRC6-97 | | 5.875" | 4 | 8 | 25 | 55 or 80 |
| DRC8-97 | | 7.325" | 4 | 8 | 25 | 55 or 80 |

DRC - 14ga Clip / 12ga Rail

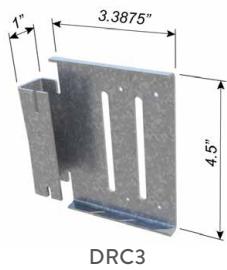
| Product code | Thickness Mils (Gauge) | Size (in) | No. of slots per Clip | No. of holes per clip | Drift Clips per box | Prop. Screws per box |
|--------------|---------------------------|-----------|--------------------------|--------------------------|------------------------|-------------------------|
| DRC3-68 | 68mils (14ga) | 3.3875" | 2 | 4 | 25 | 55 or 80 |
| DRC6-68 | | 5.875" | 4 | 8 | 25 | 55 or 80 |
| DRC8-68 | | 7.325" | 4 | 8 | 25 | 55 or 80 |

Note: 12' Drift Rail(s) are individually packaged.

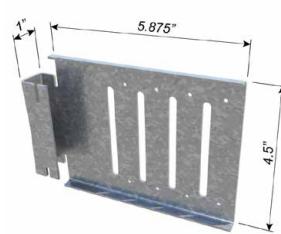


Proprietary
Deflection Screw

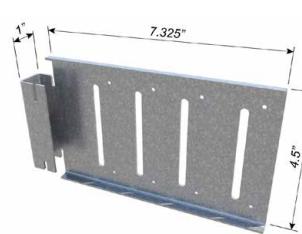
Proprietary
HD Deflection Screw
(10ga and 12ga Clips Only)



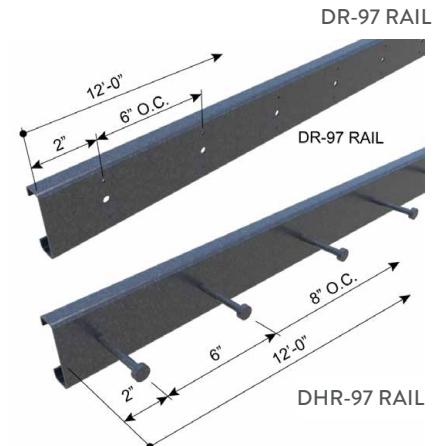
DRC3



DRC6



DRC8



Drift Rail and Clip

INSTALLATION

Install the Drift Rail to minimum 3/16-in thick **steel** support structure using:

- Welds
- PAF fasteners
- Self-drilling screws

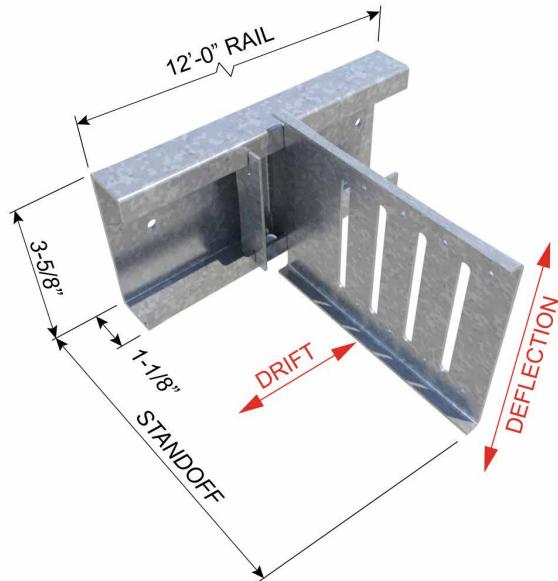
Install the Drift Rail to **concrete** support structure using:

- Expansion anchors
- Screw anchors
- Cast In Place / Embedded (Drift Headed Rail only)

Pilot holes are provided along the length of the Drift Rail web at a spacing of 6-in on-center. (DR rail only)

Design load capacities for commonly used fasteners are tabulated in the product Design Guide and include:

- Hilti X-U Universal Knurled Shank Fasteners
- #12-24 HWH Fasteners
- Hilti 1/4" KWIK HUS-EZ anchor



With the Drift Rail or Drift Headed Rail installed on the structure, the Drift Clips can be positioned as required:

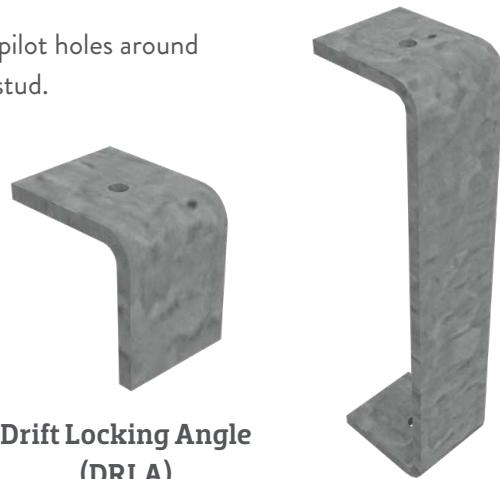
- The framing stud web must contact the flat face of the long leg of the Drift Clip.
- Note that one of the four slots in the channel portion of the Drift Clip is longer than the others.
- Tilt the Drift Clip and position it so that the longer slot initially engages one leg of the Drift Rail.
- Rotate the Drift Clip to the vertical position, engaging all four slots with the Drift Rail legs.

Connection between the Drift Clip and Framing Studs:

- For bypass connections, Proprietary Deflection Screws are placed through each slotted hole of the long leg, of the Drift Clip to the web of the stud. The required number and location of the slotted holes used to secure the stud is determined by the required design load capacity.
- For rigid connections, self-drilling screws are placed through the pilot holes around the perimeter of the long leg of the Drift Clip to the web of the stud.

To restrict clip lateral movement (Drift) along the Drift Rail, install one of two types of stops:

- Drift Locking Angle (DRLA) is an L-shaped clip
 - The long leg is inserted into the channel of the Drift Rail Clip,
 - The short leg is secured to the flange of the Drift Rail with a #10 self-drilling screw
- Drift Locking Clip (DRLC) is a C-shaped clip
 - The DRLC sits within the channel of the Drift Clip, and straddles the flanges of the Drift Rail.
 - The two outside legs of the DRLC are secured to each flange of the Drift Rail with a #10 self-drilling screw.



Drift Locking Angle (DRLA)

Drift Locking Clip (DRLC)

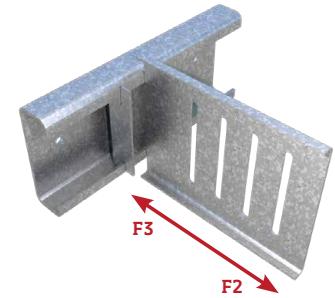
Drift Rail and Clip - Structural Attachment Designed by Others

ATTACHMENT TO STRUCTURAL: **DESIGNED BY OTHERS**
 ATTACHMENT TO STUD: **AS A DEFLECTION CONNECTION**

Drift Rail and Clip - 12ga Clip / 12ga Rail

ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION

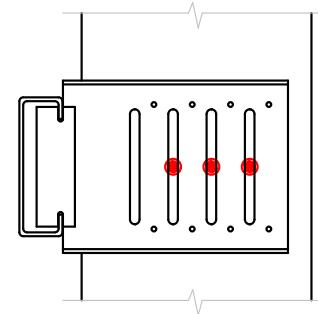
| Product code | Stud Mils (Gauge) | Framing Connection | | ASD Allowable Loads (lbs) | |
|--------------|----------------------|--------------------|---------------|---------------------------|------------------|
| | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-97 | 33mils (20ga) | See Figure | (2) x #14 | 560 | 600 |
| | 43mils (18ga) | | (2) x #14 | 655 | 670 |
| | 54mils (16ga) | | (2) x #14 | 1000 | 970 |
| | 68mils (14ga) | | (2) x #14 | 1085 | 1325 |
| | 97mils (12ga) | | (2) x #14 | 1085 | 2040 |
| DRC6-97 | 33mils (20ga) | See Figure | (3) x #14 | 560 | 600 |
| | 43mils (18ga) | | (3) x #14 | 655 | 670 |
| | 54mils (16ga) | | (3) x #14 | 1000 | 970 |
| | 68mils (14ga) | | (3) x #14 | 1085 | 1325 |
| | 97mils (12ga) | | (3) x #14 | 1085 | 2040 |
| DRC8-97 | 33mils (20ga) | See Figure | (3) x #14 | 560 | 620 |
| | 43mils (18ga) | | (3) x #14 | 655 | 730 |
| | 54mils (16ga) | | (3) x #14 | 1000 | 1060 |
| | 68mils (14ga) | | (3) x #14 | 1085 | 1340 |
| | 97mils (12ga) | | (3) x #14 | 1085 | 1965 |



Drift Rail and Clip - 14ga Clip / 12ga Rail

ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION

| Product code | Stud Mils (Gauge) | Framing Connection | | ASD Allowable Loads (lbs) | |
|--------------|----------------------|--------------------|---------------|---------------------------|------------------|
| | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-68 | 33mils (20ga) | See Figure | (2) x #14 | 490 | 440 |
| | 43mils (18ga) | | (2) x #14 | 540 | 520 |
| | 54mils (16ga) | | (2) x #14 | 850 | 870 |
| | 68mils (14ga) | | (2) x #14 | 850 | 1170 |
| | 97mils (12ga) | | (2) x #14 | 850 | 1600 |
| DRC6-68 | 33mils (20ga) | See Figure | (3) x #14 | 490 | 440 |
| | 43mils (18ga) | | (3) x #14 | 540 | 520 |
| | 54mils (16ga) | | (3) x #14 | 850 | 870 |
| | 68mils (14ga) | | (3) x #14 | 850 | 1170 |
| | 97mils (12ga) | | (3) x #14 | 850 | 1600 |
| DRC8-68 | 33mils (20ga) | See Figure | (3) x #14 | 490 | 485 |
| | 43mils (18ga) | | (3) x #14 | 540 | 620 |
| | 54mils (16ga) | | (3) x #14 | 850 | 900 |
| | 68mils (14ga) | | (3) x #14 | 850 | 1105 |
| | 97mils (12ga) | | (3) x #14 | 850 | 1710 |



(3) #14 Deflection Screw Pattern
Shown in a DRC6 Clip

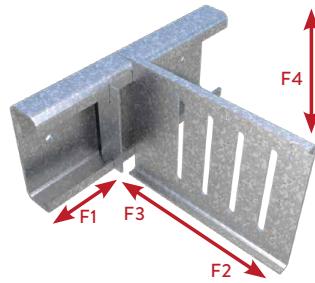
Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip to stud only (framing connection).
- 2 Drift Rail attachment to structure designed by others. Drift Rail attachment to the structure should occur at every 6" o.c., and each connection capacity should satisfy the design load requirement of the project. Listed Drift Rail clip load capacities must be evaluated along with clip-to-structure connection capacity to establish the governing load capacity of the assembly.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (2) x #14 shouldered screws (for DRC3) and (3) x #14 shouldered screws (for DRC6 and DRC8) must be used to secure the Drift Rail Clip for attachment to stud (#14 shouldered screws provided with each Drift Rail Clip).
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.

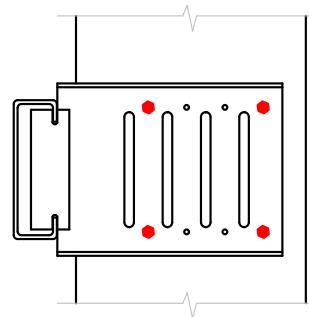
Drift Rail and Clip - Structural Attachment Designed by Others

ATTACHMENT TO STRUCTURAL: **DESIGNED BY OTHERS**
 ATTACHMENT TO STUD: **FIXED CONNECTION W/(4)#10-16**

| Product code | Stud Mils (Gauge) | Framing Connection | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | |
|--------------|-------------------|--------------------|---------------|---|--------------|------------------|------------|
| | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC3-97 | 33mils (20ga) | See Figure | (4) x #10 | 155 | 560 | 600 | 280 |
| | 43mils (18ga) | | (4) x #10 | 155 | 655 | 670 | 415 |
| | 54mils (16ga) | | (4) x #10 | 155 | 1000 | 970 | 840 |
| | 68mils (14ga) | | (4) x #10 | 155 | 1085 | 1325 | 865 |
| | 97mils (12ga) | | (4) x #10 | 155 | 1085 | 2040 | 865 |
| DRC6-97 | 33mils (20ga) | See Figure | (4) x #10 | 155 | 560 | 600 | 235 |
| | 43mils (18ga) | | (4) x #10 | 155 | 655 | 670 | 345 |
| | 54mils (16ga) | | (4) x #10 | 155 | 1000 | 970 | 705 |
| | 68mils (14ga) | | (4) x #10 | 155 | 1085 | 1325 | 725 |
| | 97mils (12ga) | | (4) x #10 | 155 | 1085 | 2040 | 725 |
| DRC8-97 | 33mils (20ga) | See Figure | (4) x #10 | 140 | 560 | 620 | 240 |
| | 43mils (18ga) | | (4) x #10 | 140 | 655 | 730 | 360 |
| | 54mils (16ga) | | (4) x #10 | 140 | 1000 | 1060 | 725 |
| | 68mils (14ga) | | (4) x #10 | 140 | 1085 | 1340 | 745 |
| | 97mils (12ga) | | (4) x #10 | 140 | 1085 | 1965 | 745 |



| Product code | Stud Mils (Gauge) | Framing Connection | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | |
|--------------|-------------------|--------------------|---------------|---|--------------|------------------|------------|
| | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC3-68 | 33mils (20ga) | See Figure | (4) x #10 | 115 | 490 | 440 | 280 |
| | 43mils (18ga) | | (4) x #10 | 115 | 540 | 520 | 415 |
| | 54mils (16ga) | | (4) x #10 | 115 | 850 | 870 | 740 |
| | 68mils (14ga) | | (4) x #10 | 115 | 850 | 1170 | 740 |
| | 97mils (12ga) | | (4) x #10 | 115 | 850 | 1600 | 805 |
| DRC6-68 | 33mils (20ga) | See Figure | (4) x #10 | 115 | 490 | 440 | 235 |
| | 43mils (18ga) | | (4) x #10 | 115 | 540 | 520 | 345 |
| | 54mils (16ga) | | (4) x #10 | 115 | 850 | 870 | 705 |
| | 68mils (14ga) | | (4) x #10 | 115 | 850 | 1170 | 725 |
| | 97mils (12ga) | | (4) x #10 | 115 | 850 | 1600 | 725 |
| DRC8-68 | 33mils (20ga) | See Figure | (4) x #10 | 120 | 490 | 485 | 240 |
| | 43mils (18ga) | | (4) x #10 | 120 | 540 | 620 | 360 |
| | 54mils (16ga) | | (4) x #10 | 120 | 850 | 900 | 725 |
| | 68mils (14ga) | | (4) x #10 | 120 | 850 | 1105 | 745 |
| | 97mils (12ga) | | (4) x #10 | 120 | 850 | 1710 | 745 |



(4) #10 Screw Pattern
Shown in a DRC6 Clip

Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip to stud only (framing connection).
- 2 Drift Rail attachment to structure designed by others. Drift Rail attachment to the structure should occur at every 6" o.c., and each connection capacity should satisfy the design load requirement of the project. Listed Drift Rail clip load capacities must be evaluated along with clip-to-structure connection capacity to establish the governing load capacity of the assembly.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (4) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 6 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

Drift Rail and Clip - Structural Attachment Designed by Others

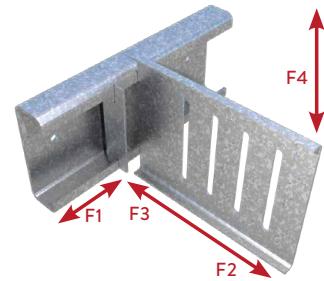
ATTACHMENT TO STRUCTURAL: **DESIGNED BY OTHERS**

ATTACHMENT TO STUD: **FIXED CONNECTION W/(8) #10-16**

Drift Rail and Clip - 12ga Clip / 12ga Rail

ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION

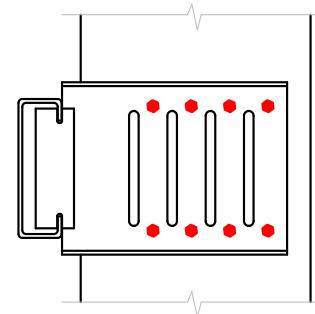
| Clip designation | Stud Mils (Gauge) | Framing Connection | | ASD Allowable Loads (lbs) | | | |
|------------------|-------------------|--------------------|---------------|---------------------------|--------------|------------------|------------|
| | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC6-97 | 20ga (33mils) | See Figure | (8) x #10 | 155 | 560 | 600 | 395 |
| | 18ga (43mils) | | (8) x #10 | 155 | 655 | 670 | 585 |
| | 16ga (54mils) | | (8) x #10 | 155 | 1000 | 970 | 875 |
| | 14ga (68mils) | | (8) x #10 | 155 | 1085 | 1325 | 920 |
| | 12ga (97mils) | | (8) x #10 | 155 | 1085 | 2040 | 920 |
| DRC8-97 | 20ga (33mils) | See Figure | (8) x #10 | 140 | 560 | 620 | 375 |
| | 18ga (43mils) | | (8) x #10 | 140 | 655 | 730 | 555 |
| | 16ga (54mils) | | (8) x #10 | 140 | 1000 | 1060 | 910 |
| | 14ga (68mils) | | (8) x #10 | 140 | 1085 | 1340 | 910 |
| | 12ga (97mils) | | (8) x #10 | 140 | 1085 | 1965 | 910 |



Drift Rail and Clip - 14ga Clip / 12ga Rail

ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION

| Clip designation | Stud Mils (Gauge) | Framing Connection | | ASD Allowable Loads (lbs) | | | |
|------------------|-------------------|--------------------|---------------|---------------------------|--------------|------------------|------------|
| | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC6-68 | 20ga (33mils) | See Figure | (8) x #10 | 115 | 490 | 440 | 395 |
| | 18ga (43mils) | | (8) x #10 | 115 | 540 | 520 | 585 |
| | 16ga (54mils) | | (8) x #10 | 115 | 850 | 870 | 740 |
| | 14ga (68mils) | | (8) x #10 | 115 | 850 | 1170 | 740 |
| | 12ga (97mils) | | (8) x #10 | 115 | 850 | 1600 | 805 |
| DRC8-68 | 20ga (33mils) | See Figure | (8) x #10 | 120 | 490 | 485 | 375 |
| | 18ga (43mils) | | (8) x #10 | 120 | 540 | 620 | 555 |
| | 16ga (54mils) | | (8) x #10 | 120 | 850 | 900 | 800 |
| | 14ga (68mils) | | (8) x #10 | 120 | 850 | 1105 | 800 |
| | 12ga (97mils) | | (8) x #10 | 120 | 850 | 1710 | 865 |



(8) #10 Screw Pattern
Shown in a DRC6 Clip

Notes:

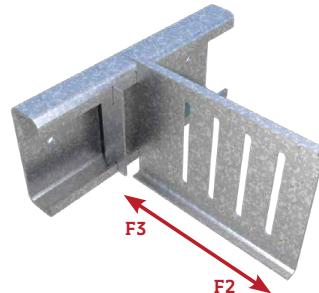
- 1 Allowable loads (ASD) listed are for Drift Rail Clip to stud only (framing connection).
- 2 Drift Rail attachment to structure designed by others. Drift Rail attachment to the structure should occur at every 6" o.c., and each connection capacity should satisfy the design load requirement of the project. Listed Drift Rail clip load capacities must be evaluated along with clip-to-structure connection capacity to establish the governing load capacity of the assembly.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (4) #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 6 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

Drift Rail and Clip - Attachment Using (2) #12-24 Fasteners

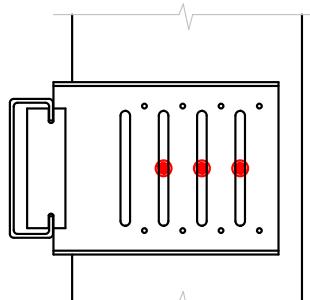
ATTACHMENT TO STRUCTURAL STEEL: #12-24 FASTENERS

ATTACHMENT TO STUD: AS A DEFLECTION CONNECTION

| Drift Rail and Clip - 12ga Clip / 12ga Rail | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION | | | | |
|---|-------------------|--|--------------------|---------------|---------------------------|------------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | |
| | | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-97 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (2) x #14 | 560 | 600 |
| | 43mils (18ga) | | | (2) x #14 | 655 | 670 |
| | 54mils (16ga) | | | (2) x #14 | 1000 | 970 |
| | 68mils (14ga) | | | (2) x #14 | 1030 | 1325 |
| | 97mils (12ga) | | | (2) x #14 | 1030 | 2040 |
| DRC6-97 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (3) x #14 | 560 | 600 |
| | 43mils (18ga) | | | (3) x #14 | 655 | 670 |
| | 54mils (16ga) | | | (3) x #14 | 1000 | 970 |
| | 68mils (14ga) | | | (3) x #14 | 1030 | 1325 |
| | 97mils (12ga) | | | (3) x #14 | 1030 | 2040 |
| DRC8-97 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (3) x #14 | 560 | 620 |
| | 43mils (18ga) | | | (3) x #14 | 655 | 730 |
| | 54mils (16ga) | | | (3) x #14 | 1000 | 1060 |
| | 68mils (14ga) | | | (3) x #14 | 1030 | 1340 |
| | 97mils (12ga) | | | (3) x #14 | 1030 | 1965 |



| Drift Rail and Clip - 14ga Clip / 12ga Rail | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION | | | | |
|---|-------------------|--|--------------------|---------------|---------------------------|------------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | |
| | | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-68 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (2) x #14 | 490 | 440 |
| | 43mils (18ga) | | | (2) x #14 | 540 | 520 |
| | 54mils (16ga) | | | (2) x #14 | 850 | 870 |
| | 68mils (14ga) | | | (2) x #14 | 850 | 1170 |
| | 97mils (12ga) | | | (2) x #14 | 850 | 1600 |
| DRC6-68 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (3) x #14 | 490 | 440 |
| | 43mils (18ga) | | | (3) x #14 | 540 | 520 |
| | 54mils (16ga) | | | (3) x #14 | 850 | 870 |
| | 68mils (14ga) | | | (3) x #14 | 850 | 1170 |
| | 97mils (12ga) | | | (3) x #14 | 850 | 1600 |
| DRC8-68 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (3) x #14 | 490 | 485 |
| | 43mils (18ga) | | | (3) x #14 | 540 | 620 |
| | 54mils (16ga) | | | (3) x #14 | 850 | 900 |
| | 68mils (14ga) | | | (3) x #14 | 850 | 1105 |
| | 97mils (12ga) | | | (3) x #14 | 850 | 1710 |



(3) #14 Deflection Screw Pattern
Shown in a DRC6 Clip

Notes:

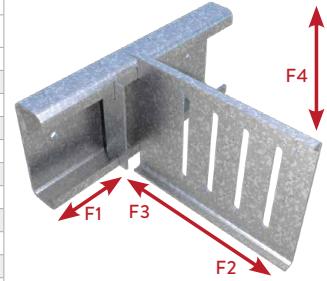
- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3/16" thick ASTM A36 steel using (2) x #12-24 HWH fasteners spaced 2" apart at 6" on center spacing.
- 2 (2) x #12-24 HWH fasteners must be fastened at every 6" o.c. for Drift Rail attachment to 3/16" ASTM A36 steel structure. Other fasteners may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (2) x #14 shouldered screws (for DRC3) and (3) x #14 shouldered screws (for DRC6 and DRC8) must be used to secure the Drift Rail Clip for attachment to stud (#14 shouldered screws provided with each Drift Rail Clip).
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.

Drift Rail and Clip - Attachment Using (2) #12-24 Fasteners

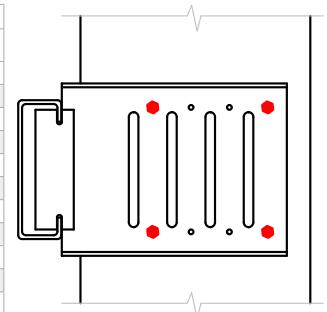
ATTACHMENT TO STRUCTURAL STEEL: #12-24 FASTENERS

ATTACHMENT TO STUD: **FIXED CONNECTION W/(4) #10-16**

| Drift Rail and Clip - 12ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|--|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC3-97 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 155 | 560 | 600 | 280 |
| | 43mils (18ga) | | | (4) x #10 | 155 | 655 | 670 | 415 |
| | 54mils (16ga) | | | (4) x #10 | 155 | 1000 | 970 | 840 |
| | 68mils (14ga) | | | (4) x #10 | 155 | 1030 | 1325 | 865 |
| | 97mils (12ga) | | | (4) x #10 | 155 | 1030 | 2040 | 865 |
| DRC6-97 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 155 | 560 | 600 | 235 |
| | 43mils (18ga) | | | (4) x #10 | 155 | 655 | 670 | 345 |
| | 54mils (16ga) | | | (4) x #10 | 155 | 1000 | 970 | 705 |
| | 68mils (14ga) | | | (4) x #10 | 155 | 1030 | 1325 | 725 |
| | 97mils (12ga) | | | (4) x #10 | 155 | 1030 | 2040 | 725 |
| DRC8-97 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 140 | 560 | 620 | 240 |
| | 43mils (18ga) | | | (4) x #10 | 140 | 655 | 730 | 360 |
| | 54mils (16ga) | | | (4) x #10 | 140 | 1000 | 1060 | 725 |
| | 68mils (14ga) | | | (4) x #10 | 140 | 1030 | 1340 | 745 |
| | 97mils (12ga) | | | (4) x #10 | 140 | 1030 | 1965 | 745 |



| Drift Rail and Clip - 14ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|--|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC3-68 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 115 | 490 | 440 | 280 |
| | 43mils (18ga) | | | (4) x #10 | 115 | 540 | 520 | 415 |
| | 54mils (16ga) | | | (4) x #10 | 115 | 850 | 870 | 740 |
| | 68mils (14ga) | | | (4) x #10 | 115 | 850 | 1170 | 740 |
| | 97mils (12ga) | | | (4) x #10 | 115 | 850 | 1600 | 805 |
| DRC6-68 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 115 | 490 | 440 | 235 |
| | 43mils (18ga) | | | (4) x #10 | 115 | 540 | 520 | 345 |
| | 54mils (16ga) | | | (4) x #10 | 115 | 850 | 870 | 705 |
| | 68mils (14ga) | | | (4) x #10 | 115 | 850 | 1170 | 725 |
| | 97mils (12ga) | | | (4) x #10 | 115 | 850 | 1600 | 725 |
| DRC8-68 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 120 | 490 | 485 | 240 |
| | 43mils (18ga) | | | (4) x #10 | 120 | 540 | 620 | 360 |
| | 54mils (16ga) | | | (4) x #10 | 120 | 850 | 900 | 725 |
| | 68mils (14ga) | | | (4) x #10 | 120 | 850 | 1105 | 745 |
| | 97mils (12ga) | | | (4) x #10 | 120 | 850 | 1710 | 745 |



(4) #10 Screw Pattern
Shown in a DRC6 Clip

Notes:

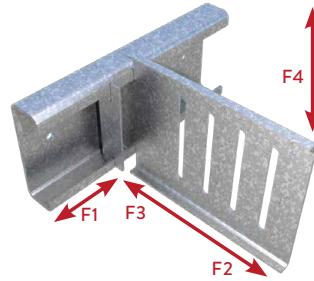
- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3/16" thick ASTM A36 steel using (2) x #12-24 HWH fasteners spaced 2" apart at 6" on center spacing.
- 2 (2) x #12-24 HWH fasteners must be fastened at every 6" o.c. for Drift Rail attachment to 3/16" ASTM A36 steel structure. Other fasteners may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Where fasteners are loaded simultaneously, load interaction must be considered following fastener manufacturer guidelines.
- 5 Use linear load interaction for combined loading conditions.
- 6 Minimum (4) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 7 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 8 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

Drift Rail and Clip - Attachment Using (2) #12-24 Fasteners

ATTACHMENT TO STRUCTURAL STEEL: #12-24 FASTENERS

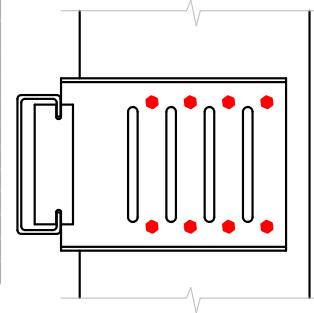
ATTACHMENT TO STUD: FIXED CONNECTION W/(8) #10-16

| Drift Rail and Clip - 12ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|--|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC6-97 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (8) x #10 | 155 | 560 | 600 | 395 |
| | 43mils (18ga) | | | (8) x #10 | 155 | 655 | 670 | 585 |
| | 54mils (16ga) | | | (8) x #10 | 155 | 1000 | 970 | 875 |
| | 68mils (14ga) | | | (8) x #10 | 155 | 1030 | 1325 | 920 |
| | 97mils (12ga) | | | (8) x #10 | 155 | 1030 | 2040 | 920 |
| DRC8-97 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (8) x #10 | 140 | 560 | 620 | 375 |
| | 43mils (18ga) | | | (8) x #10 | 140 | 655 | 730 | 555 |
| | 54mils (16ga) | | | (8) x #10 | 140 | 1000 | 1060 | 910 |
| | 68mils (14ga) | | | (8) x #10 | 140 | 1030 | 1340 | 910 |
| | 97mils (12ga) | | | (8) x #10 | 140 | 1030 | 1965 | 910 |



Drift Rail and Clip - 14ga Clip / 12ga Rail

| Drift Rail and Clip - 14ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|--|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC6-68 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (8) x #10 | 115 | 490 | 440 | 395 |
| | 43mils (18ga) | | | (8) x #10 | 115 | 540 | 520 | 585 |
| | 54mils (16ga) | | | (8) x #10 | 115 | 850 | 870 | 740 |
| | 68mils (14ga) | | | (8) x #10 | 115 | 850 | 1170 | 740 |
| | 97mils (12ga) | | | (8) x #10 | 115 | 850 | 1600 | 805 |
| DRC8-68 | 33mils (20ga) | (2) x #12-24 HWH Fasteners to 3/16" ASTM A36 Steel | See Figure | (8) x #10 | 120 | 490 | 485 | 375 |
| | 43mils (18ga) | | | (8) x #10 | 120 | 540 | 620 | 555 |
| | 54mils (16ga) | | | (8) x #10 | 120 | 850 | 900 | 800 |
| | 68mils (14ga) | | | (8) x #10 | 120 | 850 | 1105 | 800 |
| | 97mils (12ga) | | | (8) x #10 | 120 | 850 | 1710 | 865 |



Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3/16" thick ASTM A36 steel using (2) x #12-24 HWH fasteners spaced 2" apart at 6" on center spacing.
- 2 (2) x #12-24 HWH fasteners must be fastened at every 6" o.c. for Drift Rail attachment to 3/16" ASTM A36 steel structure. Other fasteners may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Where fasteners are loaded simultaneously, load interaction must be considered following fastener manufacturer guidelines.
- 5 Use linear load interaction for combined loading conditions.
- 6 Minimum (8) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 7 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 8 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

(8) #10 Screw Pattern
Shown in a DRC6 Clip

Drift Rail and Clip - Attachment Using (2) Hilti X-U Fasteners

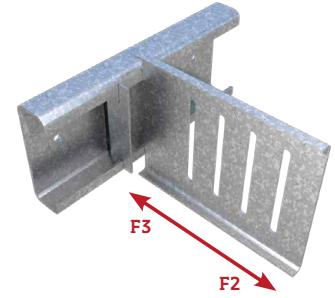
ATTACHMENT TO STRUCT. STEEL: **HILTI X-U FASTENERS**

ATTACHMENT TO STUD: **AS A DEFLECTION CONNECTION**

Drift Rail and Clip - 12ga Clip / 12ga Rail

ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION

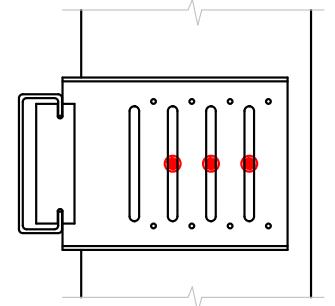
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | |
|------------------|-------------------|---|--------------------|---------------|---------------------------|------------------|
| | | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-97 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (2) x #14 | 560 | 600 |
| | 43mils (18ga) | | | (2) x #14 | 655 | 670 |
| | 54mils (16ga) | | | (2) x #14 | 1000 | 970 |
| | 68mils (14ga) | | | (2) x #14 | 1070 | 1325 |
| | 97mils (12ga) | | | (2) x #14 | 1070 | 2040 |
| DRC6-97 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (3) x #14 | 560 | 600 |
| | 43mils (18ga) | | | (3) x #14 | 655 | 670 |
| | 54mils (16ga) | | | (3) x #14 | 1000 | 970 |
| | 68mils (14ga) | | | (3) x #14 | 1070 | 1325 |
| | 97mils (12ga) | | | (3) x #14 | 1070 | 2040 |
| DRC8-97 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (3) x #14 | 560 | 620 |
| | 43mils (18ga) | | | (3) x #14 | 655 | 730 |
| | 54mils (16ga) | | | (3) x #14 | 1000 | 1060 |
| | 68mils (14ga) | | | (3) x #14 | 1070 | 1340 |
| | 97mils (12ga) | | | (3) x #14 | 1070 | 1965 |



Drift Rail and Clip - 14ga Clip / 12ga Rail

ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION

| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | |
|------------------|-------------------|---|--------------------|---------------|---------------------------|------------------|
| | | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-68 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (2) x #14 | 490 | 440 |
| | 43mils (18ga) | | | (2) x #14 | 540 | 520 |
| | 54mils (16ga) | | | (2) x #14 | 850 | 870 |
| | 68mils (14ga) | | | (2) x #14 | 850 | 1170 |
| | 97mils (12ga) | | | (2) x #14 | 850 | 1600 |
| DRC6-68 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (3) x #14 | 490 | 440 |
| | 43mils (18ga) | | | (3) x #14 | 540 | 520 |
| | 54mils (16ga) | | | (3) x #14 | 850 | 870 |
| | 68mils (14ga) | | | (3) x #14 | 850 | 1170 |
| | 97mils (12ga) | | | (3) x #14 | 850 | 1600 |
| DRC8-68 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (3) x #14 | 490 | 485 |
| | 43mils (18ga) | | | (3) x #14 | 540 | 620 |
| | 54mils (16ga) | | | (3) x #14 | 850 | 900 |
| | 68mils (14ga) | | | (3) x #14 | 850 | 1105 |
| | 97mils (12ga) | | | (3) x #14 | 850 | 1710 |



(3) #14 Deflection Screw Pattern
Shown in a DRC6 Clip

Notes:

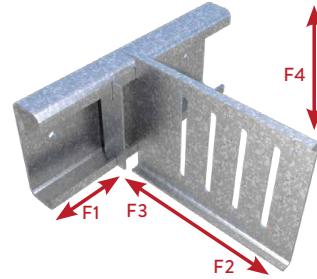
- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3/16" thick ASTM A36 steel using (2) x Hilti X-U Universal Knurled Shank fasteners spaced 2" apart at 6" on center spacing.
- 2 (2) x Hilti X-U Universal Knurled Shank fasteners must be fastened at every 6" o.c. for Drift Rail attachment to 3/16" ASTM A36 steel structure. Other fasteners may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (2) x #14 shouldered screws (for DRC3) and (3) x #14 shouldered screws (for DRC6 and DRC8) must be used to secure the Drift Rail Clip for attachment to stud (#14 shouldered screws provided with each Drift Rail Clip).
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.

Drift Rail and Clip - Attachment Using (2) Hilti X-U Fasteners

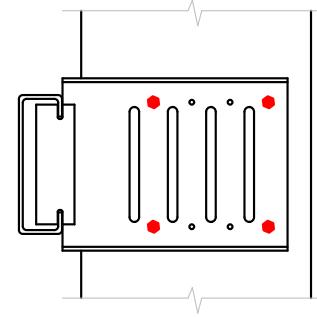
ATTACHMENT TO STRUCT. STEEL: **HILTI X-U FASTENERS**

ATTACHMENT TO STUD: **FIXED CONNECTION W/(4) #10-16**

| Drift Rail and Clip - 12ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|---|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC3-97 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 155 | 560 | 600 | 280 |
| | 43mils (18ga) | | | (4) x #10 | 155 | 655 | 670 | 415 |
| | 54mils (16ga) | | | (4) x #10 | 155 | 1000 | 970 | 840 |
| | 68mils (14ga) | | | (4) x #10 | 155 | 1070 | 1325 | 865 |
| | 97mils (12ga) | | | (4) x #10 | 155 | 1070 | 2040 | 865 |
| DRC6-97 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 155 | 560 | 600 | 235 |
| | 43mils (18ga) | | | (4) x #10 | 155 | 655 | 670 | 345 |
| | 54mils (16ga) | | | (4) x #10 | 155 | 1000 | 970 | 705 |
| | 68mils (14ga) | | | (4) x #10 | 155 | 1070 | 1325 | 725 |
| | 97mils (12ga) | | | (4) x #10 | 155 | 1070 | 2040 | 725 |
| DRC8-97 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 140 | 560 | 620 | 240 |
| | 43mils (18ga) | | | (4) x #10 | 140 | 655 | 730 | 360 |
| | 54mils (16ga) | | | (4) x #10 | 140 | 1000 | 1060 | 725 |
| | 68mils (14ga) | | | (4) x #10 | 140 | 1070 | 1340 | 745 |
| | 97mils (12ga) | | | (4) x #10 | 140 | 1070 | 1965 | 745 |



| Drift Rail and Clip - 14ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|---|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC3-68 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 115 | 490 | 440 | 280 |
| | 43mils (18ga) | | | (4) x #10 | 115 | 540 | 520 | 415 |
| | 54mils (16ga) | | | (4) x #10 | 115 | 850 | 870 | 740 |
| | 68mils (14ga) | | | (4) x #10 | 115 | 850 | 1170 | 740 |
| | 97mils (12ga) | | | (4) x #10 | 115 | 850 | 1600 | 805 |
| DRC6-68 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 115 | 490 | 440 | 235 |
| | 43mils (18ga) | | | (4) x #10 | 115 | 540 | 520 | 345 |
| | 54mils (16ga) | | | (4) x #10 | 115 | 850 | 870 | 705 |
| | 68mils (14ga) | | | (4) x #10 | 115 | 850 | 1170 | 725 |
| | 97mils (12ga) | | | (4) x #10 | 115 | 850 | 1600 | 725 |
| DRC8-68 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (4) x #10 | 120 | 490 | 485 | 240 |
| | 43mils (18ga) | | | (4) x #10 | 120 | 540 | 620 | 360 |
| | 54mils (16ga) | | | (4) x #10 | 120 | 850 | 900 | 725 |
| | 68mils (14ga) | | | (4) x #10 | 120 | 850 | 1105 | 745 |
| | 97mils (12ga) | | | (4) x #10 | 120 | 850 | 1710 | 745 |



(4) #10 Screw Pattern
Shown in a DRC6 Clip

Notes:

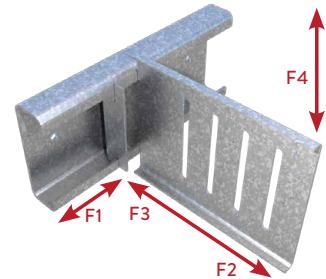
- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3/16" thick ASTM A36 steel using (2) x Hilti X-U Universal Knurled Shank fasteners spaced 2" apart at 6" on center spacing.
- 2 (2) x Hilti X-U Universal Knurled Shank fasteners must be fastened at every 6" o.c. for Drift Rail attachment to 3/16" ASTM A36 steel structure. Other fasteners may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Where fasteners are loaded simultaneously, load interaction must be considered following fastener manufacturer guidelines.
- 5 Use linear load interaction for combined loading conditions.
- 6 Minimum (4) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 7 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 8 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

Drift Rail and Clip - Attachment Using (2) Hilti X-U Fasteners

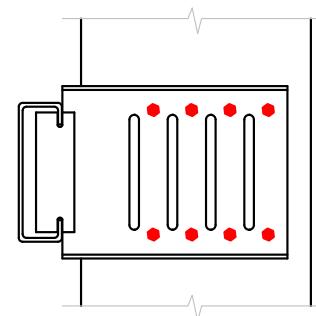
ATTACHMENT TO STRUCT. STEEL: **HILTI X-U FASTENERS**

ATTACHMENT TO STUD: **FIXED CONNECTION W/(8) #10-16**

| Drift Rail and Clip - 12ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|---|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC6-97 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (8) x #10 | 155 | 560 | 600 | 395 |
| | 43mils (18ga) | | | (8) x #10 | 155 | 655 | 670 | 585 |
| | 54mils (16ga) | | | (8) x #10 | 155 | 1000 | 970 | 875 |
| | 68mils (14ga) | | | (8) x #10 | 155 | 1070 | 1325 | 920 |
| | 97mils (12ga) | | | (8) x #10 | 155 | 1070 | 2040 | 920 |
| DRC8-97 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (8) x #10 | 140 | 560 | 620 | 375 |
| | 43mils (18ga) | | | (8) x #10 | 140 | 655 | 730 | 555 |
| | 54mils (16ga) | | | (8) x #10 | 140 | 1000 | 1060 | 910 |
| | 68mils (14ga) | | | (8) x #10 | 140 | 1070 | 1340 | 910 |
| | 97mils (12ga) | | | (8) x #10 | 140 | 1070 | 1965 | 910 |



| Drift Rail and Clip - 14ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|---|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC6-68 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (8) x #10 | 115 | 490 | 440 | 395 |
| | 43mils (18ga) | | | (8) x #10 | 115 | 540 | 520 | 585 |
| | 54mils (16ga) | | | (8) x #10 | 115 | 850 | 870 | 740 |
| | 68mils (14ga) | | | (8) x #10 | 115 | 850 | 1170 | 740 |
| | 97mils (12ga) | | | (8) x #10 | 115 | 850 | 1600 | 805 |
| DRC8-68 | 33mils (20ga) | (2) x Hilti X-U Universal Knurled Shank Fasteners to 3/16" ASTM A36 Steel | See Figure | (8) x #10 | 120 | 490 | 485 | 375 |
| | 43mils (18ga) | | | (8) x #10 | 120 | 540 | 620 | 555 |
| | 54mils (16ga) | | | (8) x #10 | 120 | 850 | 900 | 800 |
| | 68mils (14ga) | | | (8) x #10 | 120 | 850 | 1105 | 800 |
| | 97mils (12ga) | | | (8) x #10 | 120 | 850 | 1710 | 865 |



(8) #10 Screw Pattern
Shown in a DRC6 Clip

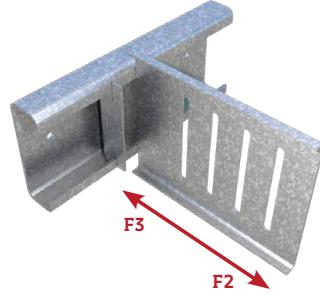
Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3/16" thick ASTM A36 steel using (2) x Hilti X-U Universal Knurled Shank fasteners spaced 2" apart at 6" on center spacing.
- 2 (2) x Hilti X-U Universal Knurled Shank fasteners must be fastened at every 6" o.c. for Drift Rail attachment to 3/16" ASTM A36 steel structure. Other fasteners may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Where fasteners are loaded simultaneously, load interaction must be considered following fastener manufacturer guidelines.
- 5 Use linear load interaction for combined loading conditions.
- 6 Minimum (8) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 7 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 8 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

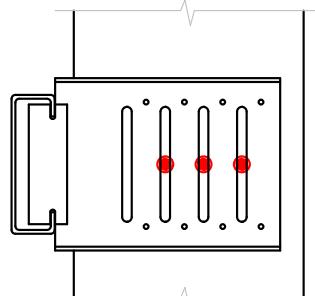
Drift Rail and Clip - Attachment Using (1) 1/4" Hilti KWIK HUS-EZ

ATTACHMENT TO CONCRETE: 1/4" HILTI KWIK HUS-EZ
ATTACHMENT TO STUD: AS A DEFLECTION CONNECTION

| Drift Rail and Clip - 12ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION | | | |
|---|-------------------|--|--|---------------|---------------------------|------------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | |
| | | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-97 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (2) x #14 | 560 | 600 |
| | 43mils (18ga) | | | (2) x #14 | 655 | 670 |
| | 54mils (16ga) | | | (2) x #14 | 1000 | 970 |
| | 68mils (14ga) | | | (2) x #14 | 1045 | 1325 |
| | 97mils (12ga) | | | (2) x #14 | 1045 | 2040 |
| DRC6-97 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (3) x #14 | 560 | 600 |
| | 43mils (18ga) | | | (3) x #14 | 655 | 670 |
| | 54mils (16ga) | | | (3) x #14 | 1000 | 970 |
| | 68mils (14ga) | | | (3) x #14 | 1045 | 1325 |
| | 97mils (12ga) | | | (3) x #14 | 1045 | 2040 |
| DRC8-97 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (3) x #14 | 560 | 620 |
| | 43mils (18ga) | | | (3) x #14 | 655 | 730 |
| | 54mils (16ga) | | | (3) x #14 | 1000 | 1060 |
| | 68mils (14ga) | | | (3) x #14 | 1045 | 1340 |
| | 97mils (12ga) | | | (3) x #14 | 1045 | 1965 |



| Drift Rail and Clip - 14ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION | | | |
|---|-------------------|--|--|---------------|---------------------------|------------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | |
| | | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-68 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (2) x #14 | 490 | 440 |
| | 43mils (18ga) | | | (2) x #14 | 540 | 520 |
| | 54mils (16ga) | | | (2) x #14 | 850 | 870 |
| | 68mils (14ga) | | | (2) x #14 | 850 | 1170 |
| | 97mils (12ga) | | | (2) x #14 | 850 | 1600 |
| DRC6-68 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (3) x #14 | 490 | 440 |
| | 43mils (18ga) | | | (3) x #14 | 540 | 520 |
| | 54mils (16ga) | | | (3) x #14 | 850 | 870 |
| | 68mils (14ga) | | | (3) x #14 | 850 | 1170 |
| | 97mils (12ga) | | | (3) x #14 | 850 | 1600 |
| DRC8-68 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (3) x #14 | 490 | 485 |
| | 43mils (18ga) | | | (3) x #14 | 540 | 620 |
| | 54mils (16ga) | | | (3) x #14 | 850 | 900 |
| | 68mils (14ga) | | | (3) x #14 | 850 | 1105 |
| | 97mils (12ga) | | | (3) x #14 | 850 | 1710 |



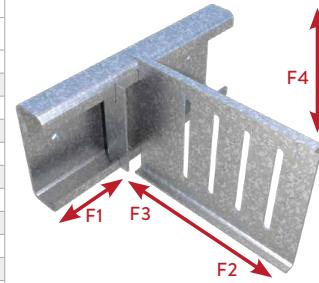
Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3000psi uncracked concrete using (1) x 1/4" Hilti X KWIK HUS-EZ anchor only.
- 2 (1) x 1/4" Hilti KWIK HUS-EZ anchors (nom. embedment depth of 2-1/2", 3000psi uncracked concrete) should be fastened at every 6" o.c. for Drift Rail attachment to structure. Other anchors may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (2) x #14 shouldered screws (for DRC3) and (3) x #14 shouldered screws (for DRC6 and DRC8) must be used to secure the Drift Rail Clip for attachment to stud (#14 shouldered screws provided with each Drift Rail Clip).
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.

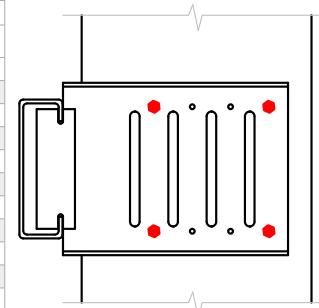
Drift Rail and Clip - Attachment Using (1) 1/4" Hilti KWIK HUS-EZ

ATTACHMENT TO CONCRETE: 1/4" HILTI KWIK HUS-EZ
 ATTACHMENT TO STUD: FIXED CONNECTION W/(4) #10-16

| Drift Rail and Clip - 12ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|---|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC3-97 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (4) x #10 | 155 | 560 | 600 | 280 |
| | 43mils (18ga) | | | (4) x #10 | 155 | 655 | 670 | 415 |
| | 54mils (16ga) | | | (4) x #10 | 155 | 1000 | 970 | 840 |
| | 68mils (14ga) | | | (4) x #10 | 155 | 1045 | 1325 | 865 |
| | 97mils (12ga) | | | (4) x #10 | 155 | 1045 | 2040 | 865 |
| DRC6-97 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (4) x #10 | 155 | 560 | 600 | 235 |
| | 43mils (18ga) | | | (4) x #10 | 155 | 655 | 670 | 345 |
| | 54mils (16ga) | | | (4) x #10 | 155 | 1000 | 970 | 705 |
| | 68mils (14ga) | | | (4) x #10 | 155 | 1045 | 1325 | 725 |
| | 97mils (12ga) | | | (4) x #10 | 155 | 1045 | 2040 | 725 |
| DRC8-97 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (4) x #10 | 140 | 560 | 620 | 240 |
| | 43mils (18ga) | | | (4) x #10 | 140 | 655 | 730 | 360 |
| | 54mils (16ga) | | | (4) x #10 | 140 | 1000 | 1060 | 725 |
| | 68mils (14ga) | | | (4) x #10 | 140 | 1045 | 1340 | 745 |
| | 97mils (12ga) | | | (4) x #10 | 140 | 1045 | 1965 | 745 |



| Drift Rail and Clip - 14ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|---|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC3-68 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (4) x #10 | 115 | 490 | 440 | 280 |
| | 43mils (18ga) | | | (4) x #10 | 115 | 540 | 520 | 415 |
| | 54mils (16ga) | | | (4) x #10 | 115 | 850 | 870 | 740 |
| | 68mils (14ga) | | | (4) x #10 | 115 | 850 | 1170 | 740 |
| | 97mils (12ga) | | | (4) x #10 | 115 | 850 | 1600 | 805 |
| DRC6-68 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (4) x #10 | 115 | 490 | 440 | 235 |
| | 43mils (18ga) | | | (4) x #10 | 115 | 540 | 520 | 345 |
| | 54mils (16ga) | | | (4) x #10 | 115 | 850 | 870 | 705 |
| | 68mils (14ga) | | | (4) x #10 | 115 | 850 | 1170 | 725 |
| | 97mils (12ga) | | | (4) x #10 | 115 | 850 | 1600 | 725 |
| DRC8-68 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (4) x #10 | 120 | 490 | 485 | 240 |
| | 43mils (18ga) | | | (4) x #10 | 120 | 540 | 620 | 360 |
| | 54mils (16ga) | | | (4) x #10 | 120 | 850 | 900 | 725 |
| | 68mils (14ga) | | | (4) x #10 | 120 | 850 | 1105 | 745 |
| | 97mils (12ga) | | | (4) x #10 | 120 | 850 | 1710 | 745 |



(4) #10 Screw Pattern
Shown in a DRC6 Clip

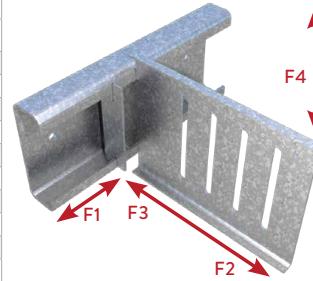
Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3000psi uncracked concrete using (1) 1/4" Hilti KWIK HUS-EZ anchor only.
- 2 (1) x 1/4" Hilti KWIK HUS-EZ anchors (nom. embedment depth of 2-1/2", 3000psi uncracked concrete) should be fastened at every 6" o.c. for Drift Rail attachment to structure. Other anchors may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Where anchors are loaded simultaneously, load interaction must be considered following anchor manufacturer guidelines.
- 5 Use linear load interaction for combined loading conditions.
- 6 Minimum (4) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 7 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 8 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

Drift Rail and Clip - Attachment Using (1) 1/4" Hilti KWIK HUS-EZ

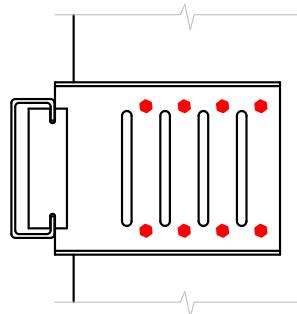
ATTACHMENT TO CONCRETE: 1/4" HILTI KWIK HUS-EZ
ATTACHMENT TO STUD: FIXED CONNECTION W/(8) #10-16

| Drift Rail and Clip - 12ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|---|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC6-97 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (8) x #10 | 155 | 560 | 600 | 395 |
| | 43mils (18ga) | | | (8) x #10 | 155 | 655 | 670 | 585 |
| | 54mils (16ga) | | | (8) x #10 | 155 | 1000 | 970 | 875 |
| | 68mils (14ga) | | | (8) x #10 | 155 | 1045 | 1325 | 920 |
| | 97mils (12ga) | | | (8) x #10 | 155 | 1045 | 2040 | 920 |
| DRC8-97 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (8) x #10 | 140 | 560 | 620 | 375 |
| | 43mils (18ga) | | | (8) x #10 | 140 | 655 | 730 | 555 |
| | 54mils (16ga) | | | (8) x #10 | 140 | 1000 | 1060 | 910 |
| | 68mils (14ga) | | | (8) x #10 | 140 | 1045 | 1340 | 910 |
| | 97mils (12ga) | | | (8) x #10 | 140 | 1045 | 1965 | 910 |



Drift Rail and Clip - 14ga Clip / 12ga Rail

| Drift Rail and Clip - 14ga Clip / 12ga Rail | | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | | |
|---|-------------------|---|---|---------------|---------------------------|--------------|------------------|------------|
| Clip designation | Stud Mils (Gauge) | Anchor to structure | Framing Connection | | ASD Allowable Loads (lbs) | | | |
| | | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) | F4 (Shear) |
| DRC6-68 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (8) x #10 | 115 | 490 | 440 | 395 |
| | 43mils (18ga) | | | (8) x #10 | 115 | 540 | 520 | 585 |
| | 54mils (16ga) | | | (8) x #10 | 115 | 850 | 870 | 740 |
| | 68mils (14ga) | | | (8) x #10 | 115 | 850 | 1170 | 740 |
| | 97mils (12ga) | | | (8) x #10 | 115 | 850 | 1600 | 805 |
| DRC8-68 | 33mils (20ga) | (1) x 1/4" Hilti KWIK HUS-EZ @ 6" o.c. (3000psi uncracked concrete) | See Figure | (8) x #10 | 120 | 490 | 485 | 375 |
| | 43mils (18ga) | | | (8) x #10 | 120 | 540 | 620 | 555 |
| | 54mils (16ga) | | | (8) x #10 | 120 | 850 | 900 | 800 |
| | 68mils (14ga) | | | (8) x #10 | 120 | 850 | 1105 | 800 |
| | 97mils (12ga) | | | (8) x #10 | 120 | 850 | 1710 | 865 |



(8) #10 Screw Pattern
Shown in a DRC6 Clip

Notes:

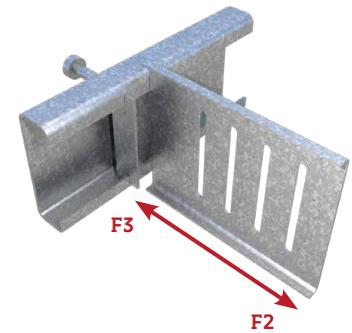
- 1 Allowable loads (ASD) listed are for Drift Rail Clip where Drift Rail is attached to 3000psi uncracked concrete using (1) x 1/4" Hilti KWIK HUS-EZ anchor only.
- 2 (1) x 1/4" Hilti KWIK HUS-EZ anchors (nom. embedment depth of 2-1/2", 3000psi uncracked concrete) should be fastened at every 6" o.c. for Drift Rail attachment to structure. Other anchors may be used to achieve full clip capacity but must be designed separately.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Where anchors are loaded simultaneously, load interaction must be considered following anchor manufacturer guidelines.
- 5 Use linear load interaction for combined loading conditions.
- 6 Minimum (8) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 7 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 8 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

Drift Headed Rail and Clip - Cast In Place

ATTACHMENT TO STRUCTURE: **CAST IN PLACE**
 ATTACHMENT TO STUD: **AS A DEFLECTION CONNECTION**

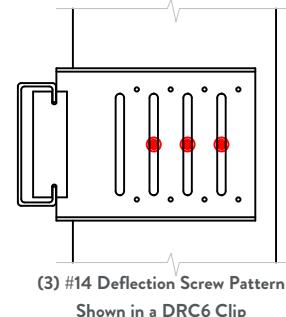
Drift Headed Rail and Clip - 12ga Clip / 12ga Rail

| Clip designation | Stud Mils (Gauge) | Framing Connection | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION | |
|------------------|-------------------|--------------------|---------------|---|------------------|
| | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-97 | 33mils (20ga) | See Figure | (2) x #14 | 560 | 600 |
| | 43mils (18ga) | | (2) x #14 | 655 | 670 |
| | 54mils (16ga) | | (2) x #14 | 1000 | 970 |
| | 68mils (14ga) | | (2) x #14 | 1085 | 1325 |
| | 97mils (12ga) | | (2) x #14 | 1085 | 2040 |
| DRC6-97 | 33mils (20ga) | See Figure | (3) x #14 | 560 | 600 |
| | 43mils (18ga) | | (3) x #14 | 655 | 670 |
| | 54mils (16ga) | | (3) x #14 | 1000 | 970 |
| | 68mils (14ga) | | (3) x #14 | 1085 | 1325 |
| | 97mils (12ga) | | (3) x #14 | 1085 | 2040 |
| DRC8-97 | 33mils (20ga) | See Figure | (3) x #14 | 560 | 620 |
| | 43mils (18ga) | | (3) x #14 | 655 | 730 |
| | 54mils (16ga) | | (3) x #14 | 1000 | 1060 |
| | 68mils (14ga) | | (3) x #14 | 1085 | 1340 |
| | 97mils (12ga) | | (3) x #14 | 1085 | 1965 |



Drift Headed Rail and Clip - 14ga Clip / 12ga Rail

| Clip designation | Stud Mils (Gauge) | Framing Connection | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A DEFLECTION CONNECTION | |
|------------------|-------------------|--------------------|---------------|---|------------------|
| | | Screw Pattern | No. of Screws | F2 (Tension) | F3 (Compression) |
| DRC3-68 | 33mils (20ga) | See Figure | (2) x #14 | 490 | 440 |
| | 43mils (18ga) | | (2) x #14 | 540 | 520 |
| | 54mils (16ga) | | (2) x #14 | 850 | 870 |
| | 68mils (14ga) | | (2) x #14 | 850 | 1170 |
| | 97mils (12ga) | | (2) x #14 | 850 | 1600 |
| DRC6-68 | 33mils (20ga) | See Figure | (3) x #14 | 490 | 440 |
| | 43mils (18ga) | | (3) x #14 | 540 | 520 |
| | 54mils (16ga) | | (3) x #14 | 850 | 870 |
| | 68mils (14ga) | | (3) x #14 | 850 | 1170 |
| | 97mils (12ga) | | (3) x #14 | 850 | 1600 |
| DRC8-68 | 33mils (20ga) | See Figure | (3) x #14 | 490 | 485 |
| | 43mils (18ga) | | (3) x #14 | 540 | 620 |
| | 54mils (16ga) | | (3) x #14 | 850 | 900 |
| | 68mils (14ga) | | (3) x #14 | 850 | 1105 |
| | 97mils (12ga) | | (3) x #14 | 850 | 1710 |



Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip to stud only (framing connection).
- 2 Maximum tension on DHR-97 anchor should not exceed 1,600 lbs ASD. In tension and shear, the strength of the DHR-97 anchor itself should be considered. The weld does not need to be considered in tension or shear as the load table and 1,600 lbs ASD tension maximum are inclusive of the strength of the welds. Designers must check Drift Headed Rail (DHR-97) tension and shear anchorage capacity in concrete per ACI 318 based on actual edge distance and concrete compressive strength.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (2) x #14 shouldered screws (for DRC3) and (3) x #14 shouldered screws (for DRC6 and DRC8) must be used to secure the Drift Rail Clip for attachment to stud (#14 shouldered screws provided with each Drift Rail Clip).
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.

Drift Headed Rail and Clip - Cast In Place

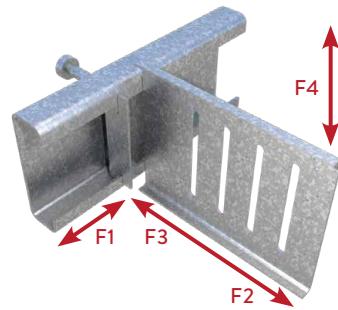
ATTACHMENT TO STRUCTURE: **CAST IN PLACE**

ATTACHMENT TO STUD: **FIXED CONNECTION W/(4) #10-16**

Drift Headed Rail and Clip - 12ga Clip / 12ga Rail

ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION

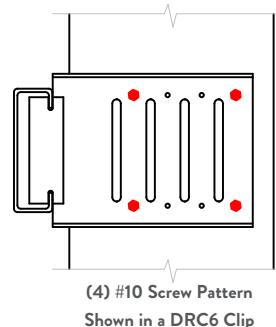
| Clip designation | Stud gauge (mils) | Framing Connection | | ASD Allowable Loads (lbs) | | |
|------------------|-------------------|--------------------|---------------|---------------------------|--------------|------------------|
| | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) |
| DRC3-97 | 20ga (33mils) | See Figure | (4) x #10 | 155 | 560 | 600 |
| | 18ga (43mils) | | (4) x #10 | 155 | 655 | 670 |
| | 16ga (54mils) | | (4) x #10 | 155 | 1000 | 970 |
| | 14ga (68mils) | | (4) x #10 | 155 | 1085 | 1325 |
| | 12ga (97mils) | | (4) x #10 | 155 | 1085 | 2040 |
| DRC6-97 | 20ga (33mils) | See Figure | (4) x #10 | 155 | 560 | 600 |
| | 18ga (43mils) | | (4) x #10 | 155 | 655 | 670 |
| | 16ga (54mils) | | (4) x #10 | 155 | 1000 | 970 |
| | 14ga (68mils) | | (4) x #10 | 155 | 1085 | 1325 |
| | 12ga (97mils) | | (4) x #10 | 155 | 1085 | 2040 |
| DRC8-97 | 20ga (33mils) | See Figure | (4) x #10 | 140 | 560 | 620 |
| | 18ga (43mils) | | (4) x #10 | 140 | 655 | 730 |
| | 16ga (54mils) | | (4) x #10 | 140 | 1000 | 1060 |
| | 14ga (68mils) | | (4) x #10 | 140 | 1085 | 1340 |
| | 12ga (97mils) | | (4) x #10 | 140 | 1085 | 1965 |



Drift Headed Rail and Clip - 14ga Clip / 12ga Rail

ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION

| Clip designation | Stud gauge (mils) | Framing Connection | | ASD Allowable Loads (lbs) | | |
|------------------|-------------------|--------------------|---------------|---------------------------|--------------|------------------|
| | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) |
| DRC3-68 | 20ga (33mils) | See Figure | (4) x #10 | 115 | 490 | 440 |
| | 18ga (43mils) | | (4) x #10 | 115 | 540 | 520 |
| | 16ga (54mils) | | (4) x #10 | 115 | 850 | 870 |
| | 14ga (68mils) | | (4) x #10 | 115 | 850 | 1170 |
| | 12ga (97mils) | | (4) x #10 | 115 | 850 | 1600 |
| DRC6-68 | 20ga (33mils) | See Figure | (4) x #10 | 115 | 490 | 440 |
| | 18ga (43mils) | | (4) x #10 | 115 | 540 | 520 |
| | 16ga (54mils) | | (4) x #10 | 115 | 850 | 870 |
| | 14ga (68mils) | | (4) x #10 | 115 | 850 | 1170 |
| | 12ga (97mils) | | (4) x #10 | 115 | 850 | 1600 |
| DRC8-68 | 20ga (33mils) | See Figure | (4) x #10 | 120 | 490 | 485 |
| | 18ga (43mils) | | (4) x #10 | 120 | 540 | 620 |
| | 16ga (54mils) | | (4) x #10 | 120 | 850 | 900 |
| | 14ga (68mils) | | (4) x #10 | 120 | 850 | 1105 |
| | 12ga (97mils) | | (4) x #10 | 120 | 850 | 1710 |



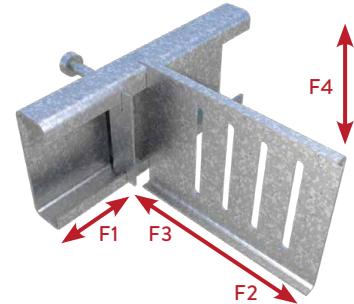
Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip to stud only (framing connection).
- 2 Maximum tension on DHR-97 anchor should not exceed 1,600 lbs ASD. In tension and shear, the strength of the DHR-97 anchor itself should be considered. The weld does not need to be considered in tension or shear as the load table and 1,600 lbs ASD tension maximum are inclusive of the strength of the welds. Designers must check Drift Headed Rail (DHR-97) tension and shear anchorage capacity in concrete per ACI 318 based on actual edge distance and concrete compressive strength.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (4) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 6 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

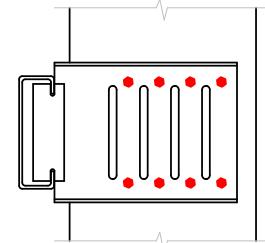
Drift Headed Rail and Clip - Cast In Place

ATTACHMENT TO STRUCTURE: **CAST IN PLACE**
 ATTACHMENT TO STUD: **FIXED CONNECTION W/(8) #10-16**

| Drift Headed Rail and Clip - 12ga Clip / 12ga Rail | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | |
|--|-------------------|---|---------------|---------------------------|--------------|------------------|
| Clip designation | Stud gauge (mils) | Framing Connection | | ASD Allowable Loads (lbs) | | |
| | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) |
| DRC6-97 | 20ga (33mils) | See Figure | (8) x #10 | 155 | 560 | 600 |
| | 18ga (43mils) | | (8) x #10 | 155 | 655 | 670 |
| | 16ga (54mils) | | (8) x #10 | 155 | 1000 | 970 |
| | 14ga (68mils) | | (8) x #10 | 155 | 1085 | 1325 |
| | 12ga (97mils) | | (8) x #10 | 155 | 1085 | 2040 |
| DRC8-97 | 20ga (33mils) | See Figure | (8) x #10 | 140 | 560 | 620 |
| | 18ga (43mils) | | (8) x #10 | 140 | 655 | 730 |
| | 16ga (54mils) | | (8) x #10 | 140 | 1000 | 1060 |
| | 14ga (68mils) | | (8) x #10 | 140 | 1085 | 1340 |
| | 12ga (97mils) | | (8) x #10 | 140 | 1085 | 1965 |



| Drift Headed Rail and Clip - 14ga Clip / 12ga Rail | | ALLOWABLE DRIFT RAIL CLIP LOADS USING CLIP AS A FIXED CONNECTION | | | | |
|--|-------------------|---|---------------|---------------------------|--------------|------------------|
| Clip designation | Stud gauge (mils) | Framing Connection | | ASD Allowable Loads (lbs) | | |
| | | Screw Pattern | No. of Screws | F1 (In-Plane) | F2 (Tension) | F3 (Compression) |
| DRC6-68 | 20ga (33mils) | See Figure | (8) x #10 | 115 | 490 | 440 |
| | 18ga (43mils) | | (8) x #10 | 115 | 540 | 520 |
| | 16ga (54mils) | | (8) x #10 | 115 | 850 | 870 |
| | 14ga (68mils) | | (8) x #10 | 115 | 850 | 1170 |
| | 12ga (97mils) | | (8) x #10 | 115 | 850 | 1600 |
| DRC8-68 | 20ga (33mils) | See Figure | (8) x #10 | 120 | 490 | 485 |
| | 18ga (43mils) | | (8) x #10 | 120 | 540 | 620 |
| | 16ga (54mils) | | (8) x #10 | 120 | 850 | 900 |
| | 14ga (68mils) | | (8) x #10 | 120 | 850 | 1105 |
| | 12ga (97mils) | | (8) x #10 | 120 | 850 | 1710 |



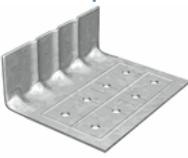
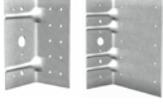
(8) #10 Screw Pattern
Shown in a DRC6 Clip

Notes:

- 1 Allowable loads (ASD) listed are for Drift Rail Clip to stud only (framing connection).
- 2 Maximum tension on DHR-97 anchor should not exceed 1,600 lbs ASD. In tension and shear, the strength of the DHR-97 anchor itself should be considered. The weld does not need to be considered in tension or shear as the load table and 1,600 lbs ASD tension maximum are inclusive of the strength of the welds. Designers must check Drift Headed Rail (DHR-97) tension and shear anchorage capacity in concrete per ACI 318 based on actual edge distance and concrete compressive strength.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 Minimum (4) x #10-16 screws must be used to secure the Drift Rail Clip for attachment to stud.
- 5 It is the responsibility of the designer to properly detail connections on the contract drawings.
- 6 F1 (In-Plane) loads are based on using a Drift Locking Clip (DRLC) or Drift Locking Angle (DRLA) restricting Drift Clip lateral movement.

Product Detail



| | | | | | | | |
|----|---|---|---|----|--|---|---|
| 1 | Uni-Clip™ End Clip pages 74-75 |  |  | 9 | EasyClip S-Series™ Support Clip pages 90-91 |  |  |
| 2 | Extended Uni-Clip™ pages 76-77 |  |  | 10 | HDSC Header Bracket pages 172-175 |  |  |
| 3 | Extended Uni-Clip™ with Anchor Holes pages 78-79 |  |  | 11 | Header Cripple Stud Clip page 184 |  |  |
| 4 | Extended SwiftClip™ LE-Series™ page 88 |  |  | 12 | EasyClip™ A-Series™ End Clip pages 92-93 |  |  |
| 5 | SwiftClip™ L-Series™ Support Clip pages 86-87 |  |  | 13 | ClarkDietrich Holdown and Holdown Plate pages 100-107 |  |  |
| 6 | EasyClip U-Series™ Clip Angle page 89 |  |  | 14 | EasyClip D- and T-Series™ Anchor Clips pages 94-95 |  |  |
| 7 | FastBridge™ Clip pages 96-97 |  |  | 15 | ClarkDietrich Moment Clip pages 108-109 |  |  |
| 8 | H-Series™ Universal Header Hanger pages 98-99 |  |  | 16 | ClarkDietrich Pony Wall (Heavy & Lite) pages 110-117 |  |  |
| 17 | Universal Bypass Clip pages 80-85 |  |  | | | | |

Uni-Clip™ End Clip

For numerous rigid framing connections and conditions, including two-axis loading, shear and tension.

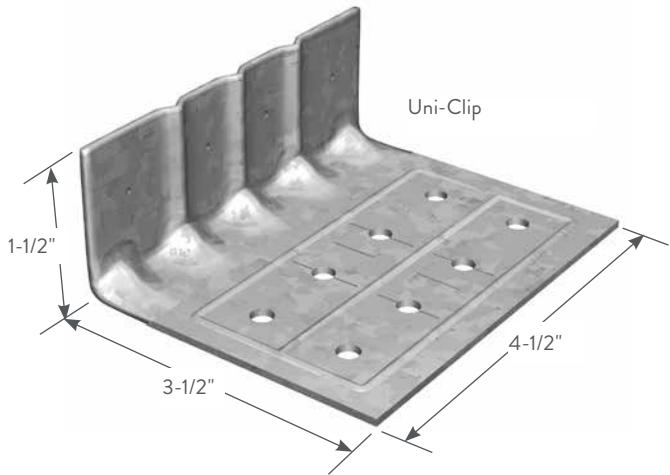
ClarkDietrich's Uni-Clip™ end clip is a universal framing clip used to attach and support numerous rigid framing conditions. The Uni-Clip framing clip has a stiffened corner that provides superior design values. Embossed fastening patterns ensure easy, accurate placement of screws or powder-actuated fasteners. Designed to transfer large horizontal and vertical loads, this clip is ideal for most rigid connections, including shear, tension and two-axis loading.

ALTERNATIVE PRODUCTS

EasyClip™ D-Series™ Anchor Clip
 EasyClip T-Series™ Tall Anchor Clip
 EasyClip E-Series™ Support Clip
 Universal Bypass Clip

PRODUCT DIMENSIONS

3-1/2" x 1-1/2" x 4-1/2"

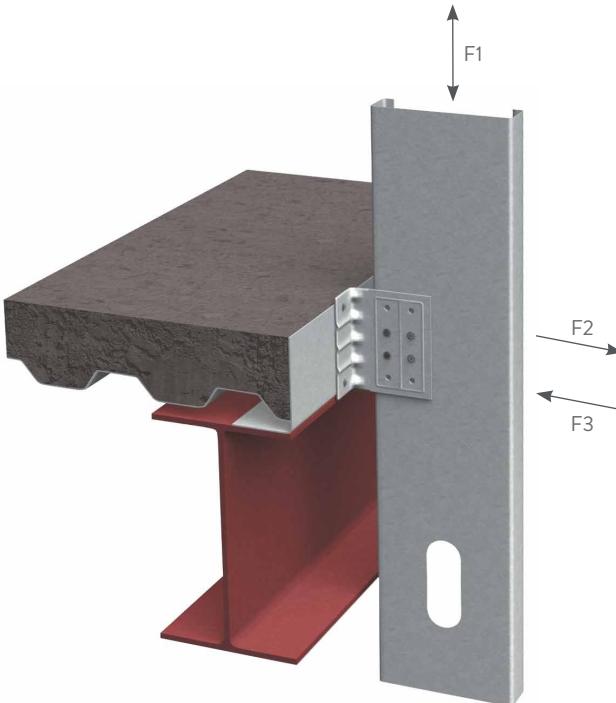


MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)
Design Thickness: 0.0713 inches
Coating: G90
Yield Strength: 50ksi
ASTM: A653/A653M

INSTALLATION

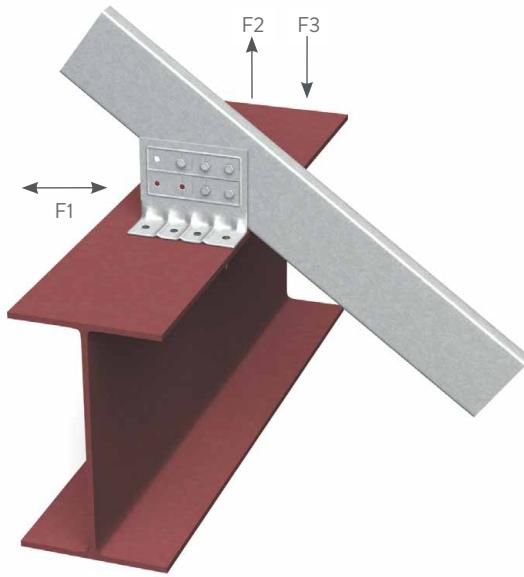
Uni-Clip end clips are attached to cold-formed steel framing members using #10 minimum self-drilling screws driven through the clip holes into the steel framing. Follow the required fastener and anchor placement patterns to achieve the allowable load. Connections to the primary building frame can be made with powder-actuated fasteners, screws or welds per design requirement.



Uni-Clip™ End Clip (UCEC)

| Product code | Thickness | | Size (in) | Packaging Pcs./Carton |
|--------------|---------------|-----------------------|-----------------------|--------------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| UCEC | 68mils (14ga) | 0.0713 | 3-1/2 x 1-1/2 x 4-1/2 | 25 |

U.S. Patent No. 6,688,069



Location Options with (4) Screws



Option A



Option B



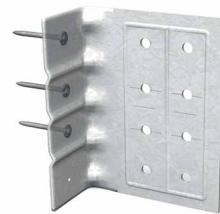
Option C



Location Options with (8) Screws



Location Options with (2) Anchors



Location Options with (3) Anchors



Location Options with (4) Anchors

Uni-Clip™ (UCEC) Allowable Loads (lbs)

| Anchor type | Stud thickness and yield strength | No. anchors to structure | Number/Configuration of Screws to Stud Framing | | | | | | | | | | | |
|--|-----------------------------------|--------------------------|--|------|------|---------------------|------|------|---------------------|------|------|---------------------|------|------|
| | | | 8 Screws | | | 4 Screws (Option A) | | | 4 Screws (Option B) | | | 4 Screws (Option C) | | |
| | | | F1 | F2 | F3 | F1 | F2 | F3 | F1 | F2 | F3 | F1 | F2 | F3 |
| Buildex #12-24 Tek 5 Self-Drilling Screws to 3/16" Steel | 33mils (20ga) 33ksi | 2 | 529 | 1121 | 1121 | 192 | 561 | 561 | 177 | 561 | 561 | 272 | 561 | 561 |
| | | 3 | 529 | 1121 | 1121 | 192 | 561 | 561 | 177 | 561 | 561 | 272 | 561 | 561 |
| | | 4 | 529 | 1121 | 1121 | 192 | 561 | 561 | 177 | 561 | 561 | 272 | 561 | 561 |
| | 43mils (18ga) 33ksi | 2 | 784 | 1227 | 1664 | 285 | 832 | 832 | 263 | 832 | 832 | 404 | 832 | 832 |
| | | 3 | 784 | 1664 | 1664 | 285 | 832 | 832 | 263 | 832 | 832 | 404 | 832 | 832 |
| | | 4 | 784 | 1664 | 1664 | 285 | 832 | 832 | 263 | 832 | 832 | 404 | 832 | 832 |
| | 54mils (16ga) 33ksi | 2 | 1105 | 1227 | 1889 | 402 | 920 | 1172 | 371 | 1172 | 1172 | 569 | 1172 | 1172 |
| | | 3 | 1105 | 1841 | 1889 | 402 | 1172 | 1172 | 371 | 1172 | 1172 | 569 | 1172 | 1172 |
| | | 4 | 1105 | 2345 | 1889 | 402 | 1172 | 1172 | 371 | 1172 | 1172 | 569 | 1172 | 1172 |
| | 54mils (16ga) 50ksi | 2 | 1370 | 1227 | 1889 | 568 | 920 | 1417 | 523 | 1227 | 1209 | 804 | 1227 | 1655 |
| | | 3 | 1560 | 1841 | 1889 | 568 | 1380 | 1417 | 523 | 1655 | 1209 | 804 | 1655 | 1655 |
| | | 4 | 1560 | 2454 | 1889 | 568 | 1655 | 1417 | 523 | 1655 | 1209 | 804 | 1655 | 1655 |
| PAF to 3/16" Steel* | 33mils (20ga) 33ksi | 2 | 529 | 511 | 1121 | 192 | 383 | 561 | 177 | 511 | 561 | 272 | 511 | 561 |
| | | 3 | 529 | 767 | 1121 | 192 | 561 | 561 | 177 | 561 | 561 | 272 | 561 | 561 |
| | | 4 | 529 | 1022 | 1121 | 192 | 561 | 561 | 177 | 561 | 561 | 272 | 561 | 561 |
| | 43mils (18ga) 33ksi | 2 | 784 | 511 | 1664 | 285 | 383 | 832 | 263 | 511 | 832 | 404 | 511 | 832 |
| | | 3 | 784 | 767 | 1664 | 285 | 575 | 832 | 263 | 767 | 832 | 404 | 767 | 832 |
| | | 4 | 784 | 1022 | 1664 | 285 | 767 | 832 | 263 | 832 | 832 | 404 | 832 | 832 |
| | 54mils (16ga) 33ksi | 2 | 1105 | 511 | 1889 | 402 | 383 | 1172 | 371 | 511 | 1172 | 569 | 511 | 1172 |
| | | 3 | 1105 | 767 | 1889 | 402 | 575 | 1172 | 371 | 767 | 1172 | 569 | 767 | 1172 |
| | | 4 | 1105 | 1022 | 1889 | 402 | 767 | 1172 | 371 | 1022 | 1172 | 569 | 1022 | 1172 |
| | 54mils (16ga) 50ksi | 2 | 1117 | 511 | 1889 | 568 | 383 | 1417 | 523 | 511 | 1209 | 804 | 511 | 1655 |
| | | 3 | 1560 | 767 | 1889 | 568 | 575 | 1417 | 523 | 767 | 1209 | 804 | 767 | 1655 |
| | | 4 | 1560 | 1022 | 1889 | 568 | 767 | 1417 | 523 | 1022 | 1209 | 804 | 1022 | 1655 |

*See General Note #6 on page 9 for the definition of PAF, minimum requirements and other additional information.

Notes:

- 1 The 1/3 stress increase for wind shall not be used.
- 2 Attach the Uni-Clip to the stud framing using Buildex #10-16 (min.) self-drilling screws.
- 3 When using 2 anchors, use the outermost marks on the short leg of the clips for anchor placement.
- 4 Attach building anchors to the structure according to the manufacturer's instructions. Anchors shall be installed through the embossments on the scored line of the 1-1/2" leg of the clip.
- 5 When using #12-24 for clips that have load combinations of F1, F2 and F3, use a linear interaction for combinations of F1 and F3, and a squared interaction for combinations of F1 and F2. When using PAFs, use a linear interaction for combinations of F1 and F3, and for combinations of F1 and F2.
- 6 Capacities listed for PAFs are based on minimum PAF requirements listed in General Note #6 on page 9.
- 7 It is the responsibility of the design professional to detail the project drawings for proper clip installation.
- 8 For connections to concrete, or other technical assistance, contact ClarkDietrich at 888-437-3244.
- 9 Buildex is a registered trademark of Illinois Tool Works Inc.

The Extended Uni-Clip™ connects exterior studs to the primary structure of the building, while resisting horizontal and vertical loads.

ClarkDietrich's Extended Uni-Clip™ rigid framing clip is used to attach exterior wall studs to the structure of the building. Designed to resist horizontal and vertical loads, the extended rigid clips install easily with screws, powder-actuated fasteners, or welds. This clip is ideal for all medium and large standoff conditions.

ALTERNATIVE PRODUCTS

Universal Bypass Clip

INSTALLATION

Attach the Extended Uni-Clip rigid clips to cold-formed steel framing members using #12 minimum self-drilling screws driven through the clip holes into the steel framing. Follow the required fastener placement patterns to achieve the allowable load. Connections to the primary building frame can also be made with powder-actuated fasteners or welds per design requirement.

PRODUCT DIMENSIONS

6" Extended Uni-Clip: 1-7/8" x 4-7/8" x 6"
 8" Extended Uni-Clip: 1-7/8" x 4-7/8" x 8"
 10" Extended Uni-Clip: 1-7/8" x 4-7/8" x 10"
 12" Extended Uni-Clip: 1-7/8" x 4-7/8" x 12"

MATERIAL SPECIFICATIONS

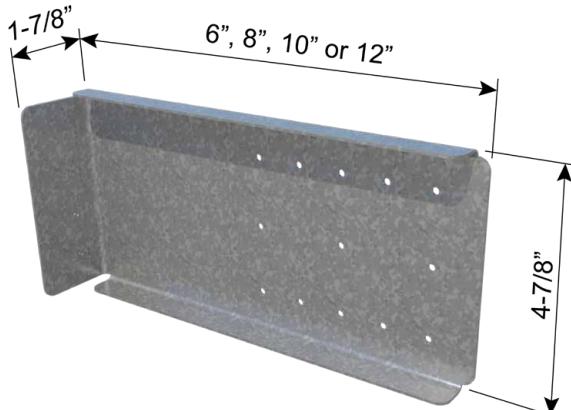
Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

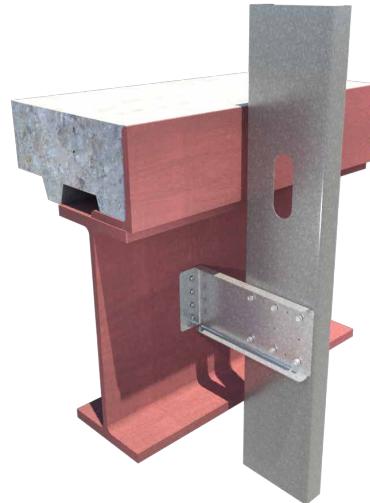
Yield Strength: 50 ksi

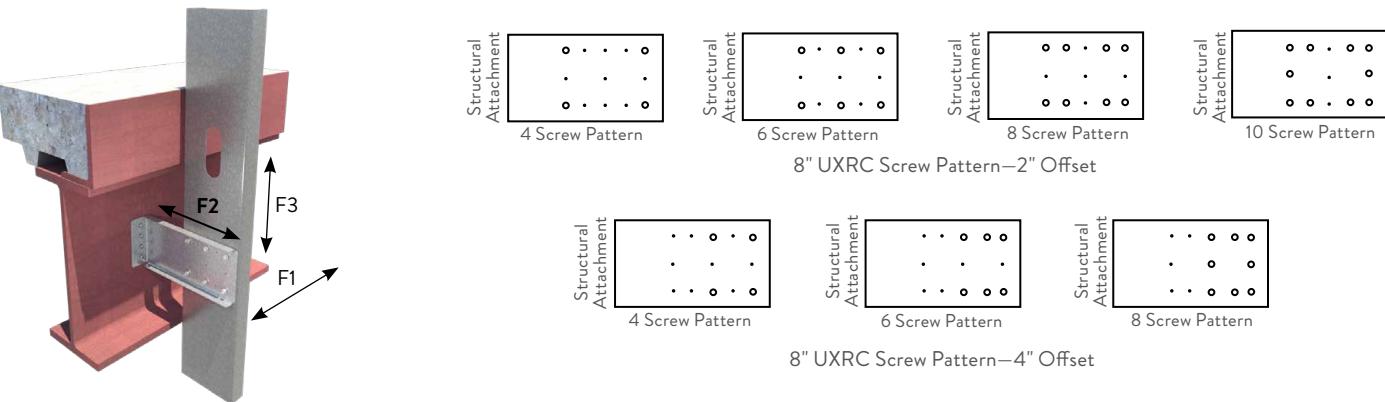
ASTM: A653/A653M



Extended Uni-Clip™ (UXRC)

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|--------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| UXRC6 | 68mils (14ga) | 0.0713 | 1-7/8 x 4-7/8 x 6 | 25 |
| UXRC8 | 68mils (14ga) | 0.0713 | 1-7/8 x 4-7/8 x 8 | 25 |
| UXRC10 | 68mils (14ga) | 0.0713 | 1-7/8 x 4-7/8 x 10 | 25 |
| UXRC12 | 68mils (14ga) | 0.0713 | 1-7/8 x 4-7/8 x 12 | 25 |





Extended Uni-Clip™ (UXRC) Allowable Loads (KIPS)

| Base connection | Stud thickness gauge (mils) | Stud Fy (ksi) | 8" Extended Uni-Clip | | | | | | | | | | | | | | | |
|---|-----------------------------|---------------|----------------------|-------|-------|-------|----------------|-------|-------|-------|----------------|-------|-------|-------|----------------|-------|-------|--|
| | | | 2" Offset | | | | | | | | 4" Offset | | | | | | | |
| | | | F1 Load (kips) | | | | F2 Load (kips) | | | | F3 Load (kips) | | | | F3 Load (kips) | | | |
| Weld (Fillet/Flare Groove) | 33mils (20ga) | 33 | 0.381 | 0.453 | 0.453 | 0.453 | 0.754 | 1.131 | 1.508 | 1.884 | 0.310 | 0.435 | 0.572 | 0.686 | 0.214 | 0.306 | 0.363 | |
| | 43mils (18ga) | 33 | 0.453 | 0.453 | 0.453 | 0.453 | 1.122 | 1.683 | 2.243 | 2.278 | 0.462 | 0.647 | 0.851 | 1.022 | 0.318 | 0.456 | 0.540 | |
| | 54mils (16ga) | 33 | 0.453 | 0.453 | 0.453 | 0.453 | 1.577 | 2.278 | 2.278 | 2.278 | 0.649 | 0.909 | 1.196 | 1.436 | 0.447 | 0.640 | 0.759 | |
| | 54mils (16ga) | 50 | 0.453 | 0.453 | 0.453 | 0.453 | 2.278 | 2.278 | 2.278 | 2.278 | 0.938 | 1.313 | 1.728 | 2.075 | 0.645 | 0.925 | 1.097 | |
| | 68mils (14ga) | 50 | 0.453 | 0.453 | 0.453 | 0.453 | 2.278 | 2.278 | 2.278 | 2.278 | 1.098 | 1.538 | 2.022 | 2.278 | 0.756 | 1.083 | 1.284 | |
| | 97mils (12ga) | 50 | 0.453 | 0.453 | 0.453 | 0.453 | 2.278 | 2.278 | 2.278 | 2.278 | 1.098 | 1.538 | 2.022 | 2.278 | 0.756 | 1.083 | 1.284 | |
| (4) #12-24 (3/16" steel) | 33mils (20ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.754 | 1.131 | 1.256 | 1.256 | 0.310 | 0.435 | 0.572 | 0.686 | 0.214 | 0.306 | 0.363 | |
| | 43mils (18ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 1.122 | 1.256 | 1.256 | 1.256 | 0.462 | 0.647 | 0.851 | 1.022 | 0.318 | 0.456 | 0.540 | |
| | 54mils (16ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 1.256 | 1.256 | 1.256 | 1.256 | 0.649 | 0.909 | 1.196 | 1.436 | 0.447 | 0.640 | 0.759 | |
| | 54mils (16ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 1.256 | 1.256 | 1.256 | 1.256 | 0.938 | 1.313 | 1.728 | 1.864 | 0.645 | 0.925 | 1.097 | |
| | 68mils (14ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 1.256 | 1.256 | 1.256 | 1.256 | 1.098 | 1.538 | 1.864 | 1.864 | 0.756 | 1.083 | 1.284 | |
| | 97mils (12ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 1.256 | 1.256 | 1.256 | 1.256 | 1.098 | 1.538 | 1.864 | 1.864 | 0.756 | 1.083 | 1.284 | |
| (4) Hilti X-U (3/16" steel) | 33mils (20ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.754 | 0.875 | 0.875 | 0.875 | 0.310 | 0.435 | 0.572 | 0.686 | 0.214 | 0.306 | 0.363 | |
| | 43mils (18ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.875 | 0.875 | 0.875 | 0.875 | 0.462 | 0.647 | 0.851 | 1.022 | 0.318 | 0.456 | 0.540 | |
| | 54mils (16ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.875 | 0.875 | 0.875 | 0.875 | 0.649 | 0.909 | 1.196 | 1.436 | 0.447 | 0.640 | 0.759 | |
| | 54mils (16ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.875 | 0.875 | 0.875 | 0.875 | 0.938 | 1.313 | 1.728 | 1.864 | 0.645 | 0.925 | 1.097 | |
| | 68mils (14ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.875 | 0.875 | 0.875 | 0.875 | 1.098 | 1.538 | 1.864 | 1.864 | 0.756 | 1.083 | 1.284 | |
| | 97mils (12ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.875 | 0.875 | 0.875 | 0.875 | 1.098 | 1.538 | 1.864 | 1.864 | 0.756 | 1.083 | 1.284 | |
| (4) Hilti X-U (1" embedment in 3000psi concrete) | 33mils (20ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.360 | 0.360 | 0.360 | 0.360 | 0.310 | 0.435 | 0.572 | 0.686 | 0.214 | 0.306 | 0.363 | |
| | 43mils (18ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.360 | 0.360 | 0.360 | 0.360 | 0.462 | 0.647 | 0.747 | 0.747 | 0.318 | 0.456 | 0.540 | |
| | 54mils (16ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.360 | 0.360 | 0.360 | 0.360 | 0.649 | 0.747 | 0.747 | 0.747 | 0.447 | 0.640 | 0.747 | |
| | 54mils (16ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.360 | 0.360 | 0.360 | 0.360 | 0.747 | 0.747 | 0.747 | 0.747 | 0.645 | 0.747 | 0.747 | |
| | 68mils (14ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.360 | 0.360 | 0.360 | 0.360 | 0.747 | 0.747 | 0.747 | 0.747 | 0.747 | 0.747 | 0.747 | |
| | 97mils (12ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.360 | 0.360 | 0.360 | 0.360 | 0.747 | 0.747 | 0.747 | 0.747 | 0.747 | 0.747 | 0.747 | |
| (2) Kwik-Cons II (1-3/4" embedment in 3000psi concrete) | 33mils (20ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.754 | 0.922 | 0.922 | 0.922 | 0.310 | 0.435 | 0.572 | 0.686 | 0.214 | 0.306 | 0.363 | |
| | 43mils (18ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.922 | 0.922 | 0.922 | 0.922 | 0.462 | 0.647 | 0.851 | 1.022 | 0.318 | 0.456 | 0.540 | |
| | 54mils (16ga) | 33 | 0.301 | 0.301 | 0.301 | 0.301 | 0.922 | 0.922 | 0.922 | 0.922 | 0.649 | 0.909 | 1.160 | 1.160 | 0.447 | 0.640 | 0.759 | |
| | 54mils (16ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.922 | 0.922 | 0.922 | 0.922 | 0.938 | 1.160 | 1.160 | 1.160 | 0.645 | 0.925 | 1.097 | |
| | 68mils (14ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.922 | 0.922 | 0.922 | 0.922 | 1.098 | 1.160 | 1.160 | 1.160 | 0.756 | 1.083 | 1.160 | |
| | 97mils (12ga) | 50 | 0.301 | 0.301 | 0.301 | 0.301 | 0.922 | 0.922 | 0.922 | 0.922 | 1.098 | 1.160 | 1.160 | 1.160 | 0.756 | 1.083 | 1.160 | |

6", 10", and 12" tables are available at clarkdietrich.com.

Notes:

- 1 Capacities listed in the table/notes assume that no load reductions are required for spacing or edge distance of Hilti X-U pins in steel, Kwik-Cons, or screws. Load reductions are enforced for spacing or edge distance of Hilti X-U in concrete.
- 2 Weld capacities are based on (2) 1" welds on the outer radius of the bend starting at the outer edges of the clip.
- 3 Allowable loads have not been increased for wind, seismic, or other factors.
- 4 The F1 values are calculated based on the moment capacity of the clip cross section.
- 5 Capacities are based on the use of #12 screws to clip-stud interface.
- 6 The embedment depth of Kwik-Cons in 3000psi normal weight concrete is 1-3/4". The embedment depth of Hilti X-U in 3000psi normal weight concrete is 1".
- 7 The Hilti X-U pins and #12-24 screws are embedded in 3/16" structural steel.
- 8 Torsional effects are considered on screw group for F3 allowable loads.
- 9 Use a linear interaction equation for connections involving any combination of F1, F2, and F3.
- 10 Hilti is a registered trademark of the Hilti Aktiengesellschaft Corporation.
- 11 Hilti X-U PAFs shown in table may not be substituted without prior approval from ClarkDietrich Engineering Services.

The Extended Uni-Clip™ connects exterior studs to the primary structure of the building, while resisting horizontal and vertical loads.

ClarkDietrich's UXRC6-HD 68mils (14ga) rigid framing clip is used to attach exterior wall studs to the structure of the building. This clip is ideal for all medium and large standoff conditions and designed to resist horizontal and vertical loads. (1) 5/8" hole in the short leg of the clip allows for a 1/2" concrete anchor to be attached to the slab. (2) 3/8" holes allow 1/4" anchors.

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

Yield Strength: 50 ksi

ASTM: A653/A653M

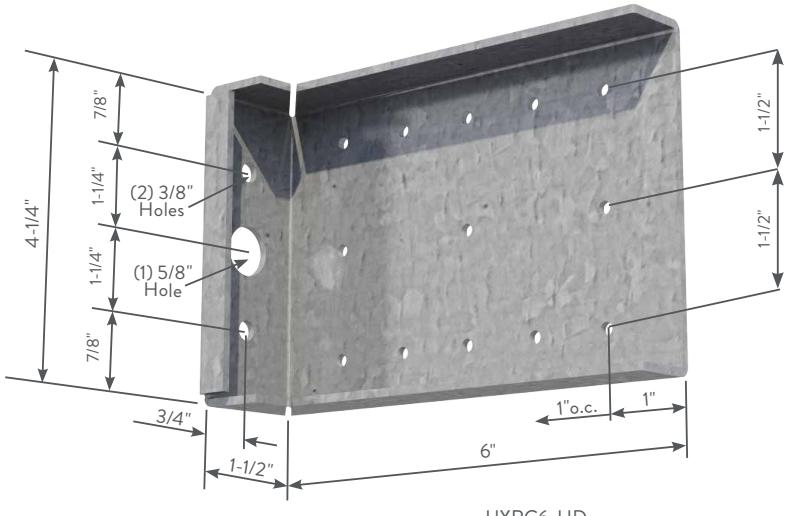
INSTALLATION

Attach the Extended Uni-Clip rigid clips to cold-formed steel framing members using #12 minimum self-drilling screws driven through the clip holes into the steel framing. Follow the required fastener placement patterns to achieve the allowable load. Attachment to the structure concrete slab can be made with (1) 1/2" or (2) 1/4" bolt anchors. Anchor connection design and edge distance requirements must be approved by a design professional before installation.



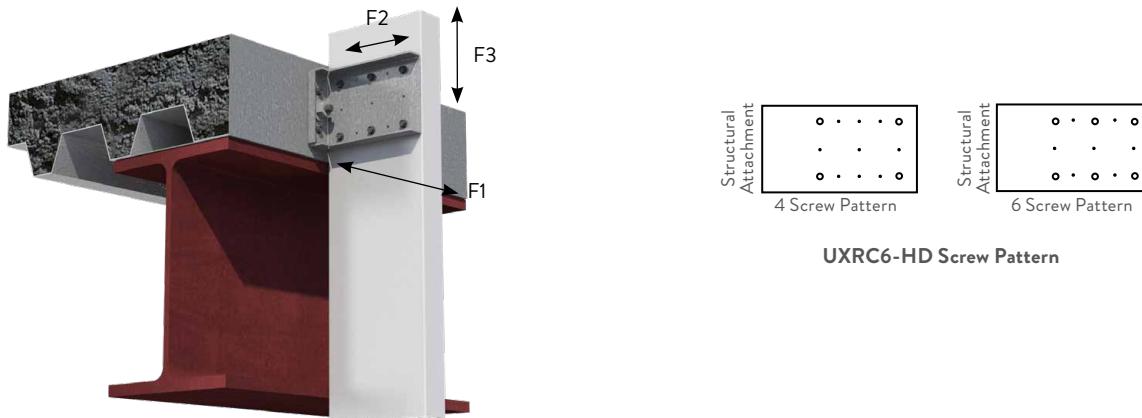
PRODUCT DIMENSIONS

6" Extended Uni-Clip: 1-1/2" x 4-1/4" x 6"



Extended Uni-Clip™ (UXRC6-HD)

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|-------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| UXRC6-HD | 68mils (14ga) | 0.0713 | 1-1/2 x 4-1/4 x 6 | 25 |



UXRC6-HD Screw Pattern

Extended Uni-Clip™ (UXRC6-HD) Allowable Loads

ANCHOR DESIGN BY OTHERS

| Product name | Stud thickness Mils (Gauge) | Stud fy (ksi) | Mechanically Anchored to Structure | ASD Allowable Loads (lb.) | | | | | |
|---------------------------|--------------------------------|---------------------|---------------------------------------|---------------------------|------------|------------|------------|------------|------------|
| | | | | F1 Load | | F2 Load | | F3 Load | |
| | | | | w/4 #12-14 | w/6 #12-14 | w/4 #12-14 | w/6 #12-14 | w/4 #12-14 | w/6 #12-14 |
| UXRC6-HD 14ga (68mils) | 33mils (20ga) | 33 | Anchors to be designed by others | 165 | 165 | 754 | 1131 | 361 | 471 |
| | 43mils (18ga) | 33 | | 232 | 232 | 1122 | 1428* | 537 | 701 |
| | 54mils (16ga) | 50 | | 405 | 405 | 1428* | 1428* | 1091 | 1423 |
| | 68mils (14ga) | 50 | | 527 | 527 | 1568* | 1568* | 1488 | 1600 |
| | 97mils (12ga) | 50 | | 809 | 809 | 1667* | 1667* | 1488 | 1908 |

* Capacities governed by 1/8" service load criteria.

Extended Uni-Clip™ (UXRC6-HD) Allowable Loads

CONSIDERING ANCHOR CAPACITIES

| Product name | Stud thickness Mils (Gauge) | Stud fy (ksi) | Mechanically Anchored to Structure | ASD Allowable Loads (lb.) | | | | | |
|---------------------------|--------------------------------|---------------------|---|---------------------------|------------|------------|------------|------------|------------|
| | | | | F1 Load | | F2 Load | | F3 Load | |
| | | | | w/4 #12-14 | w/6 #12-14 | w/4 #12-14 | w/6 #12-14 | w/4 #12-14 | w/6 #12-14 |
| UXRC6-HD 14ga (68mils) | 33mils (20ga) | 33 | (1) 1/2" Hilti KWIK Bolt TZ ² (3000 psi uncracked concrete) | 165 | 165 | 754 | 1131 | 351 | 471 |
| | 43mils (18ga) | 33 | | 232 | 232 | 1122 | 1199 | 502 | 682 |
| | 54mils (16ga) | 50 | | 405 | 405 | 1199 | 1199 | 983 | 1280 |
| | 68mils (14ga) | 50 | | 527 | 527 | 1339 | 1339 | 1336 | 1413 |
| | 97mils (12ga) | 50 | | 809 | 809 | 1339 | 1339 | 1488 | 1628 |
| | 33mils (20ga) | 33 | (2) 1/4" Hilti KWIK HUS-EZ ³ (3000 psi uncracked concrete) | 141 | 141 | 754 | 1131 | 361 | 471 |
| | 43mils (18ga) | 33 | | 207 | 207 | 1122 | 1403 | 537 | 701 |
| | 54mils (16ga) | 50 | | 397 | 397 | 1403 | 1403 | 1091 | 1423 |
| | 68mils (14ga) | 50 | | 484 | 484 | 1403 | 1403 | 1488 | 1600 |
| | 97mils (12ga) | 50 | | 803 | 803 | 1403 | 1403 | 1488 | 1838 |

Notes:

- Table-1 contains the allowable load capacity of the clip and the screw connection to the CFS stud. When the mechanical anchors between the clip and the support structure are designed by others, pull-over shall be included in the evaluation of F2 loads, and bearing shall be included in the evaluation of F3 loads.
- Table-2 considers capacities listed in Notes 3 and 4 (below) when the specified connectors to the structure are used.
- When using 1/2" Hilti KWIK Bolt TZ anchor (nominal embedment depth of 2-3/8") into 3000psi concrete, anchor capacity shall be limited to:
 - Tension capacity/anchor: 1509-lbs (uncracked concrete) and 1069-lbs (cracked concrete)
 - Shear capacity/anchor: 1628-lbs (uncracked concrete) and 1153-lbs (cracked concrete)
- When using 1/4" Hilti KWIK HUS-EZ anchor (nominal embedment depth of 2-1/2") into 3000psi concrete, anchor capacity shall be limited to:
 - Tension capacity/anchor: 752-lbs (uncracked concrete) and 374-lbs (cracked concrete)
 - Shear capacity/anchor: 919-lbs (uncracked concrete) and 651-lbs (cracked concrete)
- Connector capacities listed in Note 4 utilize load adjustment/reduction (anchor spacing) factors of 0.72 for tension and 0.60 for shear as per 2016 Hilti Anchor Fastening Technical Guide (see Hilti Table 6 and 7 under section 3.3.6.3).
- Where anchors are loaded simultaneously in tension and shear, interaction must be considered following anchor manufacturer guidelines.
- Capacities listed in the table/notes did not consider load adjustment for edge distance of anchors. For no reduction in the listed capacities, the following requirements needed to be met for the concrete surface where the clip attaches:
 - When using 1/2" Hilti KWIK Bolt TZ anchor embedded 2-3/8" deep into 3000psi concrete, minimum edge distance shall be:
 - 5-1/2" for uncracked concrete;
 - 4-1/8" for cracked concrete
 - When using 1/4" Hilti KWIK HUS-EZ anchors embedded 2-1/2" deep into 3000psi concrete, minimum edge distance shall be:
 - 4-1/2" for uncracked concrete
 - 4-1/2" for cracked concrete
- Other anchors may be used to achieve the full clip capacity but must be designed separately.
- Allowable loads have not been increased for wind, seismic, or other factors.
- Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.
- It is the responsibility of the designer to properly detail connections on the contract drawings.

Universal Bypass Clip

Provides either a rigid connection or vertical building movement up to 3"

Universal Bypass Clips are used to attach exterior curtain wall studs to the building structure and provide either a rigid connection or deflecting connection for vertical building movement independent of the cold-formed steel framing.

The clips are available in standard lengths of 6", 8", 10" and 12" and are ideal for medium to larger standoff conditions. Universal Bypass Clips install quickly with screws, welds or powder-actuated fasteners, and provide adjustable standoff to ensure a plumb wall plane. For deflection application, proprietary deflection screws are provided with each clip to ensure friction-free sliding.

- Eliminates shims and scabs.
- Provides vertical movement up to 3" (1-1/2" up and 1-1/2" down) when installed as a deflection application.
- Specially designed to simplify welding installation.
- Fast, one-piece universal installation. No left or right handed clips.
- Proprietary deflection screws provide frictionless slip connections. One bag (80 screws) included.

ALTERNATIVE PRODUCTS

FastClip™ Slide Clip

Extended FastClip™ Slide Clip

Extended Uni-Clip™

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Gauge: 12 gauge (97mils)

Design Thickness: 0.0713 inches

Design Thickness: 0.1017 inches

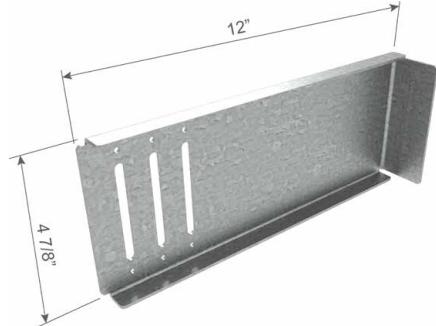
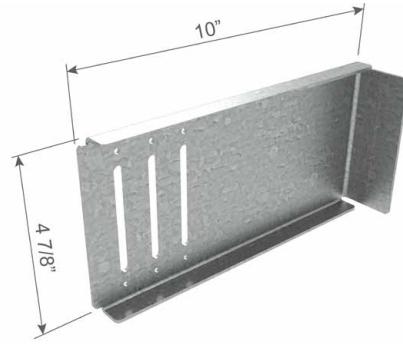
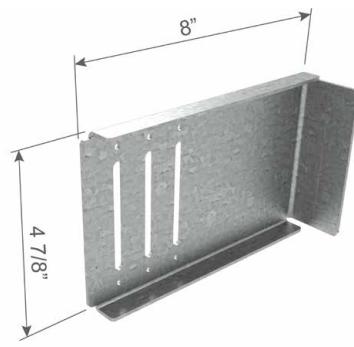
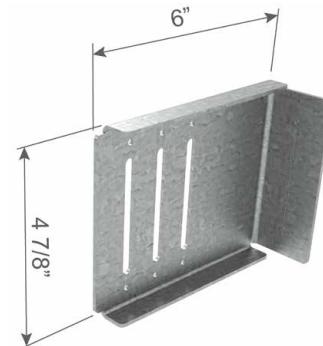
Yield Strength: Structural Grade 50 Type H (ST50H), 50ksi (340 MPa)

Coating: G90 (Z275) hot-dipped galvanized coating

ASTM: A653, A1003

Universal Bypass Clip (UBC)

| Product code | Mils (Gauge) | Design thickness | Size (in) | Pcs/Bucket |
|--------------|---------------|------------------|-----------------------|------------|
| UBC6-68 | 68mils (14ga) | 0.0713 | 1-7/8" x 6" x 4-7/8" | 25 |
| UBC8-68 | 68mils (14ga) | 0.0713 | 1-7/8" x 8" x 4-7/8" | 25 |
| UBC10-68 | 68mils (14ga) | 0.0713 | 1-7/8" x 10" x 4-7/8" | 25 |
| UBC12-68 | 68mils (14ga) | 0.0713 | 1-7/8" x 12" x 4-7/8" | 25 |
| UBC6-97 | 97mils (12ga) | 0.1017 | 1-7/8" x 6" x 4-7/8" | 25 |
| UBC8-97 | 97mils (12ga) | 0.1017 | 1-7/8" x 8" x 4-7/8" | 25 |
| UBC10-97 | 97mils (12ga) | 0.1017 | 1-7/8" x 10" x 4-7/8" | 25 |
| UBC12-97 | 97mils (12ga) | 0.1017 | 1-7/8" x 12" x 4-7/8" | 25 |

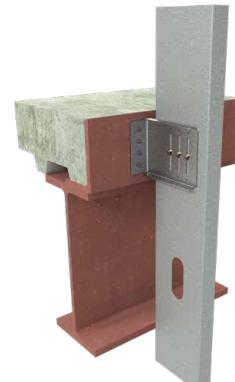


INSTALLATION

Connections to the building can be made with screws, welds powder-actuated fasteners. Mechanical fasteners shall be located on the embossed marks given on the scored line of the 1-7/8" flange. Attach building anchors to the structure according to the manufacturer's instructions. Anchors shall be installed through the embossments on the scored line of the clip as shown on the attached drawings. In no case shall anchors be installed more than 3/4" from the bend on the short leg of the clip. In cases of discrepancy between this information and the Design Engineer's details, the Design Engineer's details shall be followed.

For a Rigid Connection:

Attach the Universal Bypass Clip to cold-formed steel framing members using (6) #10-16 minimum self-drilling screws (not included) for the 14ga clip and (6) #12-14 minimum self-drilling screws (not included) for the 12ga clip, through the clip holes into the steel framing.



For a Deflection Connection:

Attach the Universal Bypass Clip to the cold-formed steel framing using (3) #14 proprietary deflection screws (included) through the (3) slotted holes and positioned to allow for the appropriate building deflection.



Proprietary Deflection Screws:

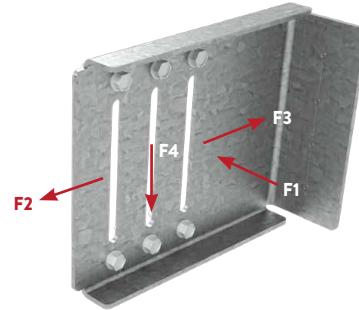
Many of the ClarkDietrich deflection clips include our proprietary deflection fastener that has been specifically designed to provide friction-free deflection. These fasteners eliminate drag, binding or resistance that can often occur with common fasteners.

Universal Bypass Clip

UBC - 14ga (As a Rigid Connection w/ (6) screws)

ATTACHMENT TO STRUCTURAL: DESIGNED BY OTHERS

| Clip designation | Stud gauge (mils) Yield Strength | ASD Allowable Loads (lbs) | | | |
|---------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (6) #10-16 | F2 (Tension) w/ (6) #10-16 | F3 (Compression) w/ (6) #10-16 | F4 (Shear) w/ (6) #10-16 |
| UBC6-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 395 |
| | 43mils (18ga) 33ksi | 215 | 1450 | 1575 | 590 |
| | 54mils (16ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| | 68mils (14ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| | 97mils (12ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| UBC8-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 290 |
| | 43mils (18ga) 33ksi | 215 | 1450 | 1405 | 430 |
| | 54mils (16ga) 50ksi | 220 | 1450 | 1405 | 770 |
| | 68mils (14ga) 50ksi | 220 | 1450 | 1405 | 770 |
| | 97mils (12ga) 50ksi | 220 | 1450 | 1405 | 770 |
| UBC10-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 225 |
| | 43mils (18ga) 33ksi | 190 | 1450 | 1385 | 340 |
| | 54mils (16ga) 50ksi | 190 | 1450 | 1385 | 605 |
| | 68mils (14ga) 50ksi | 190 | 1450 | 1385 | 605 |
| | 97mils (12ga) 50ksi | 190 | 1450 | 1385 | 605 |
| UBC12-68 68mils (14ga) | 33mils (20ga) 33ksi | 160 | 1060 | 1060 | 185 |
| | 43mils (18ga) 33ksi | 160 | 1430 | 1285 | 280 |
| | 54mils (16ga) 50ksi | 160 | 1430 | 1285 | 495 |
| | 68mils (14ga) 50ksi | 160 | 1430 | 1285 | 495 |
| | 97mils (12ga) 50ksi | 160 | 1430 | 1285 | 495 |



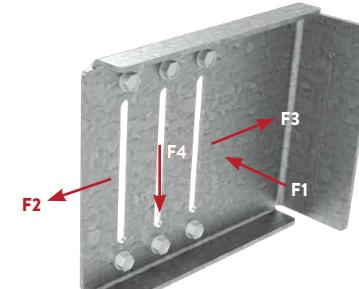
Notes:

- 1 Allowable loads (ASD) listed represent the capacity of the clip to the stud only. (Framing Connection)
- 2 Allowable Loads have not been increased for the wind, seismic, or other factors.
- 3 An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 4 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 5 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes. For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 6 It is the responsibility of the design professional to design the attachment of the clips to the structure and verify that their capacity meets the requirements of the intended application.
- 7 Nominal or LRFD loads are available upon request.

UBC - 14ga (As a Rigid Connection w/ (6) screws)

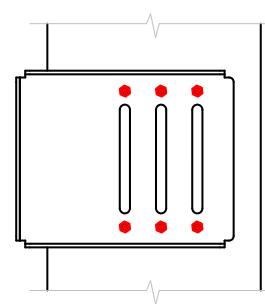
ATTACHMENT TO STRUCTURAL: WELDED

| Clip designation | Stud gauge (mils) Yield Strength | ASD Allowable Loads (lbs) | | | |
|---------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (6) #10-16 | F2 (Tension) w/ (6) #10-16 | F3 (Compression) w/ (6) #10-16 | F4 (Shear) w/ (6) #10-16 |
| UBC6-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 395 |
| | 43mils (18ga) 33ksi | 215 | 1575 | 1575 | 590 |
| | 54mils (16ga) 50ksi | 255 | 1755 | 1590 | 1055 |
| | 68mils (14ga) 50ksi | 255 | 1755 | 1590 | 1055 |
| | 97mils (12ga) 50ksi | 255 | 1755 | 1590 | 1055 |
| UBC8-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 290 |
| | 43mils (18ga) 33ksi | 215 | 1575 | 1405 | 430 |
| | 54mils (16ga) 50ksi | 220 | 1675 | 1405 | 770 |
| | 68mils (14ga) 50ksi | 220 | 1675 | 1405 | 770 |
| | 97mils (12ga) 50ksi | 220 | 1675 | 1405 | 770 |
| UBC10-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 225 |
| | 43mils (18ga) 33ksi | 190 | 1575 | 1385 | 340 |
| | 54mils (16ga) 50ksi | 190 | 1675 | 1385 | 605 |
| | 68mils (14ga) 50ksi | 190 | 1675 | 1385 | 605 |
| | 97mils (12ga) 50ksi | 190 | 1675 | 1385 | 605 |
| UBC12-68 68mils (14ga) | 33mils (20ga) 33ksi | 160 | 1060 | 1060 | 185 |
| | 43mils (18ga) 33ksi | 160 | 1575 | 1285 | 280 |
| | 54mils (16ga) 50ksi | 160 | 1675 | 1285 | 495 |
| | 68mils (14ga) 50ksi | 160 | 1675 | 1285 | 495 |
| | 97mils (12ga) 50ksi | 160 | 1675 | 1285 | 495 |



Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 3 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes. For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 4 The Allowable loads listed for welds are based on the following weld lengths:
- (2) Welds - 1" along back of short leg clip bend (each weld equally distanced from center of clip).
- 5 Use E70XX (min.) electrodes.
- 6 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 7 Nominal or LRFD loads are available upon request.

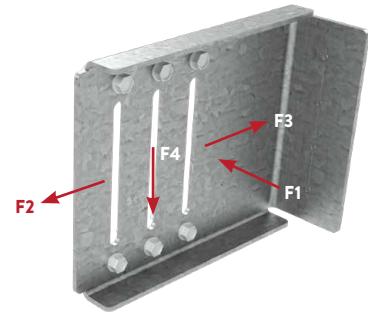


12ga Clip: (6) #12-14 Screws
14ga Clip: (6) #10-16 Screws
Shown in a UBC6 Clip

UBC - 14ga (As a Rigid Connection w/ (6) screws)

ATTACHMENT TO STRUCTURAL: (4) #12-24 FASTENERS

| Clip designation | Stud gauge (mils) Yield Strength | ASD Allowable Loads (lbs) | | | |
|---------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (6) #10-16 | F2 (Tension) w/ (6) #10-16 | F3 (Compression) w/ (6) #10-16 | F4 (Shear) w/ (6) #10-16 |
| UBC6-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 395 |
| | 43mils (18ga) 33ksi | 215 | 1450 | 1575 | 590 |
| | 54mils (16ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| | 68mils (14ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| | 97mils (12ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| UBC8-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 290 |
| | 43mils (18ga) 33ksi | 215 | 1450 | 1405 | 430 |
| | 54mils (16ga) 50ksi | 220 | 1450 | 1405 | 770 |
| | 68mils (14ga) 50ksi | 220 | 1450 | 1405 | 770 |
| | 97mils (12ga) 50ksi | 220 | 1450 | 1405 | 770 |
| UBC10-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 225 |
| | 43mils (18ga) 33ksi | 190 | 1450 | 1385 | 340 |
| | 54mils (16ga) 50ksi | 190 | 1450 | 1385 | 605 |
| | 68mils (14ga) 50ksi | 190 | 1450 | 1385 | 605 |
| | 97mils (12ga) 50ksi | 190 | 1450 | 1385 | 605 |
| UBC12-68 68mils (14ga) | 33mils (20ga) 33ksi | 160 | 1060 | 1060 | 185 |
| | 43mils (18ga) 33ksi | 160 | 1430 | 1285 | 280 |
| | 54mils (16ga) 50ksi | 160 | 1430 | 1285 | 495 |
| | 68mils (14ga) 50ksi | 160 | 1430 | 1285 | 495 |
| | 97mils (12ga) 50ksi | 160 | 1430 | 1285 | 495 |



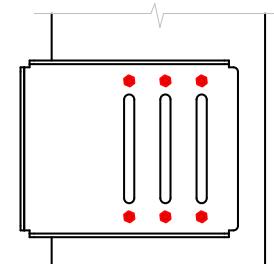
Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 3 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 4 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes. For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 5 #12-24 Fasteners shall be used for attachment to steel structure. (4) Fastener configuration shall be used. Screws should be placed at indentations scribed on the short leg of the UBC clip.
- 6 The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- 7 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 8 Nominal or LRFD loads are available upon request.

UBC - 14ga (As a Rigid Connection w/ (6) screws)

ATTACHMENT TO STRUCTURAL: (4) 0.157" PAFs

| Clip designation | Stud gauge (mils) Yield Strength | ASD Allowable Loads (lbs) | | | |
|---------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (6) #10-16 | F2 (Tension) w/ (6) #10-16 | F3 (Compression) w/ (6) #10-16 | F4 (Shear) w/ (6) #10-16 |
| UBC6-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 395 |
| | 43mils (18ga) 33ksi | 215 | 1450 | 1575 | 590 |
| | 54mils (16ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| | 68mils (14ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| | 97mils (12ga) 50ksi | 255 | 1450 | 1590 | 1055 |
| UBC8-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 290 |
| | 43mils (18ga) 33ksi | 215 | 1450 | 1405 | 430 |
| | 54mils (16ga) 50ksi | 220 | 1450 | 1405 | 770 |
| | 68mils (14ga) 50ksi | 220 | 1450 | 1405 | 770 |
| | 97mils (12ga) 50ksi | 220 | 1450 | 1405 | 770 |
| UBC10-68 68mils (14ga) | 33mils (20ga) 33ksi | 165 | 1060 | 1060 | 225 |
| | 43mils (18ga) 33ksi | 190 | 1450 | 1385 | 340 |
| | 54mils (16ga) 50ksi | 190 | 1450 | 1385 | 605 |
| | 68mils (14ga) 50ksi | 190 | 1450 | 1385 | 605 |
| | 97mils (12ga) 50ksi | 190 | 1450 | 1385 | 605 |
| UBC12-68 68mils (14ga) | 33mils (20ga) 33ksi | 160 | 1060 | 1060 | 185 |
| | 43mils (18ga) 33ksi | 160 | 1430 | 1285 | 280 |
| | 54mils (16ga) 50ksi | 160 | 1430 | 1285 | 495 |
| | 68mils (14ga) 50ksi | 160 | 1430 | 1285 | 495 |
| | 97mils (12ga) 50ksi | 160 | 1430 | 1285 | 495 |



Notes:

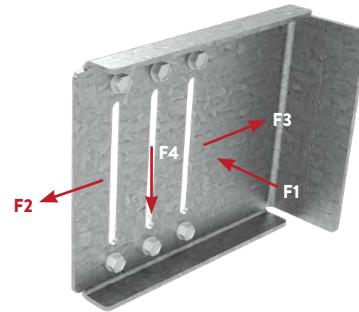
- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 Nominal or LRFD loads are available upon request.
- 3 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 4 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes. For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 5 0.157" Hilti X-U PAFs shall be used for attachment to steel structure. (4) Fastener configuration shall be used. PAFs should be placed at indentations scribed on the short leg of the UBC clip.
- 6 Capacities considered for Hilti PAFs are based on fastener strengths listed in ICC ESR-2269.
- 7 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 8 An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.

Universal Bypass Clip

UBC - 12ga (As a Rigid Connection w/ (6) screws)

ATTACHMENT TO STRUCTURAL: DESIGNED BY OTHERS

| Clip designation | Stud gauge (mils) Yield Strength | ASD Allowable Loads (lbs) | | | |
|---------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (6) #12-14 | F2 (Tension) w/ (6) #12-14 | F3 (Compression) w/ (6) #12-14 | F4 (Shear) w/ (6) #12-14 |
| UBC6-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 425 |
| | 43mils (18ga) 33ksi | 245 | 1680 | 1680 | 630 |
| | 54mils (16ga) 50ksi | 265 | 2115 | 2540 | 1230 |
| | 68mils (14ga) 50ksi | 265 | 2115 | 2540 | 1230 |
| | 97mils (12ga) 50ksi | 265 | 2115 | 2540 | 1230 |
| UBC8-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 310 |
| | 43mils (18ga) 33ksi | 240 | 1680 | 1680 | 460 |
| | 54mils (16ga) 50ksi | 240 | 2115 | 2315 | 885 |
| | 68mils (14ga) 50ksi | 240 | 2115 | 2315 | 885 |
| | 97mils (12ga) 50ksi | 240 | 2115 | 2315 | 885 |
| UBC10-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 245 |
| | 43mils (18ga) 33ksi | 225 | 1680 | 1680 | 360 |
| | 54mils (16ga) 50ksi | 225 | 2115 | 2055 | 690 |
| | 68mils (14ga) 50ksi | 225 | 2115 | 2055 | 690 |
| | 97mils (12ga) 50ksi | 225 | 2115 | 2055 | 690 |
| UBC12-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 200 |
| | 43mils (18ga) 33ksi | 195 | 1680 | 1680 | 295 |
| | 54mils (16ga) 50ksi | 195 | 2115 | 2055 | 605 |
| | 68mils (14ga) 50ksi | 195 | 2115 | 2055 | 630 |
| | 97mils (12ga) 50ksi | 195 | 2115 | 2055 | 630 |



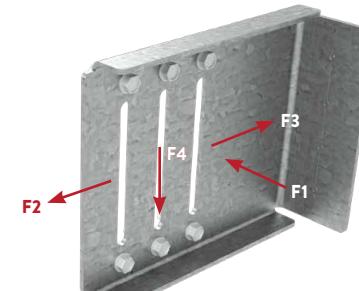
Notes:

- 1 Allowable loads (ASD) listed represent the capacity of the clip to the stud only. (Framing Connection)
- 2 Allowable Loads have not been increased for the wind, seismic, or other factors.
- 3 An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 4 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 5 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes. For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 6 It is the responsibility of the design professional to design the attachment of the clips to the structure and verify that their capacity meets the requirements of the intended application.
- 7 Nominal or LRFD loads are available upon request.

UBC - 12ga (As a Rigid Connection w/ (6) screws)

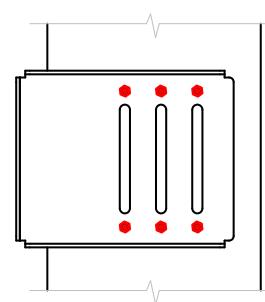
ATTACHMENT TO STRUCTURAL: WELDED

| Clip designation | Stud gauge (mils) Yield Strength | ASD Allowable Loads (lbs) | | | |
|---------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (6) #12-14 | F2 (Tension) w/ (6) #12-14 | F3 (Compression) w/ (6) #12-14 | F4 (Shear) w/ (6) #12-14 |
| UBC6-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 425 |
| | 43mils (18ga) 33ksi | 245 | 1680 | 1680 | 630 |
| | 54mils (16ga) 50ksi | 265 | 2110 | 2540 | 1230 |
| | 68mils (14ga) 50ksi | 265 | 2110 | 2540 | 1230 |
| | 97mils (12ga) 50ksi | 265 | 2110 | 2540 | 1230 |
| UBC8-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 310 |
| | 43mils (18ga) 33ksi | 240 | 1680 | 1680 | 460 |
| | 54mils (16ga) 50ksi | 240 | 2110 | 2315 | 885 |
| | 68mils (14ga) 50ksi | 240 | 2110 | 2315 | 885 |
| | 97mils (12ga) 50ksi | 240 | 2110 | 2315 | 885 |
| UBC10-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 245 |
| | 43mils (18ga) 33ksi | 225 | 1680 | 1680 | 360 |
| | 54mils (16ga) 50ksi | 225 | 2110 | 2055 | 690 |
| | 68mils (14ga) 50ksi | 225 | 2110 | 2055 | 690 |
| | 97mils (12ga) 50ksi | 225 | 2110 | 2055 | 690 |
| UBC12-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 200 |
| | 43mils (18ga) 33ksi | 195 | 1680 | 1680 | 295 |
| | 54mils (16ga) 50ksi | 195 | 2110 | 2055 | 605 |
| | 68mils (14ga) 50ksi | 195 | 2110 | 2055 | 630 |
| | 97mils (12ga) 50ksi | 195 | 2110 | 2055 | 630 |



Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 3 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes. For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 4 The Allowable loads listed for welds are based on the following weld lengths:
- (2) Welds - 1" along back of short leg clip bend (each weld equally distanced from center of clip).
- 5 Use E70XX (min.) electrodes.
- 6 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 7 Nominal or LRFD loads are available upon request.

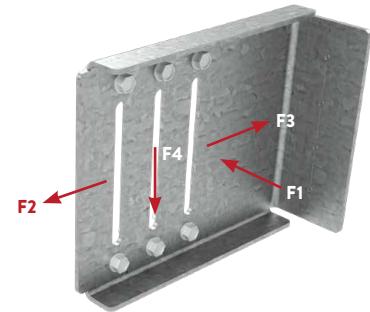


12ga Clip: (6) #12-14 Screws
14ga Clip: (6) #10-16 Screws
Shown in a UBC6 Clip

UBC - 12ga (As a Rigid Connection w/ (6) screws)

ATTACHMENT TO STRUCTURAL: (4) #12-24 FASTENERS

| Clip designation | Stud gauge (mils) Yield Strength | ASD Allowable Loads (lbs) | | | |
|---------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (6) #12-14 | F2 (Tension) w/ (6) #12-14 | F3 (Compression) w/ (6) #12-14 | F4 (Shear) w/ (6) #12-14 |
| UBC6-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 425 |
| | 43mils (18ga) 33ksi | 245 | 1680 | 1680 | 630 |
| | 54mils (16ga) 50ksi | 265 | 2115 | 2540 | 1230 |
| | 68mils (14ga) 50ksi | 265 | 2115 | 2540 | 1230 |
| | 97mils (12ga) 50ksi | 265 | 2115 | 2540 | 1230 |
| UBC8-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 310 |
| | 43mils (18ga) 33ksi | 240 | 1680 | 1680 | 460 |
| | 54mils (16ga) 50ksi | 240 | 2115 | 2315 | 885 |
| | 68mils (14ga) 50ksi | 240 | 2115 | 2315 | 885 |
| | 97mils (12ga) 50ksi | 240 | 2115 | 2315 | 885 |
| UBC10-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 245 |
| | 43mils (18ga) 33ksi | 225 | 1680 | 1680 | 360 |
| | 54mils (16ga) 50ksi | 225 | 2115 | 2055 | 690 |
| | 68mils (14ga) 50ksi | 225 | 2115 | 2055 | 690 |
| | 97mils (12ga) 50ksi | 225 | 2115 | 2055 | 690 |
| UBC12-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 200 |
| | 43mils (18ga) 33ksi | 195 | 1680 | 1680 | 295 |
| | 54mils (16ga) 50ksi | 195 | 2115 | 2055 | 605 |
| | 68mils (14ga) 50ksi | 195 | 2115 | 2055 | 630 |
| | 97mils (12ga) 50ksi | 195 | 2115 | 2055 | 630 |



Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.
- 3 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 4 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes. For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 5 #12-24 Fasteners shall be used for attachment to steel structure. (4) Fastener configuration shall be used. Screws should be placed at indentations scribed on the short leg of the UBC clip.
- 6 The minimum edge distance for each fastener type shall comply with the fastener manufacturer's recommendation.
- 7 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 8 Nominal or LRFD loads are available upon request.

UBC - 12ga (As a Rigid Connection w/ (6) screws)

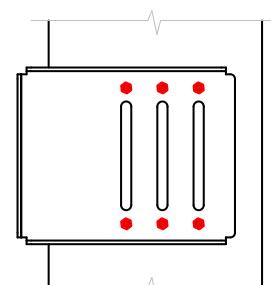
ATTACHMENT TO STRUCTURAL: (4) 0.157" PAFs

| Clip designation | Stud gauge (mils) Yield Strength | ASD Allowable Loads (lbs) | | | |
|---------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| | | F1 (In-Plane) w/ (6) #12-14 | F2 (Tension) w/ (6) #12-14 | F3 (Compression) w/ (6) #12-14 | F4 (Shear) w/ (6) #12-14 |
| UBC6-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 425 |
| | 43mils (18ga) 33ksi | 245 | 1680 | 1680 | 630 |
| | 54mils (16ga) 50ksi | 265 | 2000 | 2540 | 1230 |
| | 68mils (14ga) 50ksi | 265 | 2000 | 2540 | 1230 |
| | 97mils (12ga) 50ksi | 265 | 2000 | 2540 | 1230 |
| UBC8-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 310 |
| | 43mils (18ga) 33ksi | 240 | 1680 | 1680 | 460 |
| | 54mils (16ga) 50ksi | 240 | 2000 | 2315 | 885 |
| | 68mils (14ga) 50ksi | 240 | 2000 | 2315 | 885 |
| | 97mils (12ga) 50ksi | 240 | 2000 | 2315 | 885 |
| UBC10-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 245 |
| | 43mils (18ga) 33ksi | 225 | 1680 | 1680 | 360 |
| | 54mils (16ga) 50ksi | 225 | 2000 | 2055 | 690 |
| | 68mils (14ga) 50ksi | 225 | 2000 | 2055 | 690 |
| | 97mils (12ga) 50ksi | 225 | 2000 | 2055 | 690 |
| UBC12-97 97mils (12ga) | 33mils (20ga) 33ksi | 190 | 1130 | 1130 | 200 |
| | 43mils (18ga) 33ksi | 195 | 1680 | 1680 | 295 |
| | 54mils (16ga) 50ksi | 195 | 2000 | 2055 | 605 |
| | 68mils (14ga) 50ksi | 195 | 2000 | 2055 | 630 |
| | 97mils (12ga) 50ksi | 195 | 2000 | 2055 | 630 |



Notes:

- 1 Allowable Loads (ASD) have not been increased for the wind, seismic, or other factors.
- 2 Nominal or LRFD loads are available upon request.
- 3 Listed capacities are based on the maximum screw pattern. For maximum screw pattern for a Rigid Clip, fill screws in (6) round holes.
- 4 For 12ga Rigid clip, (6) #12-14 screws shall be installed in the pilot holes. For 14ga Rigid clip, (6) #10-16 screws shall be installed in the pilot holes.
- 5 0.157" Hilti X-U PAFs shall be used for attachment to steel structure. (4) Fastener configuration shall be used. PAFs should be placed at indentations scribed on the short leg of the UBC clip.
- 6 Capacities considered for Hilti PAFs are based on fastener strengths listed in ICC ESR-2269.
- 7 It is the responsibility of the design professional to verify that the connection design meets the requirements of the intended application.
- 8 An 1/8-in service deflection load limit was applied to clips resisting F2, F3 and F4 loads. In accordance with ICC AC 261, service deflection limit was not applied to clips resisting F1 loads.



12ga Clip: (6) #12-14 Screws

14ga Clip: (6) #10-16 Screws

Shown in a UBC6 Clip

SwiftClip™ L-Series™ Support Clip

Support for the most demanding applications.

SwiftClip™ L-Series™ support clips are used in multiple construction projects, specifically in conjunction with structural studs and track. The L-shaped clips fit between the stud flanges, so that shorter length clips do not need to be ordered. These labor time-savers include prepunched holes for quicker screw attachments, and are punched to accommodate for CRC lateral bracing connections.

ALTERNATIVE PRODUCTS

EasyClip™ E-Series™ Support Clip
 EasyClip S-Series™ Support Clip
 EasyClip U-Series™ Clip Angle
 FastBridge™ Clip
 EasyClip X-Series™ Clip Angle
 EasyClip A-Series™ End Clip

PRODUCT DIMENSIONS

See chart below for available sizes.

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

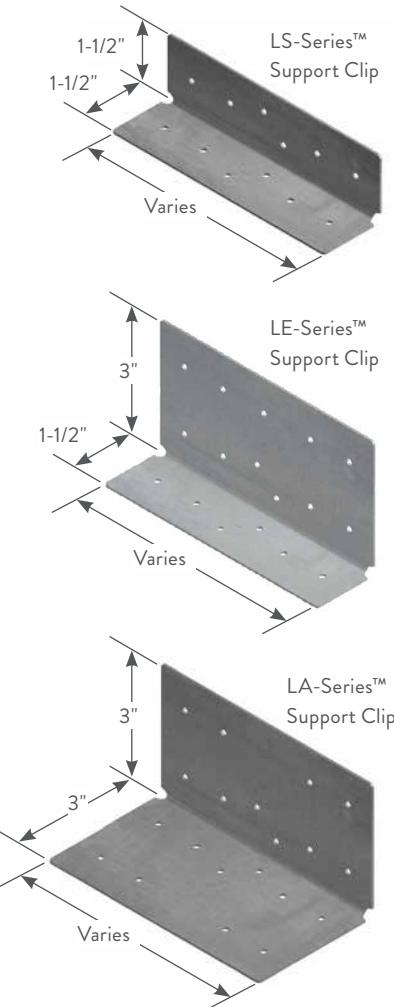
Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

SwiftClip™ L-Series™ Support Clip

| Product code | Thickness | | Size (in) | Common application | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|------------------------|----------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | | |
| LS543 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 3-1/4 | CRC/Openings | 300 |
| LS683 | 68mils (14ga) | 0.0713 | | Openings | 300 |
| LS973 | 97mils (12ga) | 0.1017 | | Openings | 200 |
| LS545 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 5-1/2 | CRC/Openings/Joists | 200 |
| LS685 | 68mils (14ga) | 0.0713 | | Openings/Joists | 200 |
| LS975 | 97mils (12ga) | 0.1017 | | Openings/Joists | 100 |
| LS547 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 7-1/4 | CRC/Openings/Joists | 150 |
| LS687 | 68mils (14ga) | 0.0713 | | Openings/Joists | 100 |
| LS977 | 97mils (12ga) | 0.1017 | | Openings/Joists | 100 |
| LS549 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 9-1/4 | Joists | 100 |
| LS689 | 68mils (14ga) | 0.0713 | | Joists | 100 |
| LS979 | 97mils (12ga) | 0.1017 | | Joists | 50 |
| LS541 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 11-1/4 | Joists | 100 |
| LS681 | 68mils (14ga) | 0.0713 | | Joists | 50 |
| LS971 | 97mils (12ga) | 0.1017 | | Joists | 50 |
| LS5413 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 13-1/4 | Joists | 50 |
| LS6813 | 68mils (14ga) | 0.0713 | | Joists | 50 |
| LS9713 | 97mils (12ga) | 0.1017 | | Joists | 25 |
| LE543 | 54mils (16ga) | 0.0566 | 1-1/2 x 3 x 3-1/4 | Fixed/Joists/Trusses | 100 |
| LE683 | 68mils (14ga) | 0.0713 | | Fixed/Joists/Trusses | 100 |
| LE973 | 97mils (12ga) | 0.1017 | | Fixed/Joists/Trusses | 50 |
| LE545 | 54mils (16ga) | 0.0566 | 1-1/2 x 3 x 5-1/2 | Fixed/Joists/Trusses | 100 |
| LE685 | 68mils (14ga) | 0.0713 | | Fixed/Joists/Trusses | 100 |
| LE975 | 97mils (12ga) | 0.1017 | | Fixed/Joists/Trusses | 50 |
| LE547 | 54mils (16ga) | 0.0566 | 1-1/2 x 3 x 7-1/4 | Fixed/Joists/Trusses | 100 |
| LE687 | 68mils (14ga) | 0.0713 | | Fixed/Joists/Trusses | 50 |
| LE977 | 97mils (12ga) | 0.1017 | | Fixed/Joists/Trusses | 50 |
| LA543 | 54mils (16ga) | 0.0566 | 3 x 3 x 3-1/4 | Joists/Trusses | 100 |
| LA683 | 68mils (14ga) | 0.0713 | | Joists/Trusses | 100 |
| LA973 | 97mils (12ga) | 0.1017 | | Joists/Trusses | 50 |
| LA545 | 54mils (16ga) | 0.0566 | 3 x 3 x 5-1/2 | Joists/Trusses | 100 |
| LA685 | 68mils (14ga) | 0.0713 | | Joists/Trusses | 50 |
| LA975 | 97mils (12ga) | 0.1017 | | Joists/Trusses | 50 |
| LA547 | 54mils (16ga) | 0.0566 | 3 x 3 x 7-1/4 | Joists/Trusses | 50 |
| LA687 | 68mils (14ga) | 0.0713 | | Joists/Trusses | 50 |
| LA977 | 97mils (12ga) | 0.1017 | | Joists/Trusses | 50 |

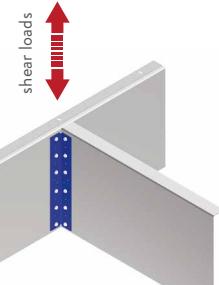


Allowable Shear Load Table

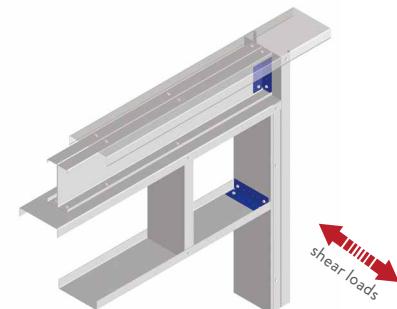
| Product code | No. of screws/leg | Stud Thickness (Yield Strength) | | | | |
|--------------|-------------------|---------------------------------|---------------------|---------------------|---------------------|---------------------|
| | | 20ga (33mils) 33ksi | 18ga (43mils) 33ksi | 16ga (54mils) 50ksi | 14ga (68mils) 50ksi | 12ga (97mils) 50ksi |
| LS543 | 2 | 294 | 438 | 777 | 777 | 777 |
| | 4 | 437 | 651 | 1154 | 1154 | 1154 |
| LS683 | 2 | 294 | 438 | 777 | 777 | 777 |
| | 4 | 437 | 651 | 1154 | 1154 | 1154 |
| LS973 | 2 | 294 | 438 | 777 | 777 | 777 |
| | 4 | 437 | 651 | 1154 | 1154 | 1154 |
| LS545 | 2 | 333 | 496 | 880 | 880 | 880 |
| | 4 | 619 | 921 | 1635 | 1635 | 1635 |
| LS685 | 2 | 333 | 496 | 880 | 880 | 880 |
| | 4 | 619 | 921 | 1635 | 1635 | 1635 |
| LS975 | 2 | 333 | 496 | 880 | 880 | 880 |
| | 4 | 619 | 921 | 1635 | 1635 | 1635 |
| LS547 | 4 | 651 | 968 | 1718 | 1718 | 1718 |
| | 6 | 966 | 1438 | 2551 | 2551 | 2551 |
| LS687 | 4 | 651 | 968 | 1718 | 1718 | 1718 |
| | 6 | 966 | 1438 | 2551 | 2551 | 2551 |
| LS977 | 4 | 651 | 968 | 1718 | 1718 | 1718 |
| | 6 | 966 | 1438 | 2551 | 2551 | 2551 |
| LS549 | 4 | 670 | 997 | 1768 | 1768 | 1768 |
| | 6 | 1007 | 1498 | 2658 | 2658 | 2658 |
| LS689 | 4 | 670 | 997 | 1768 | 1768 | 1768 |
| | 6 | 1007 | 1498 | 2658 | 2658 | 2658 |
| LS979 | 4 | 670 | 997 | 1768 | 1768 | 1768 |
| | 6 | 1007 | 1498 | 2658 | 2658 | 2658 |
| LS541 | 4 | 681 | 1013 | 1798 | 1798 | 1798 |
| | 6 | 1013 | 1508 | 2675 | 2675 | 2675 |
| LS681 | 4 | 681 | 1013 | 1798 | 1798 | 1798 |
| | 6 | 1013 | 1508 | 2675 | 2675 | 2675 |
| LS971 | 4 | 681 | 1013 | 1798 | 1798 | 1798 |
| | 6 | 1013 | 1508 | 2675 | 2675 | 2675 |
| LS5413 | 4 | 688 | 1024 | 1816 | 1816 | 1816 |
| | 6 | 1020 | 1518 | 2694 | 2694 | 2694 |
| LS6813 | 4 | 688 | 1024 | 1816 | 1816 | 1816 |
| | 6 | 1020 | 1518 | 2694 | 2694 | 2694 |
| LS9713 | 4 | 688 | 1024 | 1816 | 1816 | 1816 |
| | 6 | 1020 | 1518 | 2694 | 2694 | 2694 |

Notes:

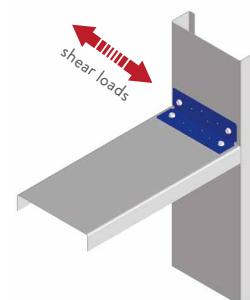
- Shear values for clips are based on attachment to cold-formed steel members. Attachment to other substrates must be designed separately.
- Place the first two screws in each leg in the outermost screw holes. Place the next two screws (if needed) in center holes next to the CRC holes (diagonal). The next screws (if needed) are placed moving from the outermost holes toward the center, symmetrically.
- Shear values are based on the tilting bearing modes of failure Eq. E4.3.1-1, E4.3.1-2.4. Allowable screw shear is based on a factor of safety of 3.0. #10 screws (0.19" min. diameter) must have minimum ultimate shear strength of 1400 lbs.
- Screws must have three threads exposed after installation.
- It is the responsibility of the design engineer to detail the attachment of clips and verify their capacity meets the application. This table is intended for use by qualified engineers.
- For technical assistance or additional load charts, contact ClarkDietrich at 888-437-3244.



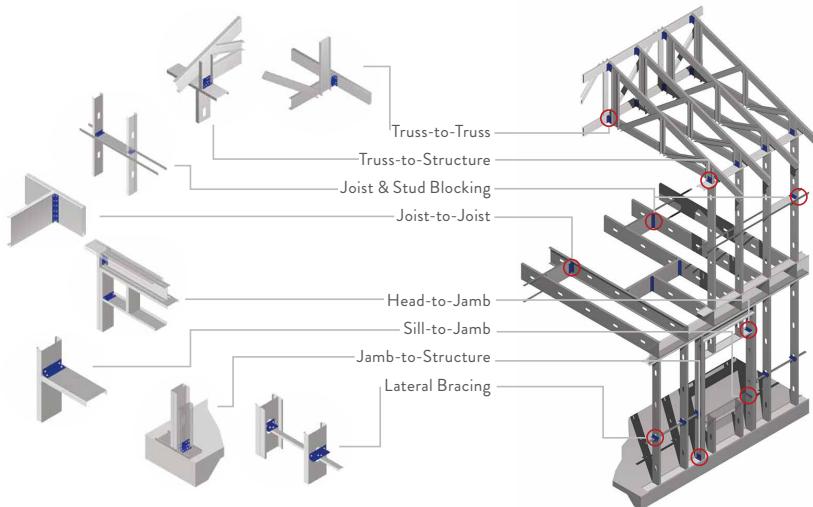
Joist-to-Joist Connections



Head-to-Jamb Connections



Sill-to-Jamb Connections



Extended SwiftClip™ LE-Series

Used in rigid attachments of wall studs to the structure.

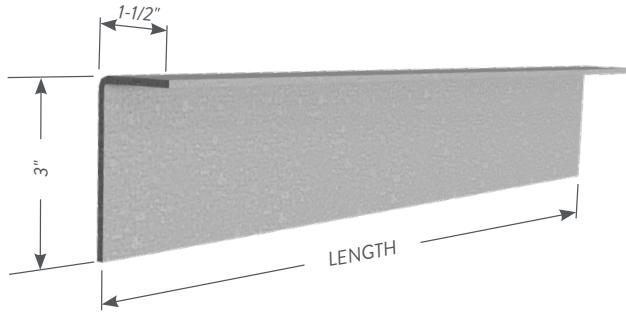
ClarkDietrich's Extended SwiftClip™ LE-Series rigid framing clip is used to attach exterior wall studs to the structure of the building. Designed to resist horizontal and vertical loads, the extended rigid clips install easily with screws, powder-actuated fasteners, or welds. This clip is ideal for all medium and large standoff conditions. These clips are unpunched as the specific application will determine the appropriate number and placement of fasteners.

INSTALLATION

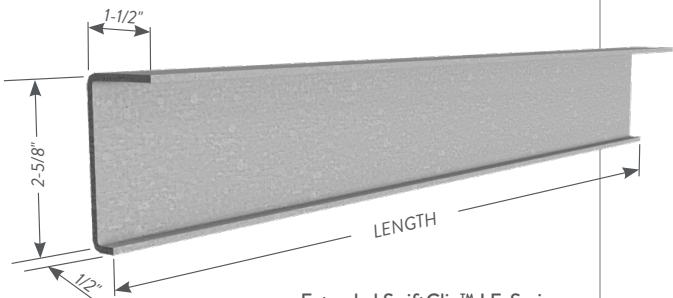
Extended SwiftClip™ LE-Series are attached to cold-formed steel framing members using #10 minimum self-drilling screws. Clips can also be welded to the cold-formed steel framing. Connections to the building frame can be made with powder-actuated fasteners, drill-in concrete anchors or welding. The appropriate type, number and placement of fasteners need to be determined by a design professional and engineer of record.

PRODUCT DIMENSIONS

- 1-1/2" x 3" legs for up to 20" long clips
- 1-1/2" x 2-5/8" legs + 1/2" return for clips longer than 20"
- All clips: 68 mils (14 gauge) 50ksi, CP90
- LE-Series clips are unpunched
- Lengths available: 16", 18", 20", 24", 30", 36"



Extended SwiftClip™ LE-Series
Profile for clips up to 20" long



Extended SwiftClip™ LE-Series
Profile for clips longer than 20"

Extended SwiftClip™ LE-Series

| Product code | Thickness | | Size (in) | Packaging Pcs./Box |
|--------------|---------------|-----------------------|-----------------------|--------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| LE6816 | | | 1-1/2" x 3" x 16" | |
| LE6818 | 68mils (14ga) | 0.0713 | 1-1/2" x 3" x 18" | 10 |
| LE6820 | | | 1-1/2" x 3" x 20" | |
| LE6824 | | | 1-1/2" x 2-5/8" x 24" | |
| LE6830 | 68mils (14ga) | 0.0713 | 1-1/2" x 2-5/8" x 30" | 10 |
| LE6836 | | | 1-1/2" x 2-5/8" x 36" | |

Extended SwiftClip™ LE-Series Allowable Loads

| Product code | Gross Section Properties | | | | | | | | |
|----------------------------|--------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------|---------------------|-----------|-----------|
| | Area (in ²) | I _x (in ⁴) | I _y (in ⁴) | S _x (in ³) | S _y (in ³) | r _x (in) | r _y (in) | x(c) (in) | y(c) (in) |
| Extended SwiftClip™ < 20in | 0.311 | 0.304 | 0.056 | 0.155 | 0.046 | 0.988 | 0.424 | 0.281 | 1.04 |
| Extended SwiftClip™ > 20in | 0.311 | 0.282 | 0.054 | 0.176 | 0.054 | 0.952 | 0.418 | 0.307 | 1.02 |

Notes:

- 1 Extended SwiftClip™ LE-Series intended for axial compression and tension loading.
- 2 I_x, I_y are the gross moment of inertia about the X-axis and Y-axis, respectively.
- 3 S_x, S_y are the section modulus about the X-axis and Y-axis, respectively.
- 4 r_x, r_y are the radius of gyration about the X-axis and Y-axis, respectively.
- 5 x(c), y(c) are the distances of the centroid to the X-axis and Y-axis attachment planes.



EasyClip™ U-Series™ Clip Angle

Secures U-channel (cold-rolled channel) to framing members for lateral bridging, miscellaneous rigid connections, and multipurpose reinforcing supports.

ClarkDietrich EasyClip™ U-Series™ clip angles are used to secure U-channel to wall studs for lateral bridging or for miscellaneous rigid connections. U-channel is passed through the stud knockout and an EasyClip U-Series clip is screw-attached or welded to provide a rigid connection. Available in a variety of lengths and gauges, EasyClip U-Series clips are prepunched for faster and more accurate fastener placement. U-Series clip angles and U-channel should not be used in bridging applications when the stud width exceeds 6".

ALTERNATIVE PRODUCTS

FastBridge™ Clip

EasyClip™ X-Series™ Clip Angle

SwiftClip™ LS-Series™ Support Clip

Spazzer® 5400 and Spazzer® 9200 Spacer Bars

PRODUCT DIMENSIONS

1-1/2" x 1-1/2" x 3-3/8"

1-1/2" x 1-1/2" x 5-3/4"

1-1/2" x 1-1/2" x 7-3/4"

1-1/2" x 1-1/2" x 9-3/4"

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

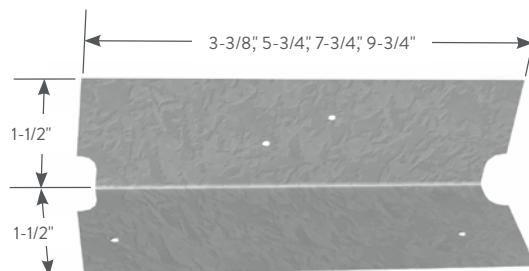


INSTALLATION

U-channel is inserted into the stud punchout (as specified by design) and rotated into place. U-Series clip angles are attached horizontally to the outside or hard side of the cold-formed steel (CFS) framing members. The clip must be firmly seated against the web of the U-channel. The clip should not be more than 1/4" less than the cold-formed framing member. U-Series clips are fastened using #10 minimum self-drilling screws driven through the clip holes into the steel framing. Clips may also be welded to the CFS framing.

EasyClip™ U-Series™ Clip Angles

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|-----------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| U543 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 3-3/8 | 400 |
| U545 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 5-3/4 | 200 |
| U547 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 7-3/4 | 100 |
| U549 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 9-3/4 | 100 |
| U683 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 3-3/8 | 200 |
| U685 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 5-3/4 | 170 |
| U687 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 7-3/4 | 100 |
| U689 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 9-3/4 | 100 |
| U973 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 3-3/8 | 200 |
| U975 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 5-3/4 | 130 |
| U977 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 7-3/4 | 100 |
| U979 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 9-3/4 | 80 |



EasyClip U-Series Clip Angle

EasyClip™ S-Series™ Support Clip

For rigid connection applications not requiring a long leg.

ClarkDietrich EasyClip™ S-Series™ support clips are commonly used for rigid connections in window and door framing, joist, bypass or other miscellaneous connections to secure one framing member to another, or to secure framing members to the structural frame. This high-performance, multi-use utility clip is ideal for corner reinforcements, stair openings, and numerous support applications. Available in a variety of lengths and gauges, EasyClip S-Series clips are prepunched for faster and more accurate fastener placement.

ALTERNATIVE PRODUCTS

EasyClip™ U-Series™ Clip Angle

EasyClip X-Series™ Clip Angle

EasyClip D-Series™ Anchor Clip

SwiftClip™ LS-Series™ Support Clip

PRODUCT DIMENSIONS

1-1/2" x 1-1/2" x 3"

1-1/2" x 1-1/2" x 5"

1-1/2" x 1-1/2" x 7"

1-1/2" x 1-1/2" x 9"

1-1/2" x 1-1/2" x 11"

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

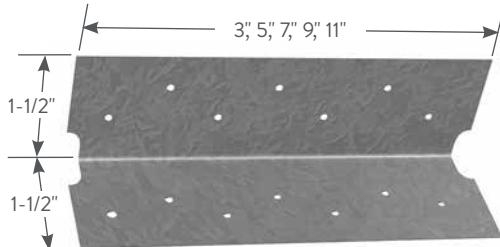
Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

INSTALLATION

EasyClip S-Series support clips are attached to the cold-formed steel (CFS) framing members using #10 minimum self-drilling screws driven through the clip holes into the steel framing. When not filling all holes, install fasteners symmetrically starting at the top and bottom edges and move toward the center of the clip. Clip can also be welded to the CFS framing. Connections to the building frame can be made with powder-actuated fasteners, drill-in concrete anchors or welding. When using the tabular values for a welded clip, provide a full weld to the structure, top to bottom, along the outside of the clip. A 3/4" minimum weld on the outside edge of the 1-1/2" leg is also required to control warping or to hold the clip in place before final welding.



EasyClip S-Series Support Clip

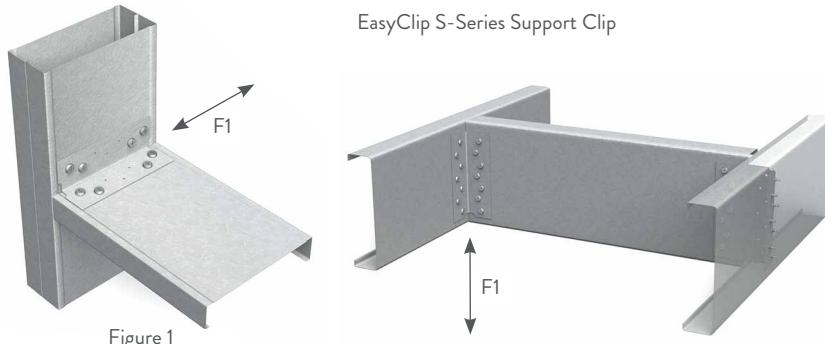
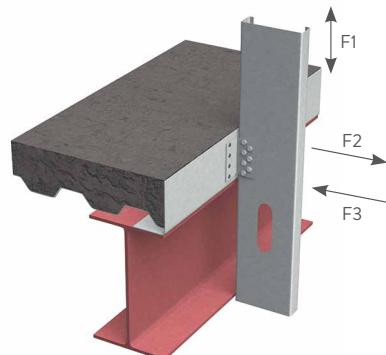


Figure 1



EasyClip™ S-Series™ Support Clips

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|--------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| S543 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 3 | 400 |
| S545 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 5 | 200 |
| S547 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 7 | 100 |
| S549 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 9 | 100 |
| S541 | 54mils (16ga) | 0.0566 | 1-1/2 x 1-1/2 x 11 | 100 |
| S683 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 3 | 200 |
| S685 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 5 | 200 |
| S687 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 7 | 100 |
| S689 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 9 | 100 |
| S681 | 68mils (14ga) | 0.0713 | 1-1/2 x 1-1/2 x 11 | 100 |
| S973 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 3 | 200 |
| S975 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 5 | 150 |
| S977 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 7 | 100 |
| S979 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 9 | 80 |
| S971 | 97mils (12ga) | 0.1017 | 1-1/2 x 1-1/2 x 11 | 70 |

EasyClip™ S-Series™ Support Clips Allowable Clip Capacities (lbs)

USING #10-16
SELF-DRILLING SCREWS

| Clip | No. of screws to steel framing (1) | Stud Thickness and Yield Strength | | | | | | | | |
|------|------------------------------------|-----------------------------------|-------------|------|---------------------|-------------|------|---------------------|-------------|------|
| | | 20ga (33mils) 33ksi | | | 18ga (43mils) 33ksi | | | 16ga (54mils) 50ksi | | |
| | | F1 | F2 | F3 | F1 | F2 | F3 | F1 | F2 | F3 |
| S543 | 3 | 295 (295) | 210 (531) | 531 | 437 (437) | 210 (788) | 788 | 777 (555) | 210 (1195) | 1400 |
| S545 | 2 | 317 (317) | 354 (354) | 354 | 470 (470) | 371 (525) | 525 | 835 (835) | 371 (933) | 933 |
| | 5 | 651 (651) | 371 (885) | 885 | 965 (965) | 371 (1313) | 1313 | 1716 (1460) | 371 (2105) | 2333 |
| S547 | 4 | 653 (653) | 531 (708) | 708 | 969 (969) | 531 (1050) | 1050 | 1722 (1722) | 531 (1867) | 1867 |
| | 7 | 1029 (1029) | 531 (1239) | 1239 | 1526 (1526) | 531 (1838) | 1838 | 2712 (2456) | 531 (3015) | 3267 |
| S549 | 4 | 679 (679) | 692 (708) | 708 | 1007 (1007) | 692 (1050) | 1050 | 1790 (1790) | 692 (1867) | 1867 |
| | 9 | 1408 (1408) | 692 (1593) | 1593 | 2090 (2090) | 692 (2363) | 2363 | 3714 (3452) | 692 (3925) | 4200 |
| S541 | 6 | 1015 (1015) | 852 (1062) | 1062 | 1505 (1505) | 852 (1576) | 1576 | 2675 (2675) | 852 (2800) | 2800 |
| | 11 | 1785 (1785) | 852 (1947) | 1947 | 2648 (2648) | 852 (2889) | 2889 | 4706 (4432) | 852 (4835) | 5133 |
| S683 | 3 | 295 (295) | 333 (531) | 531 | 437 (437) | 333 (788) | 788 | 777 (699) | 333 (1400) | 1400 |
| | 2 | 317 (317) | 354 (354) | 354 | 470 (470) | 525 (525) | 525 | 835 (835) | 587 (933) | 933 |
| S685 | 5 | 651 (651) | 587 (885) | 885 | 965 (965) | 587 (1313) | 1313 | 1716 (1716) | 587 (2333) | 2333 |
| | 4 | 653 (653) | 708 (708) | 708 | 969 (969) | 841 (1050) | 1050 | 1722 (1722) | 841 (1867) | 1867 |
| S687 | 7 | 1029 (1029) | 841 (1239) | 1239 | 1526 (1526) | 841 (1838) | 1838 | 2712 (2712) | 841 (3267) | 3267 |
| | 4 | 679 (679) | 708 (708) | 708 | 1007 (1007) | 1050 (1050) | 1050 | 1790 (1790) | 1095 (1867) | 1867 |
| S689 | 9 | 1408 (1408) | 1095 (1593) | 1593 | 2090 (2090) | 1095 (2363) | 2363 | 3714 (3714) | 1095 (4200) | 4200 |
| | 6 | 1015 (1015) | 1062 (1062) | 1062 | 1505 (1505) | 1349 (1576) | 1576 | 2675 (2675) | 1349 (2800) | 2800 |
| S681 | 11 | 1785 (1785) | 1349 (1947) | 1947 | 2648 (2648) | 1349 (2889) | 2889 | 4706 (4706) | 1349 (5133) | 5133 |
| | 3 | 295 (295) | 531 (531) | 531 | 437 (437) | 679 (788) | 788 | 777 (777) | 679 (1400) | 1400 |
| S975 | 2 | 317 (317) | 354 (354) | 354 | 470 (470) | 525 (525) | 525 | 835 (835) | 933 (933) | 933 |
| | 5 | 651 (651) | 885 (885) | 885 | 965 (965) | 1196 (1313) | 1313 | 1716 (1716) | 1196 (2333) | 2333 |
| S977 | 4 | 653 (653) | 708 (708) | 708 | 969 (969) | 1050 (1050) | 1050 | 1722 (1722) | 1713 (1867) | 1867 |
| | 7 | 1029 (1029) | 1239 (1239) | 1239 | 1526 (1526) | 1713 (1838) | 1838 | 2712 (2712) | 1713 (3267) | 3267 |
| S979 | 4 | 679 (679) | 708 (708) | 708 | 1007 (1007) | 1050 (1050) | 1050 | 1790 (1790) | 1867 (1867) | 1867 |
| | 9 | 1408 (1408) | 1593 (1593) | 1593 | 2090 (2090) | 2229 (2363) | 2363 | 3714 (3714) | 2229 (4200) | 4200 |
| S971 | 6 | 1015 (1015) | 1062 (1062) | 1062 | 1505 (1505) | 1576 (1576) | 1576 | 2675 (2675) | 2746 (2800) | 2800 |
| | 11 | 1785 (1785) | 1947 (1947) | 1947 | 2648 (2648) | 2746 (2889) | 2889 | 4706 (4706) | 2746 (5133) | 5133 |

Notes:

Screw Capacity Notes:

- The tabulated value indicates the number of screws in a single clip leg attached to the cold-formed steel (CFS) framing.
- Screws shall be attached in a symmetric manner, starting at the outside holes and moving to the center. Reference Figure 1 on opposite page.
- The allowable values for F1 are based only on the shear capacity of the clip leg attached to the CFS framing. The capacity of the attachment to other materials and structures must be checked separately.
- The allowable values for F2 assume mechanical fasteners are attached to the structure, and are along the vertical centerline of the clip leg. Mechanical fasteners to other materials and structures must be checked separately.
- The screw diameter must be 0.19" (min.) for #10 screws.
- The ultimate screw shear strength must be a minimum of 1400 lbs for #10 screws.
- When clips have combinations of F1, F2, and F3, use a linear interaction for combinations of F1 and F2, and a squared interaction for combinations of F1 and F2.

8 Screws must be long enough so that at least three exposed threads are visible after installation.

9 Allowable loads have not been increased 33% for wind or seismic.

10 For connections made to 14 gauge (68mils) and 12 gauge (97mils), use the tabulated values for 16 gauge (54mils), 50ksi.

11 It is the responsibility of the design professional to detail the drawings for proper clip attachment.

12 Contact ClarkDietrich at 888-437-3244 for technical assistance.

Weld Capacity Notes:

- F1 and F2 values in parentheses are maximum shear and tension capacities when the clips are welded to the base structure (min 3/16" – 36ksi steel).
- Listed weld capacities are computed assuming an E70XX welding rod or wire.
- The clips are to be welded to the structure along the back corner and along the complete length of the clip. When secondary welds are used to hold the clip in place, they are not used in capacity calculations.

EasyClip™ A-Series™ End Clip

For knee-wall connections or to reinforce jamb stud connections at the primary frame.

ClarkDietrich EasyClip™ A-Series™ end clips are most commonly used to reinforce connections in knee-wall applications or to reinforce jamb stud connections to the primary frame. These clips are unpunched as the specific application will determine the appropriate number and placement of fasteners.

ALTERNATIVE PRODUCTS

EasyClip™ D-Series™ Anchor Clip
EasyClip T-Series™ Tall Anchor Clip
SwiftClip™ LA-Series™ Support Clip

PRODUCT DIMENSIONS

3" x 3" x 3"
3" x 3" x 6"

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)
Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)
Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)
Design Thickness: 0.1017 inches

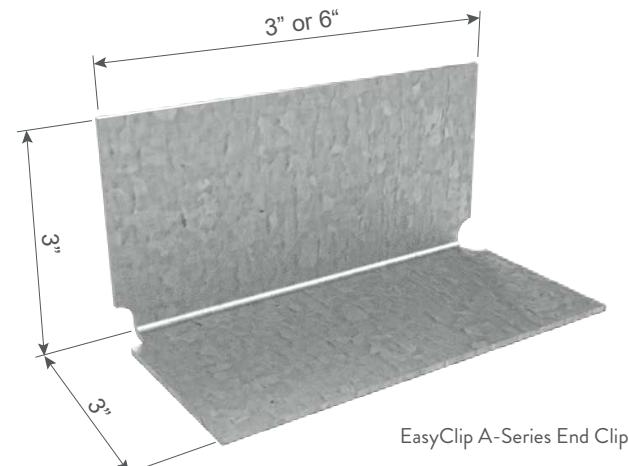
Coating: G90
Yield Strength: 50ksi
ASTM: A653/A653M

EasyClip™ A-Series™ End Clips

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|-----------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| A543 | 54mils (16ga) | 0.0566 | 3 x 3 x 3 | 100 |
| A546 | 54mils (16ga) | 0.0566 | 3 x 3 x 6 | 100 |
| A683 | 68mils (14ga) | 0.0713 | 3 x 3 x 3 | 100 |
| A686 | 68mils (14ga) | 0.0713 | 3 x 3 x 6 | 100 |
| A973 | 97mils (12ga) | 0.1017 | 3 x 3 x 3 | 100 |
| A976 | 97mils (12ga) | 0.1017 | 3 x 3 x 6 | 50 |

INSTALLATION

EasyClip A-Series end clips are attached to cold-formed steel (CFS) framing members using #10 minimum self-drilling screws. Clips can also be welded to the CFS framing. Connections to the building frame can be made with powder-actuated fasteners, drill-in concrete anchors or welding. When using the tabular values for a welded clip, provide a full weld to the structure, top to bottom, along the outside of the clip. A 3/4" minimum weld to the outside edge of the 3" leg is also recommended to control warping or to hold the clip in place before final welding.



EasyClip A-Series End Clip

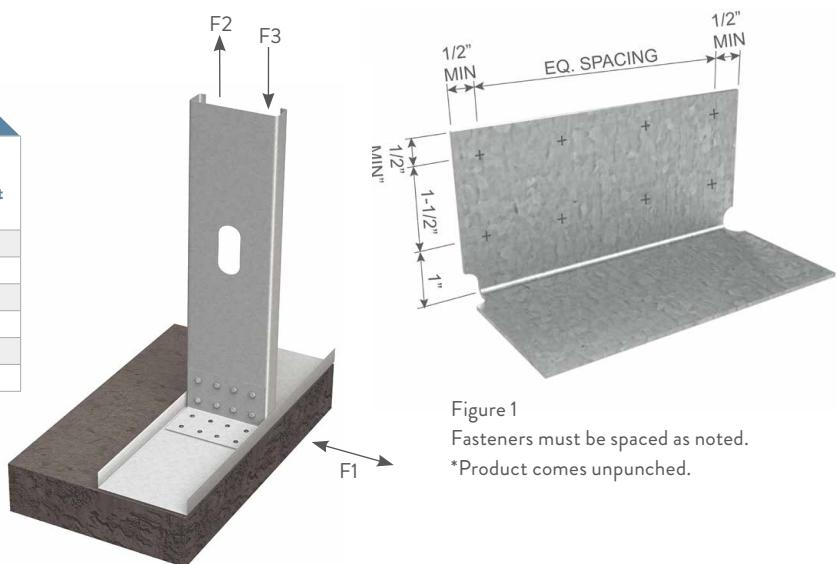


Figure 1

Fasteners must be spaced as noted.

*Product comes unpunched.

USING #10-16
SELF-DRILLING SCREWS

EasyClip™ A-Series™ End Clips Allowable Clip Capacities (lbs)

| Clip | No. of screws to steel framing (1) | Stud Thickness and Yield Strength | | | | | | | | |
|------|---------------------------------------|-----------------------------------|------------|------|---------------------|------------|------|---------------------|------------|------|
| | | 20ga (33mils) 33ksi | | | 18ga (43mils) 33ksi | | | 16ga (54mils) 50ksi | | |
| | | F1 | F2 | F3 | F1 | F2 | F3 | F1 | F2 | F3 |
| A543 | 4 | 354 (354) | 120 (708) | 708 | 525 (375) | 120 (1050) | 1050 | 775 (375) | 120 (1365) | 1381 |
| | 6 | 531 (375) | 120 (1062) | 1062 | 775 (375) | 120 (1365) | 1381 | 775 (375) | 120 (1365) | 1381 |
| A546 | 6 | 531 (531) | 241 (1062) | 1062 | 788 (788) | 241 (1576) | 1576 | 1400 (1355) | 241 (2730) | 2800 |
| | 8 | 708 (708) | 241 (1416) | 1416 | 1050 (1050) | 241 (2101) | 2101 | 1867 (1355) | 241 (2730) | 3452 |
| | 10 | 885 (885) | 241 (1770) | 1770 | 1313 (1313) | 241 (2626) | 2626 | 2333 (1355) | 241 (2730) | 3452 |
| | 12 | 1062 (1062) | 241 (2124) | 2124 | 1576 (1355) | 241 (2730) | 3151 | 2634 (1355) | 241 (2730) | 3452 |
| A683 | 4 | 354 (354) | 190 (708) | 708 | 525 (472) | 190 (1050) | 1050 | 933 (472) | 190 (1718) | 1867 |
| | 6 | 531 (472) | 190 (1062) | 1062 | 788 (472) | 190 (1576) | 1576 | 1149 (472) | 190 (1718) | 2353 |
| A686 | 6 | 531 (531) | 381 (1062) | 1062 | 788 (788) | 381 (1576) | 1576 | 1400 (1400) | 381 (2800) | 2800 |
| | 8 | 708 (708) | 381 (1416) | 1416 | 1050 (1050) | 381 (2101) | 2101 | 1867 (1705) | 381 (3436) | 3733 |
| | 10 | 885 (885) | 381 (1770) | 1770 | 1313 (1313) | 381 (2626) | 2626 | 2333 (1705) | 381 (3436) | 4667 |
| | 12 | 1062 (1062) | 381 (2124) | 2124 | 1576 (1576) | 381 (3151) | 3151 | 2800 (1705) | 381 (3436) | 5600 |
| A973 | 4 | 354 (354) | 388 (708) | 708 | 525 (525) | 388 (1050) | 1050 | 933 (673) | 388 (1867) | 1867 |
| | 6 | 531 (531) | 388 (1062) | 1062 | 788 (673) | 388 (1576) | 1576 | 1400 (673) | 388 (2451) | 2800 |
| A976 | 6 | 531 (531) | 775 (1062) | 1062 | 788 (788) | 775 (1576) | 1576 | 1400 (1400) | 775 (2800) | 2800 |
| | 8 | 708 (708) | 775 (1416) | 1416 | 1050 (1050) | 775 (2101) | 2101 | 1867 (1867) | 775 (3733) | 3733 |
| | 10 | 885 (885) | 775 (1770) | 1770 | 1313 (1313) | 775 (2626) | 2626 | 2333 (2333) | 775 (4667) | 4667 |
| | 12 | 1062 (1062) | 775 (2124) | 2124 | 1576 (1576) | 775 (3151) | 3151 | 2800 (2432) | 775 (4903) | 5600 |

Notes:

Screw Capacity Notes:

- 1 The tabulated value indicates the number of screws in a single clip leg attached to the cold-formed steel (CFS) framing.
- 2 Screws shall be attached in a symmetric manner starting at the top and bottom moving to the center, see Figure 1 opposite page.
- 3 The allowable values for F1 are based only on the shear capacity of the clip leg attached to the CFS framing. The capacity of the attachment to other materials and structures must be checked separately.
- 4 The allowable values for F2 assume mechanical fasteners are attached to the structure and are located no more than 1" away from the angle bend. Mechanical fasteners to other materials and structures must be checked separately.
- 5 This table is intended for use by qualified engineers only. It is the responsibility of the engineer to verify that the tabulated values apply to a specific connection application.
- 6 When clips have combinations of F1, F2 and F3, use a linear interaction for combinations of F1 and F3, and a squared interaction for combinations of F1 and F2.

7 Allowable loads have not been increased 33% for wind or seismic.

8 For connections made to 14 gauge (68mils) and 12 gauge (97mils), use the tabulated values for 16 gauge (54mils), 50ksi.

9 It is the responsibility of the design professional to detail the drawings for proper clip attachment.

10 Contact ClarkDietrich at 888-437-3244 for technical assistance.

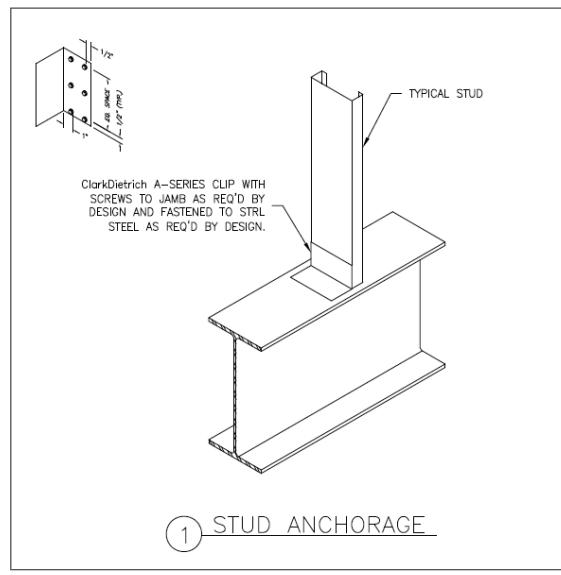
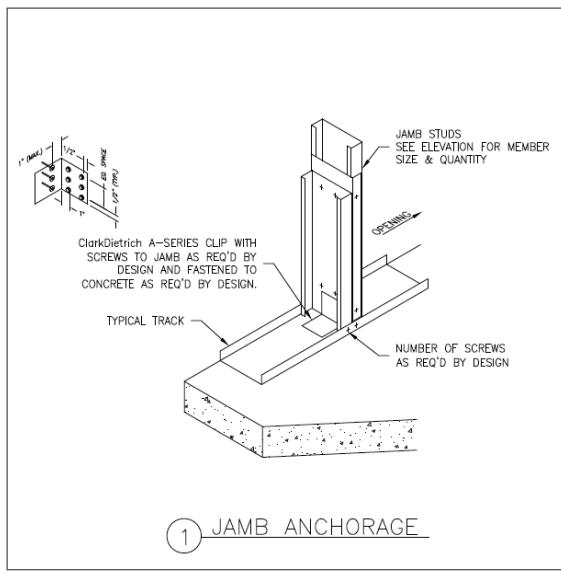
Weld Capacity Notes:

1 F1 and F2 values in parentheses are maximum shear and tension capacities when the clips are welded to the base structure (min. 3/16" – 36ksi steel).

2 Listed weld capacities are computed assuming an E70XX welding rod or wire.

3 The clips are to be welded to the structure along the back corner along the complete length of the clip. When secondary welds are used to hold the clip in place, they are not used in capacity calculations. 3/4" min. secondary weld as required to control warping or to hold clip in place before final welding.

TYPICAL CONSTRUCTION DETAILS



Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

EasyClip™ D-Series™ Anchor Clip/EasyClip™ T-Series™ Tall Anchor Clip

Cost-effective tie-down solutions for knee walls, shearwalls and truss connections.

ClarkDietrich EasyClip™ D-Series™ anchor clips and T-Series™ tall anchor clips are high-performance, cost-effective solutions for knee wall-to-foundation connections, light-duty shearwall-to-foundation connections and truss-to-wall connections. These multi-application clips feature reinforced stiffening ribs that provide superior design values for maximum performance. The EasyClip D-Series anchor clips and T-Series tall anchor clips are designed to resist horizontal, torsional and vertical (uplift) loads. These clips are prepunched with a series of attachment holes including anchor bolt, Kwik-Con and screw holes, for efficient and accurate fastener placement.

ALTERNATIVE PRODUCTS

EasyClip™ A-Series™ End Clip

SwiftClip™ LA-Series™ Support Clip

Uni-Clip™

PRODUCT DIMENSIONS

EasyClip D-Series:

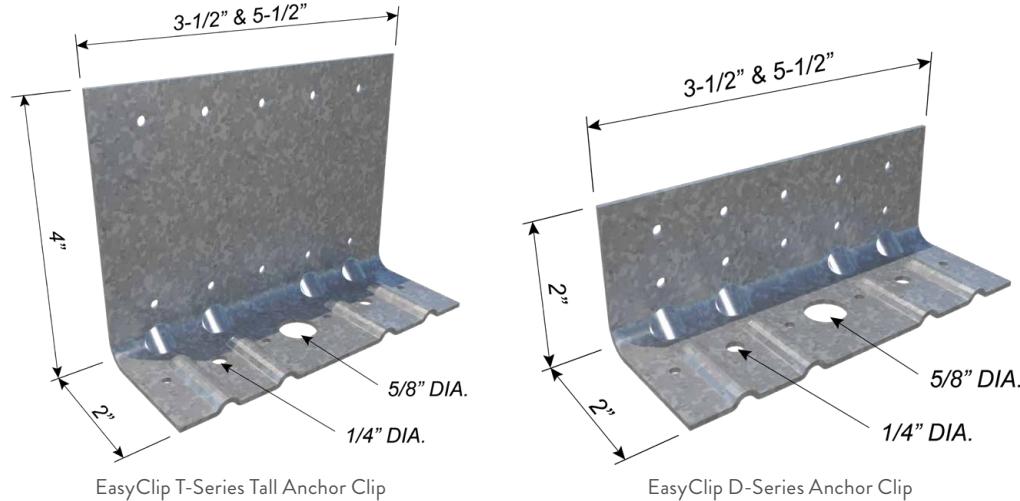
2" x 2" x 3-1/2"

2" x 2" x 5-1/2"

EasyClip T-Series:

2" x 4" x 3-1/2"

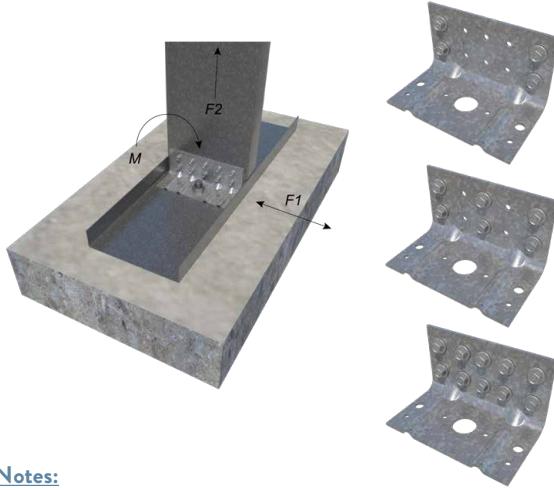
2" x 4" x 5-1/2"



EasyClip™ D-Series™ Anchor Clips and T-Series™ Tall Anchor Clips

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|---------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| D683 | 68mils (14ga) | 0.0713 | 2 x 2 x 3-1/2 | 40 |
| T683 | 68mils (14ga) | 0.0713 | 2 x 4 x 3-1/2 | 40 |
| D685 | 68mils (14ga) | 0.0713 | 2 x 2 x 5-1/2 | 40 |
| T685 | 68mils (14ga) | 0.0713 | 2 x 4 x 5-1/2 | 40 |
| D973 | 97mils (12ga) | 0.1017 | 2 x 2 x 3-1/2 | 40 |
| T973 | 97mils (12ga) | 0.1017 | 2 x 4 x 3-1/2 | 40 |
| D975 | 97mils (12ga) | 0.1017 | 2 x 2 x 5-1/2 | 40 |
| T975 | 97mils (12ga) | 0.1017 | 2 x 4 x 5-1/2 | 40 |

| EasyClip™ D-Series™ Anchor Clips and T-Series™ Tall Anchor Clips | | | | | | | | | ALLOWABLE LOADS (LBS) | | | |
|--|--------------------------------|---------------------|---------------------------------|--------|---------|---------------------|-----|-----|-----------------------|-------------------------|--|--|
| Product code | Stud thickness Mils (Gauge) | Stud Fy (ksi) | F1 (Shear), (lbs) | | | F2 (Tension), (lbs) | | | Kwik-Cons/ screws | 1/2" Dia. Kwik-Bolts | | |
| | | | Number of #10-16 Screws to Stud | | | | | | | | | |
| | | | 4 | 6 | 10 | 4 | 6 | 10 | | | | |
| D683 | 33mils (20ga) | 33 | 374 | 466 | 664* | 444 | 444 | 444 | 1418 | 1068 | | |
| | 43mils (18ga) | 33 | 556 | 692* | 986*# | 444 | 444 | 444 | 1675 | 1068 | | |
| | 54mils (16ga) | 33 | 783* | 974*# | 1389*# | 444 | 444 | 444 | 1675 | 1068 | | |
| | 54mils (16ga) | 50 | 1107*# | 1377*# | 1962*# | 444 | 444 | 444 | 1675 | 1068 | | |
| D973 | 33mils (20ga) | 33 | 374 | 466 | 664 | 560 | 840 | 889 | 1418 | 1418 | | |
| | 43mils (18ga) | 33 | 556 | 692 | 986* | 832 | 889 | 889 | 2107* | 2054 | | |
| | 54mils (16ga) | 33 | 783 | 974* | 1389*# | 889 | 889 | 889 | 2447* | 2054 | | |
| | 54mils (16ga) | 50 | 1107* | 1377*# | 1962*# | 889 | 889 | 889 | 2447* | 2054 | | |
| T683 | 33mils (20ga) | 33 | 280 | 383 | 604 | 444 | 444 | 444 | 1787* | 1106 | | |
| | 43mils (18ga) | 33 | 416 | 569 | 897 | 444 | 444 | 444 | 2072* | 1106 | | |
| | 54mils (16ga) | 33 | 586 | 802* | 1264*# | 444 | 444 | 444 | 2072* | 1106 | | |
| | 54mils (16ga) | 50 | 828* | 1133*# | 1786*# | 444 | 444 | 444 | 2072* | 1106 | | |
| T973 | 33mils (20ga) | 33 | 280 | 383 | 604 | 560 | 840 | 889 | 1787* | 1787 | | |
| | 43mils (18ga) | 33 | 416 | 569 | 897 | 832 | 889 | 889 | 2527* | 2110 | | |
| | 54mils (16ga) | 33 | 586 | 802 | 1264* | 889 | 889 | 889 | 2527* | 2110 | | |
| | 54mils (16ga) | 50 | 828 | 1133* | 1786*# | 889 | 889 | 889 | 2527* | 2110 | | |
| D685 | 33mils (20ga) | 33 | 456 | 599 | 879 | 560 | 698 | 698 | 2019 | 2019 | | |
| | 43mils (18ga) | 33 | 677 | 890 | 1306* | 698 | 698 | 698 | 2865* | 2234 | | |
| | 54mils (16ga) | 33 | 954 | 1254* | 1839*# | 698 | 698 | 698 | 2865* | 2234 | | |
| | 54mils (16ga) | 50 | 1348* | 1772* | 2599*#% | 698 | 698 | 698 | 2865* | 2234 | | |
| D975 | 33mils (20ga) | 33 | 456 | 599 | 879 | 560 | 840 | 889 | 2019 | 2019 | | |
| | 43mils (18ga) | 33 | 677 | 890 | 1306* | 832 | 889 | 889 | 2999* | 2999 | | |
| | 54mils (16ga) | 33 | 954 | 1254* | 1839*# | 889 | 889 | 889 | 3477* | 3167 | | |
| | 54mils (16ga) | 50 | 1348* | 1772* | 2599*#% | 889 | 889 | 889 | 3477* | 3167 | | |
| T685 | 33mils (20ga) | 33 | 337 | 445 | 678 | 560 | 698 | 698 | 2298* | 1968 | | |
| | 43mils (18ga) | 33 | 501 | 661 | 1008* | 698 | 698 | 698 | 3415* | 1968 | | |
| | 54mils (16ga) | 33 | 706 | 931 | 1420* | 698 | 698 | 698 | 3509* | 1968 | | |
| | 54mils (16ga) | 50 | 997* | 1316* | 2006*#% | 698 | 698 | 698 | 3509* | 1968 | | |
| T975 | 33mils (20ga) | 33 | 337 | 445 | 678 | 560 | 840 | 889 | 2298* | 2298 | | |
| | 43mils (18ga) | 33 | 501 | 661 | 1008* | 832 | 889 | 889 | 3415* | 3059 | | |
| | 54mils (16ga) | 33 | 706 | 931 | 1420* | 889 | 889 | 889 | 4416* | 3059 | | |
| | 54mils (16ga) | 50 | 997* | 1316* | 2006*#% | 889 | 889 | 889 | 4416* | 3059 | | |



Notes:

- Capacities listed in the table/notes assume that no load reductions are required for spacing or edge distance of Kwik-Cons, screws, or Kwik-Bolts.
- An “*” in the shear column indicates that the shear capacity is limited to 642 lbs for D683 and T683 clips, 917 lbs for D973 and T973 clips, and 994 lbs for D685, D975, T685, and T975 clips when using 1/4" x 2-1/4" Hilti® Kwik-Cons to 3000psi concrete as shown in Figure 1.
- A “#” in the shear column indicates that the shear capacity is limited to 963 lbs for D683 and T683 clips, 1374 lbs for D973 and T973 clips, and 1816 lbs for D685, D975, T685, and T975 clips when using #12-24 self-tapping screws to 3/16" A36 steel as shown in Figure 2.
- A “%” in the shear column indicates that the shear capacity is limited to 1970 lbs when using 1/2" x 2-1/4" Hilti Kwik-Bolts to 3000psi concrete as shown in Figure 3.
- “*” in the moment column indicates that moment capacity is limited to 1706 in.-lb. for 3" clips, and 2231 in.-lb. for 5" clips when using 1/4" x 1-3/4" Hilti® Kwik-Cons to 3000psi concrete as shown in Figure 1.
- Tabulated moment capacity is limited to a serviceability of 0.02 radians, or 1.1 degrees of rotation at the connection.
- For 20 and 18 gauge studs, the tabulated moment capacity is based on 18 gauge minimum base track, with (1) #10-16 screw at each track leg to stud flange. For 16 gauge and heavier studs, the base track shall be 14 gauge minimum.
- Tabulated moment capacity is based on a stud to clip connection using (6) #10-16 screws.
- For single-bolt connections, rotational restraint must be provided by the base track.
- For 14 gauge (68mils) and 12 gauge (97mils), use the tabulated values for 16 gauge (54mils), 50ksi studs.
- It is the responsibility of the designer to properly detail connections on the contract drawings.
- Use a linear interaction equation for connections involving any combination of F1, F2, and M.
- Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.

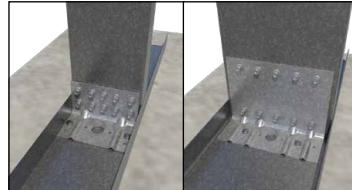


Figure 1 Kwik-Cons

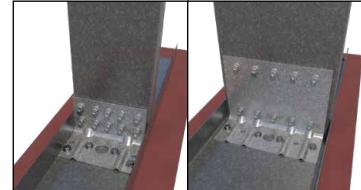


Figure 2 #12-24 screws

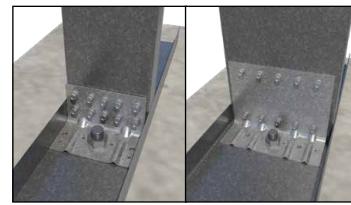


Figure 3 Kwik-Bolts

FastBridge™ Clip

Secures U-channel (cold-rolled channel) framing members for load-bearing or curtain wall applications.

The ClarkDietrich FastBridge clip is used to secure U-Channel or Cold-Rolled Channel (CRC) to structural or non-structural wall studs when used in load-bearing, curtain wall or drywall framing applications. The wall stud friction fit design allows for as little as one screw for the connection to the U-channel.

The FastBridge clip is a stiffened, G90 galvanized steel clip that's tested and designed to facilitate the rapid, efficient installation of 1-1/2" U-channel lateral bracing for exterior curtain wall framing, load-bearing walls or interior partitions constructed of structural or non-structural studs.

- FB33 for use with 20ga-16ga structural studs or ProSTUD® Drywall Studs
- FB43 for use with 20ga-16ga structural studs
- FB68 for use with 16ga-12ga structural studs

MATERIAL SPECIFICATIONS

Gauge: 20 gauge STR (33mils)

Design Thickness: 0.0346 inches

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

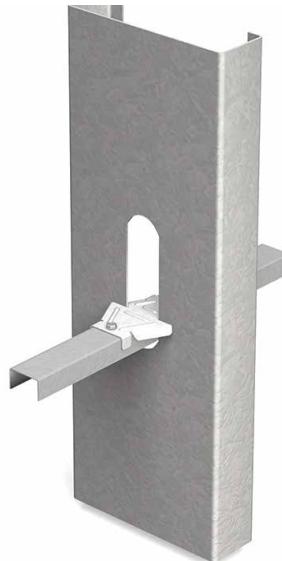
ASTM: A653

ALTERNATIVE PRODUCTS

- Spazzer® 5400 and 9200 Bridging Bar
- U-Channel with SwiftClip™ LS-Series™ Support Clip
- EasyClip™ U-Series™ Clips

INSTALLATION

U-Channel is inserted into the stud punchout (spacing as specified by design) and rotated into place (leg down). Place the FastBridge Clip inside the punchout (stiffened wings down) and twist allowing the friction fit design to hold the clip into place. The clip must be firmly seated over the top web of the U-channel. FastBridge clips are fastened using #10 self-drilling screws driven through the clip hole into the U-channel. More than one screw may be needed depending on design. The FastBridge clip should not be used in studs over 8" wide.



FastBridge™ Clip Angles (FB)

| Product code | Thickness | | | | Knockout size | Packaging pcs./bucket |
|--------------|-------------------|----------------|-----------------------|---------------------|---------------|-----------------------|
| | Mils (Gauge) | Yield strength | Design thickness (in) | Min. thickness (in) | | |
| FB33 | 33mils (20ga STR) | 33ksi | 0.0346 | 0.0329 | 1-1/2" | 200 |
| FB43 | 43mils (18ga) | 50ksi | 0.0451 | 0.0428 | 1-1/2" | 200 |
| FB68 | 68mils (14ga) | 50ksi | 0.0713 | 0.0677 | 1-1/2" | 200 |

U.S. Patent No. D692,746 and Canadian Patent No. 152,547

FastBridge™ Clip Angles (FB43) Allowable Clip Capacities (lbs)

| Product code | No. of screws to steel framing | Stud depth (in) | Allowable connector capacity | Stud Thickness and Yield Strength | | |
|--------------|--------------------------------|-----------------|--------------------------------|-----------------------------------|---------------|---------------|
| | | | | 33mils (20ga) | 43mils (18ga) | 54mils (16ga) |
| FB43 | 1 | 3.625 | Axial Brace Stiffness (lbs/in) | 1140 | 1330 | 2270 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 1220 | 1480 | 2270 |
| | 1 | | Axial Brace Strength (lbs) | 178 | 210 | 273 |
| | 2 | | Axial Brace Strength (lbs) | 275 | 318 | 424 |
| | 1 | | Torsional Moment (in-lbs) | 148 | 182 | 208 |
| | 2 | | Torsional Moment (in-lbs) | 331 | 430 | 556 |
| FB43 | 1 | 4.00 | Axial Brace Stiffness (lbs/in) | 1030 | 1460 | 2170 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 1190 | 1520 | 3030 |
| | 1 | | Axial Brace Strength (lbs) | 191 | 213 | 263 |
| | 2 | | Axial Brace Strength (lbs) | 283 | 321 | 426 |
| | 1 | | Torsional Moment (in-lbs) | 137 | 182 | 234 |
| | 2 | | Torsional Moment (in-lbs) | 403 | 403 | 498 |
| FB43 | 1 | 6.00 | Axial Brace Stiffness (lbs/in) | 790 | 990 | 1730 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 990 | 1160 | 1930 |
| | 1 | | Axial Brace Strength (lbs) | 107 | 214 | 290 |
| | 2 | | Axial Brace Strength (lbs) | 263 | 324 | 450 |
| | 1 | | Torsional Moment (in-lbs) | 166 | 170 | 172 |
| | 2 | | Torsional Moment (in-lbs) | 296 | 406 | 567 |
| FB43 | 1 | 8.00 | Axial Brace Stiffness (lbs/in) | — | 750 | 1910 |
| | 2 | | Axial Brace Stiffness (lbs/in) | — | 750 | 1960 |
| | 1 | | Axial Brace Strength (lbs) | — | 212 | 272 |
| | 2 | | Axial Brace Strength (lbs) | — | 302 | 438 |
| | 1 | | Torsional Moment (in-lbs) | — | 152 | 343 |
| | 2 | | Torsional Moment (in-lbs) | — | 461 | 526 |

FastBridge™ Clip Angles (FB68) Allowable Clip Capacities (lbs)

| Product code | No. of screws to steel framing | Stud depth (in) | Allowable connector capacity | Stud Thickness and Yield Strength | | |
|--------------|--------------------------------|-----------------|--------------------------------|-----------------------------------|---------------|---------------|
| | | | | 54mils (16ga) | 68mils (14ga) | 97mils (12ga) |
| FB68 | 1 | 3.625 | Axial Brace Stiffness (lbs/in) | 3410 | 4410 | 6270 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 4010 | 6880 | 7585 |
| | 1 | | Axial Brace Strength (lbs) | 465 | 520 | 573 |
| | 2 | | Axial Brace Strength (lbs) | 665 | 732 | 823 |
| | 1 | | Torsional Moment (in-lbs) | 332 | 440 | 435 |
| | 2 | | Torsional Moment (in-lbs) | 735 | 894 | 1150 |
| FB68 | 1 | 4.00 | Axial Brace Stiffness (lbs/in) | 3060 | 3440 | 6740 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 3710 | 4670 | 8960 |
| | 1 | | Axial Brace Strength (lbs) | 475 | 505 | 505 |
| | 2 | | Axial Brace Strength (lbs) | 676 | 752 | 878 |
| | 1 | | Torsional Moment (in-lbs) | 382 | 462 | 564 |
| | 2 | | Torsional Moment (in-lbs) | 724 | 802 | 938 |
| FB68 | 1 | 6.00 | Axial Brace Stiffness (lbs/in) | 2270 | 3240 | 3200 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 2710 | 3870 | 3530 |
| | 1 | | Axial Brace Strength (lbs) | 468 | 506 | 515 |
| | 2 | | Axial Brace Strength (lbs) | 682 | 788 | 885 |
| | 1 | | Torsional Moment (in-lbs) | 294 | 412 | 670 |
| | 2 | | Torsional Moment (in-lbs) | 686 | 758 | 1004 |
| FB68 | 1 | 8.00 | Axial Brace Stiffness (lbs/in) | 1940 | 2500 | 2530 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 1960 | 2810 | 3015 |
| | 1 | | Axial Brace Strength (lbs) | 463 | 510 | 517 |
| | 2 | | Axial Brace Strength (lbs) | 637 | 747 | 898 |
| | 1 | | Torsional Moment (in-lbs) | 310 | 512 | 674 |
| | 2 | | Torsional Moment (in-lbs) | 682 | 788 | 963 |

Notes:

- Allowable loads are based on the use of cold-formed steel studs with a minimum yield strength of $F_y=33\text{ksi}$ and tensile strength $F_u=45\text{ksi}$ for 43mils (18ga) or thinner; and a minimum yield strength $F_y=50\text{ksi}$ and tensile strength $F_u=65\text{ksi}$ for 54mils (16ga) or thicker.
- Allowable loads are based on 54mils (16ga) u-channel bridging with a minimum yield strength $F_y=33\text{ksi}$ and tensile strength $F_u=45\text{ksi}$.
- Allowable loads are for the bridging connection only. The strength and serviceability of the framing members is the responsibility of the designer.
- Allowable loads are based on #10 self-drilling screws with a nominal diameter of 0.190 in. and a washer diameter of 0.375 in. Fasteners must have a minimum nominal shear strength of $P_{ss}=1718\text{ lbs}$ and a nominal tensile strength of $P_{ts}=2654\text{ lbs}$.

- Allowable loads may not be increased for wind or seismic load.
- Allowable loads are for use when using ASD design methodology. For LRFD loads, multiply ASD allowable loads by 1.6.
- Allowable brace loads are based on ultimate test loads divided by a safety factor. Serviceability limits are not considered. Brace stiffness requirements are detailed in AISI S100 Section D3.3.
- Axial brace stiffness values apply to both ASD and LRFD designs.

H-Series™ Universal Header Hanger

Connect box headers to jambs or beams to columns.

The H-Series™ universal header hanger is used to connect box headers to jambs or beams to columns and transfer large vertical loads. This universal hanger is designed so one part can be used for either side of the connection. The hanger also features a support tab for proper alignment and easy installation.

The H-Series hanger is also prepunched with a series of round, square and triangle holes to ensure proper fastener placement for specified loads.

ALTERNATIVE PRODUCTS

HDS® Framing System, HDSC Header Bracket, GP-Series™ Unpunched Gusset Plate

PRODUCT DIMENSIONS

6" x 8-1/2"

MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

Yield Strength: 33ksi for 18 gauge

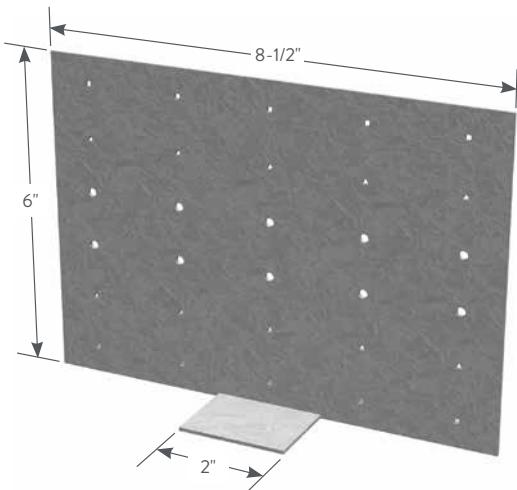
50ksi for 14 & 16 gauge

ASTM: A653/A653M

INSTALLATION

Install the H-Series universal header hanger to the jamb studs with the required number of screws as needed to achieve required loading. Normally two connectors are required, one on each side of the header.

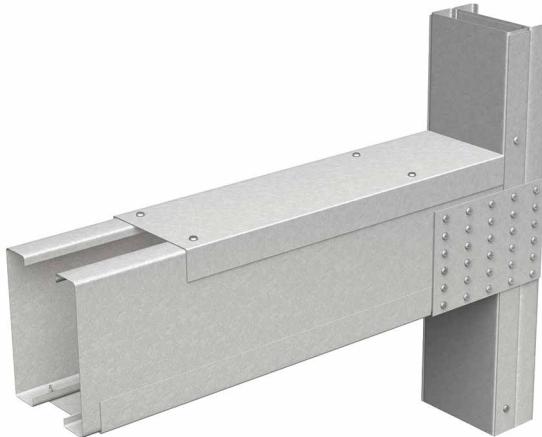
Position header on header support tabs and secure header to header hanger with number of fasteners required by design.



H-Series Universal Header Hanger

H-Series™ Universal Header Hangers

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|-----------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| H436 | 43mils (18ga) | 0.0451 | 6 x 8-1/2 | 50 |
| H546 | 54mils (16ga) | 0.0566 | 6 x 8-1/2 | 50 |
| H686 | 68mils (14ga) | 0.0713 | 6 x 8-1/2 | 50 |



SCREW OPTIONS



(10) Screws
(6) at Header (4) at Jamb



(20) Screws
(12) at Header (8) at Jamb



(30) Screws
(18) at Header (12) at Jamb

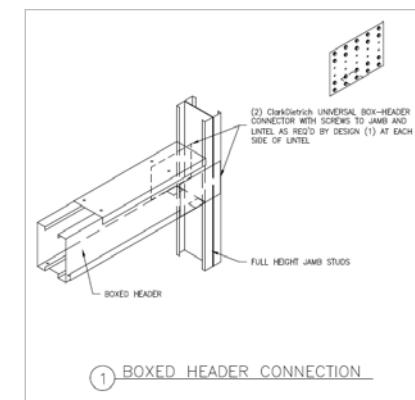
Allowable Loading Chart for Single Connectors

| Connector | Framing Mils (Gauge) | Framing Fy (ksi) | 10 Screws | | 20 Screws | | 30 Screws | |
|-------------------------------|-------------------------|---------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|
| | | | Jamb capacity | Header capacity | Jamb capacity | Header capacity | Jamb capacity | Header capacity |
| H436 Using #10"-16" Screws | 33mils (20ga) | 33 | 561 | 307 | 1121 | 507 | 1361 | 637 |
| | 43mils (18ga) | 33 | 832 | 455 | 1361 | 753 | 1361 | 945 |
| | 54mils (16ga) | 33 | 832 | 455 | 1361 | 753 | 1361 | 945 |
| | | 50 | 832 | 455 | 1361 | 753 | 1361 | 945 |
| | 68mils (14ga) | 33 | 832 | 455 | 1361 | 753 | 1361 | 945 |
| | | 50 | 832 | 455 | 1361 | 753 | 1361 | 945 |
| | 97mils (12ga) | 33 | 832 | 455 | 1361 | 753 | 1361 | 945 |
| | | 50 | 832 | 455 | 1361 | 753 | 1361 | 945 |
| H546 Using #10"-16" Screws | 33mils (20ga) | 33 | 561 | 307 | 1121 | 507 | 1682 | 637 |
| | 43mils (18ga) | 33 | 832 | 455 | 1664 | 753 | 2496 | 945 |
| | 54mils (16ga) | 33 | 1172 | 641 | 2345 | 1061 | 2634 | 1332 |
| | | 50 | 1682 | 919 | 2634 | 1522 | 2634 | 1910 |
| | 68mils (14ga) | 33 | 1655 | 905 | 2634 | 1498 | 2634 | 1880 |
| | | 50 | 1682 | 919 | 2634 | 1522 | 2634 | 1910 |
| | 97mils (12ga) | 33 | 1682 | 919 | 2634 | 1522 | 2634 | 1910 |
| | | 50 | 1682 | 919 | 2634 | 1522 | 2634 | 1910 |
| H686 Using 1/4"-14" Screws | 33mils (20ga) | 33 | 630 | 344 | 1260 | 570 | 1890 | 716 |
| | 43mils (18ga) | 33 | 935 | 511 | 1870 | 846 | 2805 | 1062 |
| | 54mils (16ga) | 33 | 1318 | 720 | 2635 | 1193 | 3821 | 1497 |
| | | 50 | 1997 | 1091 | 3821 | 1807 | 3821 | 2268 |
| | 68mils (14ga) | 33 | 1860 | 1017 | 3720 | 1684 | 3821 | 2113 |
| | | 50 | 2818 | 1541 | 3821 | 2551 | 3821 | 3201 |
| | 97mils (12ga) | 33 | 2818 | 1541 | 3821 | 2551 | 3821 | 3201 |
| | | 50 | 2818 | 1541 | 3821 | 2551 | 3821 | 3201 |

Notes:

- To determine the connection capacity, use the minimum value from the jamb and header columns. For instance, using an H686 for the 30-screw option with a 16 gauge, 50ksi jamb stud and a 12 gauge, 50ksi header, the allowable load per plate is 3201 lbs (i.e., the minimum of 3821 lbs for the jamb and 3201 lbs for the header).
- For the H436 and the H546, the tabulated capacity is based on #10-16 screws with an ultimate screw shear capacity of 1400 lbs per screw. For the H686, the tabulated capacity is based on 1/4"-14 screws with an ultimate screw shear capacity of 2600 lbs per screw.
- H436 connectors are 33ksi, H546 and H686 connectors are 50ksi.
- Reference figures above for screw placement of the 10-, 20- and 30-screw options.
- Values are based on a minimum of (2) back-to-back jamb studs as shown above.

Typical Construction Details



Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

ClarkDietrich Holdown

Secure and hold down shearwalls to the structure foundation.

ClarkDietrich holdowns provide cost-effective shearwall attachment and are used to transfer tension loads between floors or from structural members to the foundation. Two-piece welded construction comes in three sizes for optimal performance. Installation is made easy with prepunched holes.

ALTERNATIVE PRODUCTS

EasyClip™ T-Series™ Tall Anchor Clip

Moment Clip

PRODUCT DIMENSIONS

CD8-S, CD8-B: 2-5/8" x 11"

CD10-S, CD10-B: 2-5/8" x 13-1/2"

CD15-S, CD15-B: 2-5/8" x 19"



Screwed Holdown

Bolted Holdown

MATERIAL SPECIFICATIONS

Gauge: 7 gauge (171.3mils) with 1/2" bearing plate

Steel Thickness: 0.1713 inches

Anchor Hole Size:

CD8-S, CD8-B, CD10-S, CD10-B: 7/8" x 1-1/8"

CD15-S, CD15-B: 1" x 1-1/8"

ASTM: A36, A1011

Coating: Envirocron® Powder Coating

INSTALLATION

Install the holdowns using anchor bolts or alternate anchorage calculated to resist the tension load for your specific application. Use steel nylon locking nuts or thread adhesive to minimize the chance of nut spin. Anchor bolt washer is not required.

For the screwed holdowns, secure the CD holdown to the steel framing member by filling all the prepunched holes with #14 self-tapping screws to achieve listed capacities.

For the bolted holdowns, secure the CD holdown to the steel framing member with 3/4" and 1/2" diameter bolts in the prepunched holes per the design load table to achieve listed capacities. Field drill holes in the framing member as required to accommodate the required bolts.

Boundary members (back-to-back studs) shall be designed by a qualified professional. To tie back-to-back stud members together, the Designer must determine the fasteners required to bind members to act as one unit. CD holdowns can be welded per Designer's recommendation and specification. Welding procedures shall be qualified as specified in AWS D1.3.

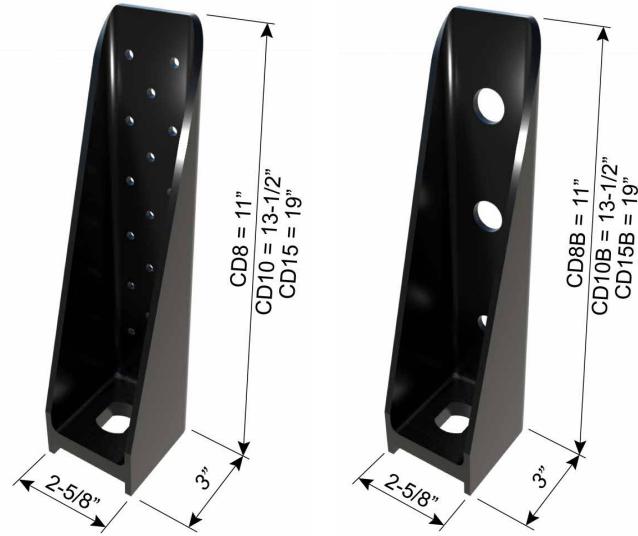
Welded connections used for cold-formed steel structural members in which the thickness of the thinnest connected part is 0.18 inch or less shall comply to AISI S100-2012 specification Section E2.

Reference section R603.9.4.2 of the International Residential Code (IRC) for holdown requirements in residential applications. Consult the engineer of record for commercial applications.

ClarkDietrich Holdowns

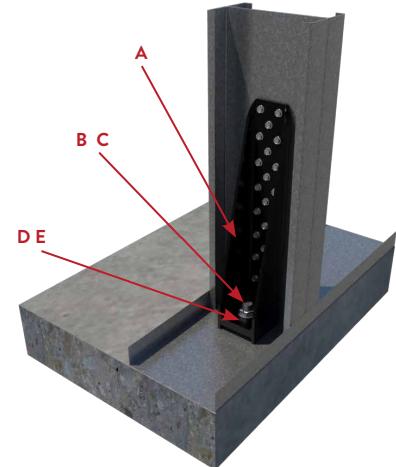
| Product code | Thickness | | Size (in) | Packaging |
|--------------|-----------------|-----------------------|----------------|-----------------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| CD8-S | 171.3mils (7ga) | 0.188 | 2-5/8 x 11 | Dependent on Order Quantity |
| CD10-S | 171.3mils (7ga) | 0.188 | 2-5/8 x 13-1/2 | |
| CD15-S | 171.3mils (7ga) | 0.188 | 2-5/8 x 19 | |

| Product code | Thickness | | Size (in) | Packaging |
|--------------|-----------------|-----------------------|----------------|-----------------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| CD8-B | 171.3mils (7ga) | 0.188 | 2-5/8 x 11 | Dependent on Order Quantity |
| CD10-B | 171.3mils (7ga) | 0.188 | 2-5/8 x 13-1/2 | |
| CD15-B | 171.3mils (7ga) | 0.188 | 2-5/8 x 19 | |

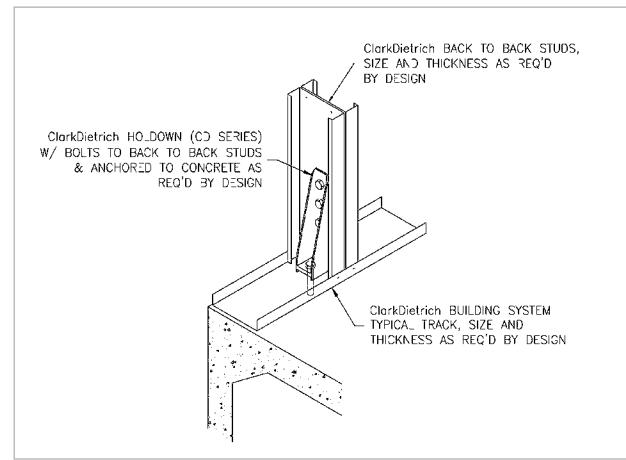
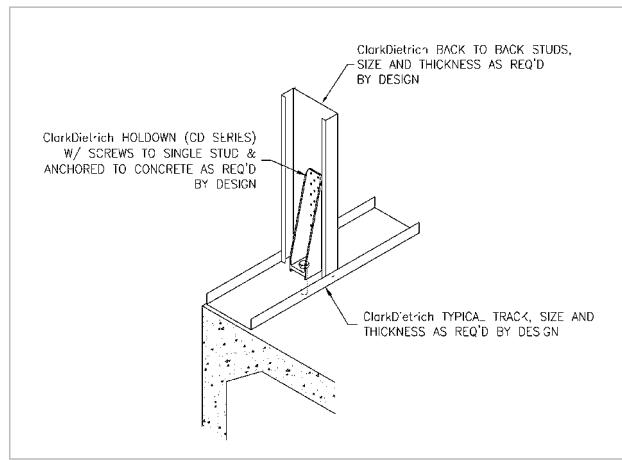


SOURCES OF DEFLECTION AT THE SHEARWALL HOLDOWN CONNECTIONS:

- A** Eccentricity in stud—when a holdown is installed on only one side of the stud, an eccentricity exists during loading that can cause additional movement in the shearwall system.
- B** Nut spin—unrestrained anchor bolt nuts can spin loose during cyclic loading; the use of steel nylon locking nuts or thread adhesive may prevent nut spin.
- C** Lack of nut tightening—additional movement can occur when nuts are not tightened sufficiently.
- D** Deflection of the holdown—deflection can occur in the holdown under load caused by stresses due to earthquake or high wind.
- E** Vertical deflection at the holdown seat caused by stud rotation—lateral displacement at the top of the wall rotates the stud around its base causing the holdown base plate to displace vertically.



TYPICAL CONSTRUCTION DETAILS



Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

ClarkDietrich Holdown

ClarkDietrich CD8-S, CD10-S, CD15-S Holdowns

SINGLE FRAMING MEMBER WITH SCREWS

| Product code | Height | Fasteners | | Stud member thickness | ASD | | LRFD | | Nominal tension load (lbs) |
|--------------|---------|-----------------|-----------------|-----------------------|--------------------|-----------------------------|--------------------|------------------------------|----------------------------|
| | | Anchor diameter | Stud fasteners | | Tension load (lbs) | Deflection at ASD load (in) | Tension load (lbs) | Deflection at LRFD load (in) | |
| CD8-S | 11" | 7/8" | (17) #14 Screws | 1-33mils (1-20ga) | 1905 | 0.081 | 2860 | 0.107 | 5720 |
| | | | | 1-43mils (1-18ga) | 2485 | 0.057 | 3730 | 0.079 | 7455 |
| | | | | 1-54mils (1-16ga) | 4505 | 0.064 | 6755 | 0.086 | 13510 |
| | | | | 1-68mils (1-14ga) | 5675 | 0.058 | 8510 | 0.079 | 17020 |
| | | | | 1-97mils (1-12ga) | 8095 | 0.051 | 12140 | 0.072 | 24280 |
| CD10-S | 13-1/2" | 7/8" | (23) #14 Screws | 1-33mils (1-20ga) | 2325 | 0.049 | 3490 | 0.066 | 6975 |
| | | | | 1-43mils (1-18ga) | 3030 | 0.034 | 4550 | 0.052 | 9095 |
| | | | | 1-54mils (1-16ga) | 5495 | 0.038 | 8245 | 0.055 | 16485 |
| | | | | 1-68mils (1-14ga) | 6920 | 0.041 | 10385 | 0.059 | 20765 |
| | | | | 1-97mils (1-12ga) | 9875 | 0.044 | 14810 | 0.062 | 29620 |
| CD15-S | 19" | 1" | (32) #14 Screws | 1-33mils (1-20ga) | 2675 | 0.025 | 4015 | 0.040 | 8025 |
| | | | | 1-43mils (1-18ga) | 3485 | 0.026 | 5230 | 0.037 | 10460 |
| | | | | 1-54mils (1-16ga) | 6320 | 0.016 | 9480 | 0.030 | 18955 |
| | | | | 1-68mils (1-14ga) | 7960 | 0.025 | 11940 | 0.036 | 23880 |
| | | | | 1-97mils (1-12ga) | 11355 | 0.036 | 17035 | 0.050 | 34065 |

Notes:

- 1 The designer is responsible for design checks for the substrate the Holdown is attached to and the anchorage to the substrate. The capacities listed in the table may exceed those of the substrate and/or the anchorage to the substrate.
- 2 Tabulated loads may exceed ASTM A36 or A307 anchor bolt tension capacities.
- 3 Stud/framing member design by qualified professional. Tabulated loads are based on minimum 1-5/8" wide flanged stud/framing member.
- 4 1/4" self-drilling screws can be substituted for #14 self-drilling screws.
- 5 Deflection at ASD and LRFD loads includes fastener slip, holdown elongation and anchor bolt elongation.
- 6 Nominal tension load is based on the average ultimate (peak) load from tests. AISI Lateral Design standard requires holdown to have nominal strength to resist lesser of amplified seismic load or what the system can deliver.
- 7 For ASD and LRFD loads, safety factor of 3.0 and resistance factor of 0.50 was applied.

ClarkDietrich CD8-B, CD10-B, CD15-B Holdowns

SINGLE FRAMING MEMBER WITH BOLTS

| Product code | Height | Fasteners | | Stud member thickness | ASD | | LRFD | | Nominal tension load (lbs) |
|--------------|---------|-----------------|--|-----------------------|--------------------|-----------------------------|--------------------|------------------------------|----------------------------|
| | | Anchor diameter | Stud fasteners | | Tension load (lbs) | Deflection at ASD load (in) | Tension load (lbs) | Deflection at LRFD load (in) | |
| CD8-B | 11" | 7/8" | (2) 3/4" Dia. Bolts + (1) 1/2" Dia. Bolt | 1-33mils (1-20ga) | 2015 | 0.079 | 2910 | 0.103 | 4475 |
| | | | | 1-43mils (1-18ga) | 2630 | 0.163 | 3795 | 0.211 | 5835 |
| | | | | 1-54mils (1-16ga) | 4765 | 0.141 | 6875 | 0.177 | 10575 |
| | | | | 1-68mils (1-14ga) | 6000 | 0.271 | 8660 | 0.315 | 13325 |
| | | | | 1-97mils (1-12ga) | 8560 | 0.275 | 12355 | 0.317 | 19005 |
| CD10-B | 13-1/2" | 7/8" | (3) 3/4" Dia. Bolts + (1) 1/2" Dia. Bolt | 1-33mils (1-20ga) | 2460 | 0.142 | 3550 | 0.182 | 5460 |
| | | | | 1-43mils (1-18ga) | 3205 | 0.055 | 4630 | 0.103 | 7120 |
| | | | | 1-54mils (1-16ga) | 5815 | 0.126 | 8390 | 0.171 | 12905 |
| | | | | 1-68mils (1-14ga) | 7320 | 0.148 | 10565 | 0.192 | 16255 |
| | | | | 1-97mils (1-12ga) | 10445 | 0.190 | 15070 | 0.249 | 23185 |
| CD15-B | 19" | 1" | (4) 3/4" Dia. Bolts + (1) 1/2" Dia. Bolt | 1-33mils (1-20ga) | 2705 | 0.127 | 3905 | 0.153 | 6005 |
| | | | | 1-43mils (1-18ga) | 3525 | 0.074 | 5090 | 0.105 | 7830 |
| | | | | 1-54mils (1-16ga) | 6395 | 0.121 | 9225 | 0.154 | 14195 |
| | | | | 1-68mils (1-14ga) | 8055 | 0.170 | 11620 | 0.198 | 17880 |
| | | | | 1-97mils (1-12ga) | 11490 | 0.196 | 16580 | 0.235 | 25505 |

Notes:

- 1 The designer is responsible for design checks for the substrate the Holdown is attached to and the anchorage to the substrate. The capacities listed in the table may exceed those of the substrate and/or the anchorage to the substrate.
- 2 Tabulated loads may exceed ASTM A36 or A307 anchor bolt tension capacities.
- 3 Stud/framing member design by qualified professional. Tabulated loads are based on minimum 1-5/8" wide flanged stud/framing member.
- 4 At a minimum, bolts to framing/stud connection shall comply with ASTM A307. Both 3/4-inch diameter and 1/2" diameter bolt shall be used (as listed in the design table) to achieve tabulated capacities.
- 5 Deflection at ASD and LRFD loads includes fastener slip, holdown elongation and anchor bolt elongation.
- 6 Nominal tension load is based on the average ultimate (peak) load from tests. AISI Lateral Design standard requires holdown to have nominal strength to resist lesser of amplified seismic load or what the system can deliver.
- 7 For ASD and LRFD loads, safety factor of 2.22 and resistance factor of 0.65 was applied.

ClarkDietrich CD8-S, CD10-S, CD15-S Holdowns

BACK-TO-BACK FRAMING MEMBER WITH SCREWS

| Product code | Height | Fasteners | | Stud member thickness | ASD | | LRFD | | Nominal tension load (lbs) |
|--------------|---------|-----------------|-----------------|-----------------------|--------------------|-----------------------------|--------------------|------------------------------|----------------------------|
| | | Anchor diameter | Stud fasteners | | Tension load (lbs) | Deflection at ASD load (in) | Tension load (lbs) | Deflection at LRFD load (in) | |
| CD8-S | 11" | 7/8" | (17) #14 Screws | 2-33mils (2-20ga) | 6962 | 0.08 | 11139 | 0.119 | 20885 |
| | | | | 2-43mils (2-18ga) | 8164 | 0.07 | 13062 | 0.124 | 24492 |
| | | | | 2-54mils (2-16ga) | 11253 | 0.083 | 18005 | 0.126 | 33759 |
| | | | | 2-68mils (2-14ga) | 12240 | 0.095 | 19585 | 0.135 | 36721 |
| | | | | 2-97mils (2-12ga) | 12240 | 0.095 | 19585 | 0.135 | 36721 |
| CD10-S | 13-1/2" | 7/8" | (23) #14 Screws | 2-33mils (2-20ga) | 7293 | 0.12 | 11669 | 0.16 | 21880 |
| | | | | 2-43mils (2-18ga) | 9314 | 0.068 | 14902 | 0.106 | 27941 |
| | | | | 2-54mils (2-16ga) | 12502 | 0.083 | 20004 | 0.125 | 37507 |
| | | | | 2-68mils (2-14ga) | 12899 | 0.083 | 20638 | 0.127 | 38697 |
| | | | | 2-97mils (2-12ga) | 12899 | 0.083 | 20638 | 0.127 | 38697 |
| CD15-S | 19" | 1" | (32) #14 Screws | 2-33mils (2-20ga) | 7610 | 0.098 | 12177 | 0.125 | 22831 |
| | | | | 2-43mils (2-18ga) | 9235 | 0.067 | 14776 | 0.104 | 27705 |
| | | | | 2-54mils (2-16ga) | 13532 | 0.088 | 21650 | 0.128 | 40595 |
| | | | | 2-68mils (2-14ga) | 13695 | 0.063 | 21911 | 0.096 | 41084 |
| | | | | 2-97mils (2-12ga) | 13695 | 0.063 | 21911 | 0.096 | 41084 |

Notes:

- 1 The designer is responsible for design checks for the substrate the Holdown is attached to and the anchorage to the substrate. The capacities listed in the table may exceed those of the substrate and/or the anchorage to the substrate.
- 2 Tabulated loads may exceed ASTM A36 or A307 anchor bolt tension capacities.
- 3 Stud/framing member design by qualified professional. Tabulated loads are based on minimum 1-5/8" wide flanged stud/framing member.
- 4 1/4" self-drilling screws can be substituted for #14 self-drilling screws.
- 5 Deflection at ASD and LRFD loads includes fastener slip, holdown elongation and anchor bolt elongation.
- 6 Nominal tension load is based on the average ultimate (peak) load from tests. AISI Lateral Design standard requires holdown to have nominal strength to resist lesser of amplified seismic load or what the system can deliver.
- 7 For ASD and LRFD loads, safety factor of 3.0 and resistance factor of 0.50 was applied.

ClarkDietrich CD8-B, CD10-B, CD15-B Holdowns

BACK-TO-BACK FRAMING MEMBER WITH BOLTS

| Product code | Height | Fasteners | | Stud member thickness | ASD | | LRFD | | Nominal tension load (lbs) |
|--------------|---------|-----------------|--|-----------------------|--------------------|-----------------------------|--------------------|------------------------------|----------------------------|
| | | Anchor diameter | Stud fasteners | | Tension load (lbs) | Deflection at ASD load (in) | Tension load (lbs) | Deflection at LRFD load (in) | |
| CD8-B | 11" | 7/8" | (2) 3/4" Dia. Bolts + (1) 1/2" Dia. Bolt | 2-33mils (2-20ga) | 4030 | 0.206 | 5820 | 0.243 | 8950 |
| | | | | 2-43mils (2-18ga) | 5255 | 0.149 | 7585 | 0.192 | 11670 |
| | | | | 2-54mils (2-16ga) | 9530 | 0.182 | 13750 | 0.240 | 21155 |
| | | | | 2-68mils (2-14ga) | 12005 | 0.268 | 17325 | 0.333 | 26650 |
| | | | | 2-97mils (2-12ga) | 13650 | 0.286 | 19700 | 0.368 | 30305 |
| CD10-B | 13-1/2" | 7/8" | (3) 3/4" Dia. Bolts + (1) 1/2" Dia. Bolt | 2-33mils (2-20ga) | 4920 | 0.222 | 7100 | 0.274 | 10920 |
| | | | | 2-43mils (2-18ga) | 6410 | 0.264 | 9255 | 0.314 | 14235 |
| | | | | 2-54mils (2-16ga) | 11625 | 0.260 | 16775 | 0.313 | 25810 |
| | | | | 2-68mils (2-14ga) | 14645 | 0.201 | 21130 | 0.258 | 32510 |
| | | | | 2-97mils (2-12ga) | 15045 | 0.205 | 21715 | 0.263 | 33405 |
| CD15-B | 19" | 1" | (4) 3/4" Dia. Bolts + (1) 1/2" Dia. Bolt | 2-33mils (2-20ga) | 5410 | 0.166 | 7810 | 0.193 | 12015 |
| | | | | 2-43mils (2-18ga) | 7055 | 0.202 | 10180 | 0.235 | 15660 |
| | | | | 2-54mils (2-16ga) | 12790 | 0.175 | 18455 | 0.228 | 28390 |
| | | | | 2-68mils (2-14ga) | 16110 | 0.208 | 23245 | 0.270 | 35760 |
| | | | | 2-97mils (2-12ga) | 17685 | 0.222 | 25520 | 0.290 | 39265 |

Notes:

- 1 The designer is responsible for design checks for the substrate the Holdown is attached to and the anchorage to the substrate. The capacities listed in the table may exceed those of the substrate and/or the anchorage to the substrate.
- 2 Tabulated loads may exceed ASTM A36 or A307 anchor bolt tension capacities.
- 3 Stud/framing member design by qualified professional. Tabulated loads are based on minimum 1-5/8" wide flanged stud/framing member and the minimum stud thickness for fastener connection.
- 4 At a minimum, bolts to framing/stud connection shall comply with ASTM A307. Both 3/4-inch diameter and 1/2" diameter bolt shall be used (as listed in the design table) to achieve tabulated capacities.
- 5 Deflection at ASD and LRFD loads includes fastener slip, holdown elongation and anchor bolt elongation.
- 6 Nominal tension load is based on the average ultimate (peak) load from tests. AISI Lateral Design standard requires holdown to have nominal strength to resist lesser of amplified seismic load or what the system can deliver.
- 7 For ASD and LRFD loads, safety factor of 2.22 and resistance factor of 0.65 was applied.

Holdown Plate

Secure and hold down structural steel endposts between floors or to the foundation embed plate (by others).

ClarkDietrich HDP holdown plates are designed for taller construction and higher tension loads; transferring the tension loads between floors or from structural members to the foundation embed plate (by others). The HDP holdown plates are pre-punched and available in six sizes that can be bolted or welded. They can be used for panelized construction or stick-built construction.

ALTERNATIVE PRODUCTS

ClarkDietrich Holdown

PRODUCT DIMENSIONS

300HDP025: 1/4" x 3" X 24"

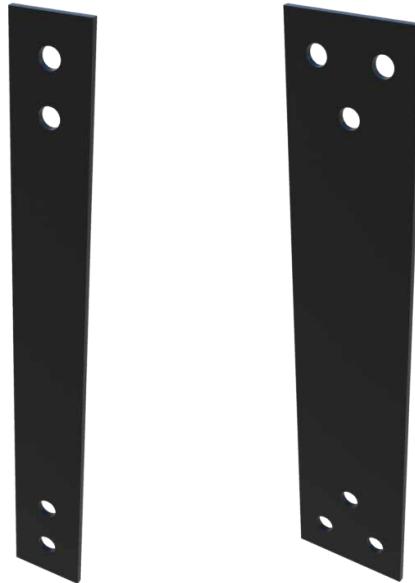
300HDP038: 3/8" x 3" X 24"

300HDP050: 1/2" x 3" X 30"

500HDP025: 1/4" x 5" X 24"

500HDP038: 3/8" x 5" X 24"

500HDP050: 1/2" x 5" X 30"



MATERIAL SPECIFICATIONS

Steel Thickness: 1/4", 3/8" and 1/2" Plate

Bolt Hole Size: 13/16"

ASTM: 1/4" and 3/8" A36 Plate

1/2" A572 Gr50 Plate

Coating: Envirocron® Powder Coating

INSTALLATION

Field trimming, welding or drilling will be required when installing holdown plates. When trimming cold-formed steel, use a grinder or plasma cutter. No torch cutting.

Clean all trimmed, cut, drilled and welded areas and paint with a zinc-rich (cold galvanize) paint.

Endpost must align from level to level and holdown plates set flat on the post components before welding or bolting.

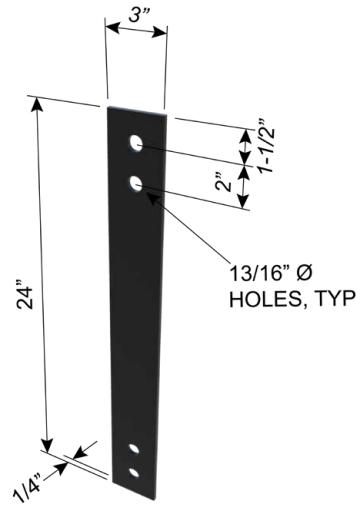
Holdown plates are intended for tension loads and not tested for compression loads. Endposts with bearing gaps must have a structural shim installed for full compression load path.

CD holdown plates can be welded or bolted, but a designer of record shall check the endpost connection capacity and provide a specific connection detail for each project.

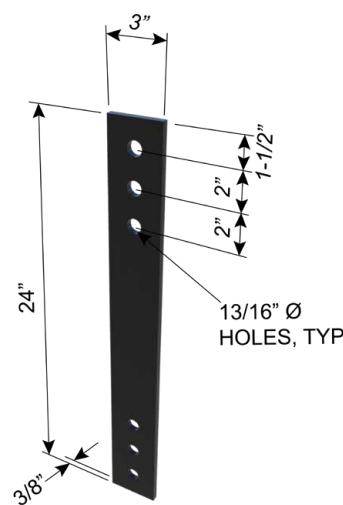
Welding to cold-formed steel endpost members shall be with 97 mils (50Ksi) minimum with a maximum weld size of 1/8" fillet. Welder shall be certified for sheet steel welding.

ClarkDietrich Holdown Plate (HDP) - 3" Wide

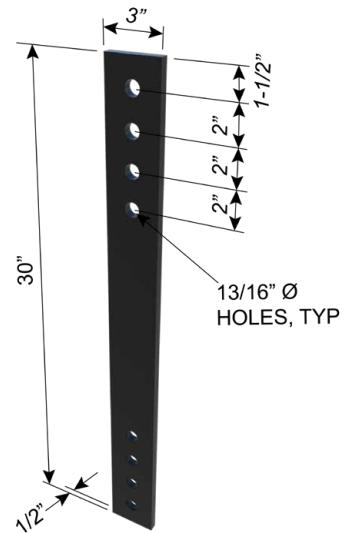
| Product code | Thickness | Width | Length | Holes per End | Packaging |
|--------------|-----------|-------|--------|---------------|-----------|
| 300HDP025 | 1/4" | 3" | 24" | 2 | 250 |
| 300HDP038 | 3/8" | 3" | 24" | 3 | 200 |
| 300HDP050 | 1/2" | 3" | 30" | 4 | 100 |



300HDP025



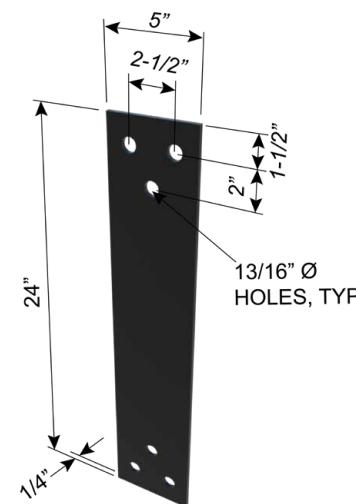
300HDP038



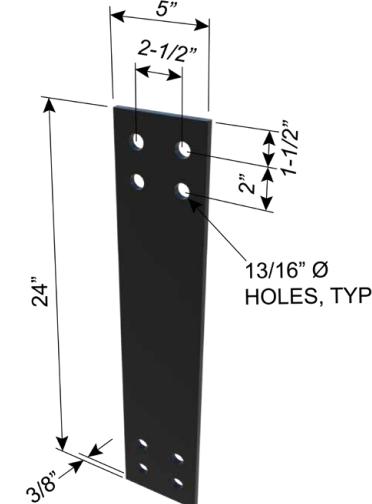
300HDP050

ClarkDietrich Holdown Plate (HDP) - 5" Wide

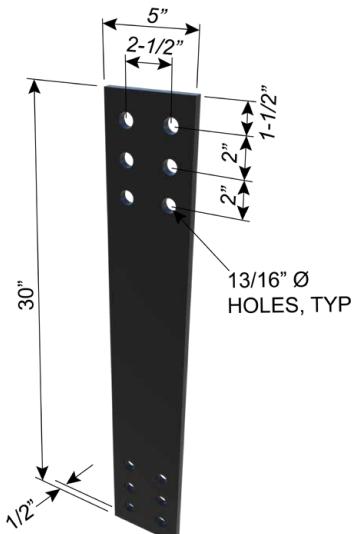
| Product code | Thickness | Width | Length | Holes per End | Packaging |
|--------------|-----------|-------|--------|---------------|-----------|
| 500HDP025 | 1/4" | 5" | 24" | 3 | 150 |
| 500HDP038 | 3/8" | 5" | 24" | 4 | 100 |
| 500HDP050 | 1/2" | 5" | 30" | 6 | 50 |



500HDP025



500HDP038



500HDP050

Holdown Plate

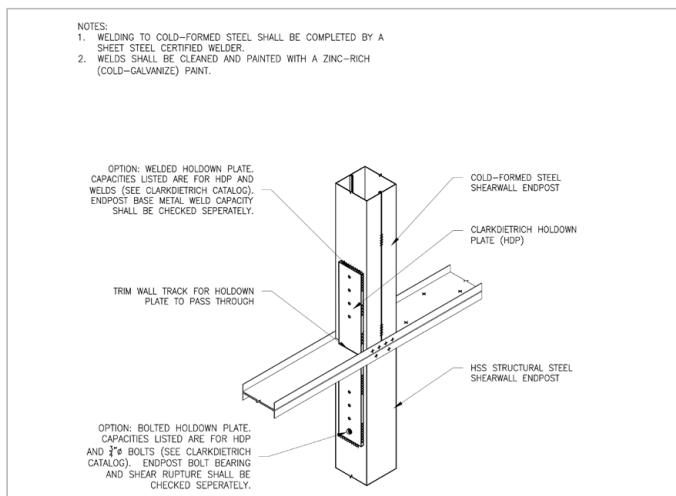
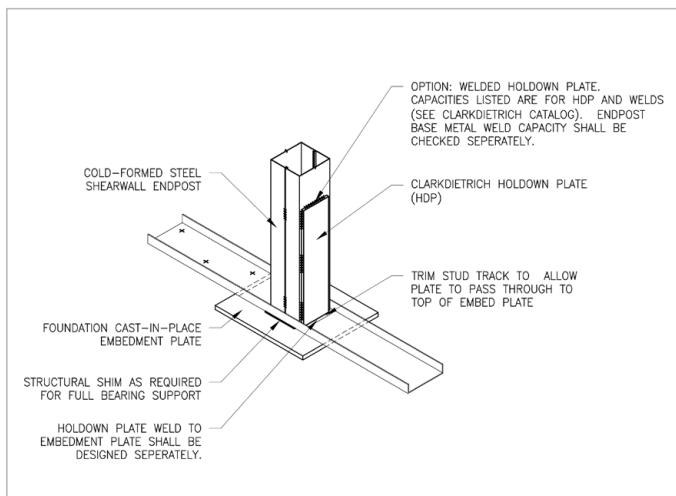
Holdown Plate (HDP): Bolted

| Product code | Plate Dimensions and Properties | | | | | Fastener at Each End | HDP Tension Capacities | | |
|--------------|---------------------------------|------------|-------------|----------------------|------------------------|----------------------|------------------------|----------------|-----------------|
| | Thickness (in) | Width (in) | Length (in) | Yield Strength (ksi) | Tensile Strength (ksi) | | Nominal Strength, kips | ASD load, kips | LRFD load, kips |
| 300HDP025 | 0.250 | 3 | 24 | 36 | 58 | (2) 3/4" Bolts | 27.00 | 15.86 | 23.79 |
| 300HDP038 | 0.375 | 3 | 24 | 36 | 58 | (3) 3/4" Bolts | 40.50 | 23.79 | 35.68 |
| 300HDP050 | 0.500 | 3 | 30 | 50 | 65 | (4) 3/4" Bolts | 71.09 | 35.55 | 53.32 |
| 500HDP025 | 0.250 | 5 | 24 | 36 | 58 | (3) 3/4" Bolts | 45.00 | 24.47 | 36.70 |
| 500HDP038 | 0.375 | 5 | 24 | 36 | 58 | (4) 3/4" Bolts | 67.50 | 36.70 | 55.05 |
| 500HDP050 | 0.500 | 5 | 30 | 50 | 65 | (6) 3/4" Bolts | 109.69 | 54.84 | 82.27 |

Notes:

- 1 Listed capacities are based on AISI S100-16 (2020) w/S2-20 and ANSI/AISC 360-16.
- 2 Limitations of hole spacing and edge distance are per ANSI/AISC 360-16 Section J3.
- 3 HDP025 and HDP038 plates use A36 steel, HDP050 plate use A572-Gr50 steel.
- 4 For fasteners, use 3/4" x 2-1/2" A325T (full thread) bolts with F436 washers and A563 heavy hex nut.
- 5 Nominal strengths are controlled by HDP plate tensile yielding.
- 6 ASD and LRFD loads are controlled by HDP plate tensile rupture.
- 7 Capacities listed for HDP plate and bolt only, substrate connection capacities should be checked separately.

TYPICAL CONSTRUCTION DETAILS



Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

Holdown Plate (HDP): Welded

| Product code | Plate Dimensions and Properties | | | | | Size of Weld (thickness), w (in) | HDP Weld Tension Capacities | | |
|--------------|---------------------------------|------------|-------------|----------------------------|------------------------------|----------------------------------|-----------------------------|----------------|-----------------|
| | Thickness (in) | Width (in) | Length (in) | Yield Strength F_y (ksi) | Tensile Strength F_u (ksi) | | Nominal Strength, kips | ASD load, kips | LRFD load, kips |
| 300HDP025 | 0.250 | 3 | 24 | 36 | 58 | 1/8" | 27.00 | 16.17 | 24.30 |
| 300HDP038 | 0.375 | 3 | 24 | 36 | 58 | 3/16" | 40.50 | 24.25 | 36.45 |
| 300HDP050 | 0.500 | 3 | 30 | 50 | 65 | 5/16" | 75.00 | 44.91 | 67.50 |
| 500HDP025 | 0.250 | 5 | 24 | 36 | 58 | 1/8" | 45.00 | 26.95 | 40.50 |
| 500HDP038 | 0.375 | 5 | 24 | 36 | 58 | 3/16" | 67.50 | 40.42 | 60.75 |
| 500HDP050 | 0.500 | 5 | 30 | 50 | 65 | 5/16" | 125.00 | 74.85 | 112.50 |

| Product code | Longitudinal Weld Length/Side | | |
|--------------|-------------------------------|---------------|----------------|
| | Nominal Strength (in) | ASD load (in) | LRFD load (in) |
| 300HDP025 | 5 | 6 | 6 |
| 300HDP038 | 5 | 6 | 6 |
| 300HDP050 | 5 | 5 | 5 |
| 500HDP025 | 8 | 9 | 9 |
| 500HDP038 | 8 | 9 | 9 |
| 500HDP050 | 7 | 9 | 9 |

Notes:

- 1 Listed capacities and weld lengths are based on AISI S100-16 (2020) w/S2-20 and ANSI/AISC 360-16.
- 2 Listed capacities applicable for Fillet Welds only.
- 3 Listed capacities are based on E60xx or E70xx electrodes for A36 steel plates, E70XX electrodes for A572-Gr50 steel plates.
- 4 Limitations of weld size (thickness of weld) are per ANSI/AISC 360-16 Section J2.
- 5 HDP025 and HDP038 plates use A36 steel, HDP050 plate use A572-Gr50 steel.
- 6 Weld capacities are controlled by HDP plate tensile yielding.
- 7 Capacities listed for HDP plate only, substrate connection capacities should be checked separately.

ClarkDietrich Moment Clip

Moment connection for knee walls and shear walls to the structure foundation.

ClarkDietrich moment clips are high-performance, cost effective solutions for knee wall-to-foundation connections and shear wall-to-foundation connections. These multi-application clips feature a 1/4" thick A36 steel stiffening plate that provides superior design values for maximum performance. The moment clips are designed to resist horizontal, torsional and vertical (uplift) loads. These clips are prepunched with a series of attachment holes for steel framing connections and a 1/2" anchor bolt hole for foundation connections.

PRODUCT DIMENSIONS

2" x 4" x 3-1/2"

2" x 4" x 5-1/2"

2" x 4" x 7-1/2"

1/4" A36 steel stiffening plate

1-3/4" x 3-3/8"

1-3/4" x 5-3/8"

1-3/4" x 7-3/8"

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Gauge: 10 gauge (118mils)

Design Thickness: 0.1242 inches

Coating: G90

Yield Strength: 50ksi

ASTM: A36, A653, A1003

ClarkDietrich Moment Clips (MC Series)

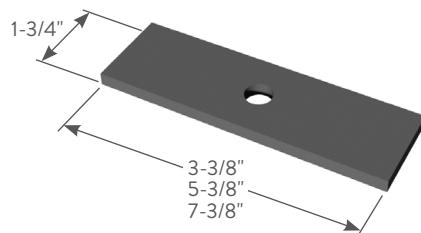
| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|----------------|-----------------------|------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| MC683P | 68mils (14ga) | 0.0713 | 2" x 4" x 3-1/2" | 25 |
| MC685P | 68mils (14ga) | 0.0713 | 2" x 4" x 5-1/2" | 25 |
| MC687P | 68mils (14ga) | 0.0713 | 2" x 4" x 7-1/2" | 25 |
| MC973P | 97mils (12ga) | 0.1017 | 2" x 4" x 3-1/2" | 25 |
| MC975P | 97mils (12ga) | 0.1017 | 2" x 4" x 5-1/2" | 25 |
| MC977P | 97mils (12ga) | 0.1017 | 2" x 4" x 7-1/2" | 25 |
| MC103P | 68mils (14ga) | 0.1242 | 2" x 4" x 3-1/2" | 25 |
| MC105P | 97mils (12ga) | 0.1242 | 2" x 4" x 5-1/2" | 25 |
| MC107P | 118mils (10ga) | 0.1242 | 2" x 4" x 7-1/2" | 25 |

INSTALLATION

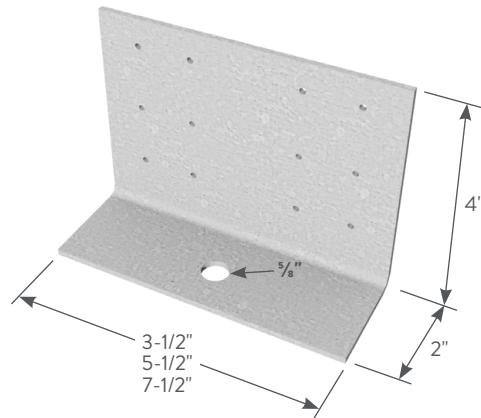
Secure the Moment Clip to the steel framing member by using #12 screws in the prepunched holes. Number of screws and screw pattern is based on load required to achieve listed capacities.

Place 1/4" steel stiffening plate on top of short leg of Moment Clip so anchor holes are aligned.

Secure 1/4" steel stiffening plate and Moment Clip to foundation using 1/2" x 2" long Hilti Kwik-Bolt 3 or alternate anchorage calculated to resist the tension load for your specific application.



1/4" Stiffening Plate



ClarkDietrich Moment Clip



ClarkDietrich Moment Clip w/ Stiffening Plate

ClarkDietrich Moment Clips Allowable Loads

| Product code | Stud member thickness Mils (Gauge) | Stud Fy (ksi) | F1 (Shear), (lbs) | | | F2 (Tension), (lbs) | | | M (Moment), (in-lbs) | | | Rotational stiffness for wind deflection (in-lbs/radian) | |
|---|------------------------------------|---------------|------------------------------|-------------------|-------------------|---------------------|-------------------|-------------------|----------------------|-------------------|-------------------|--|--|
| | | | Number of #12 screws to stud | | | | | | | | | | |
| | | | 4 | 6 | 12 | 4 | 6 | 12 | 4 | 6 | 12 | | |
| MC683P 2" x 4" x 3-1/2" 68mils (14ga) | 33mils (20ga) | 33 | 372 | 508 | 840 | 754 | 1131 | 2261 ² | 1401 | 1784 | 2462 ³ | 133,000 | |
| | 43mils (18ga) | 33 | 554 | 756 | 1250 | 1122 | 1683 ² | 2736 ² | 2084 ³ | 2581 ³ | 2581 ³ | | |
| | 54mils (16ga) | 50 | 1126 | 1536 | 2086 ¹ | 2278 ² | 2736 ² | 2736 ² | 2743 ³ | 2743 ³ | 2743 ³ | | |
| | 68mils (14ga) | 50 | 1535 | 2086 ¹ | 2086 ¹ | 2736 ² | 2736 ² | 2736 ² | 2756 ³ | 2756 ³ | 2756 ³ | | |
| | 97mils (12ga) | 50 | 1535 | 2086 ¹ | 2086 ¹ | 2736 ² | 2736 ² | 2736 ² | 2756 ³ | 2756 ³ | 2756 ³ | | |
| MC973P 2" x 4" x 3-1/2" 97mils (12ga) | 33mils (20ga) | 33 | 372 | 508 | 840 | 754 | 1131 | 2261 ² | 1401 | 1784 ³ | 2560 ³ | 140,100 | |
| | 43mils (18ga) | 33 | 554 | 756 | 1250 | 1122 | 1683 ² | 3365 ² | 2084 ³ | 2655 | 2862 ³ | | |
| | 54mils (16ga) | 50 | 1126 | 1536 | 2538 ¹ | 2278 ² | 3417 ² | 3832 | 2862 ³ | 2862 ³ | 2862 ³ | | |
| | 68mils (14ga) | 50 | 1535 | 2094 ¹ | 2975 ¹ | 3107 ² | 3832 | 3832 | 2862 ³ | 2862 ³ | 2862 ³ | | |
| | 97mils (12ga) | 50 | 1535 | 2094 ¹ | 2975 ¹ | 3107 ² | 3832 | 3832 | 2862 ³ | 2862 ³ | 2862 ³ | | |
| MC103P 2" x 4" x 3-1/2" 118mils (10ga) | 33mils (20ga) | 33 | 372 | 508 | 840 | 754 | 1131 | 2261 ² | 1401 | 1784 ³ | 2609 ³ | 143,900 | |
| | 43mils (18ga) | 33 | 554 | 756 | 1250 | 1122 | 1683 ² | 3365 ² | 2084 ³ | 2655 | 2945 ³ | | |
| | 54mils (16ga) | 50 | 1126 | 1536 | 2538 ¹ | 2278 ² | 3417 ² | 3828 ² | 2945 ³ | 2945 ³ | 2945 ³ | | |
| | 68mils (14ga) | 50 | 1535 | 2094 ¹ | 3462 ¹ | 3107 ² | 3828 ² | 3828 ² | 2945 ³ | 2945 ³ | 2945 ³ | | |
| | 97mils (12ga) | 50 | 1535 | 2094 ¹ | 3462 ¹ | 3107 ² | 3828 ² | 3828 ² | 2945 ³ | 2945 ³ | 2945 ³ | | |
| MC685P 2" x 4" x 5-1/2" 68mils (14ga) | 33mils (20ga) | 33 | 441 | 630 | 1029 | 754 | 1131 | 2261 ² | 1778 | 2417 | 3396 ³ | 252,000 | |
| | 43mils (18ga) | 33 | 656 | 937 | 1531 | 1122 | 1683 ² | 2736 ² | 2646 | 3597 ³ | 4993 ³ | | |
| | 54mils (16ga) | 50 | 1333 | 1903 ¹ | 2086 ¹ | 2278 ² | 2736 ² | 2736 ² | 5307 ³ | 5307 ³ | 5307 ³ | | |
| | 68mils (14ga) | 50 | 1818 ¹ | 2086 ¹ | 2086 ¹ | 2736 ² | 2736 ² | 2736 ² | 5363 ³ | 5363 ³ | 5363 ³ | | |
| | 97mils (12ga) | 50 | 1818 ¹ | 2086 ¹ | 2086 ¹ | 2736 ² | 2736 ² | 2736 ² | 5363 ³ | 5363 ³ | 5363 ³ | | |
| MC975P 2" x 4" x 5-1/2" 97mils (12ga) | 33mils (20ga) | 33 | 441 | 630 | 1029 | 754 | 1131 | 2261 ² | 1778 | 2417 | 3396 ³ | 274,400 | |
| | 43mils (18ga) | 33 | 656 | 937 | 1531 | 1122 | 1683 ² | 3365 ² | 2646 | 3597 ³ | 5025 ³ | | |
| | 54mils (16ga) | 50 | 1333 | 1903 ¹ | 2975 ¹ | 2278 ² | 3417 ² | 4181 ² | 5373 ³ | 5980 ³ | 5980 ³ | | |
| | 68mils (14ga) | 50 | 1818 ¹ | 2595 ¹ | 2975 ¹ | 3107 ² | 4181 ² | 4181 ² | 5980 ³ | 5980 ³ | 5980 ³ | | |
| | 97mils (12ga) | 50 | 1818 ¹ | 2595 ¹ | 2975 ¹ | 3107 ² | 4181 ² | 4181 ² | 5980 ³ | 5980 ³ | 5980 ³ | | |
| MC105P 2" x 4" x 5-1/2" 118mils (10ga) | 33mils (20ga) | 33 | 441 | 630 | 1029 | 754 | 1131 | 2261 ² | 1778 | 2417 | 3396 ³ | 288,700 | |
| | 43mils (18ga) | 33 | 656 | 937 | 1531 | 1122 | 1683 ² | 3365 ² | 2646 | 3597 ³ | 5053 ³ | | |
| | 54mils (16ga) | 50 | 1333 | 1903 ¹ | 3109 ¹ | 2278 ² | 3417 ² | 4236 ² | 5373 ³ | 6133 ³ | 6133 ³ | | |
| | 68mils (14ga) | 50 | 1818 ¹ | 2595 ¹ | 3633 ¹ | 3107 ² | 4236 ² | 4236 ² | 6133 ³ | 6133 ³ | 6133 ³ | | |
| | 97mils (12ga) | 50 | 1818 ¹ | 2595 ¹ | 3633 ¹ | 3107 ² | 4236 ² | 4236 ² | 6133 ³ | 6133 ³ | 6133 ³ | | |
| MC687P 2" x 4" x 7-1/2" 68mils (14ga) | 43mils (18ga) | 33 | 791 | 1164 | 1928 ¹ | 1122 | 1683 ² | 2736 ² | 3646 | 5199 ³ | 6903 ³ | 387,600 | |
| | 54mils (16ga) | 50 | 1606 | 2086 ¹ | 2086 ¹ | 2278 ² | 2736 ² | 2736 ² | 7403 ³ | 7656 ³ | 7656 ³ | | |
| | 68mils (14ga) | 50 | 2086 ¹ | 2086 ¹ | 2086 ¹ | 2736 ² | 2736 ² | 2736 ² | 8186 ³ | 8186 ³ | 8186 ³ | | |
| | 97mils (12ga) | 50 | 2086 ¹ | 2086 ¹ | 2086 ¹ | 2736 ² | 2736 ² | 2736 ² | 8186 ³ | 8186 ³ | 8186 ³ | | |
| | 43mils (18ga) | 33 | 791 | 1164 | 1928 ¹ | 1122 | 1683 ² | 3365 ² | 3646 | 5199 ³ | 6903 ³ | | |
| MC977P 2" x 4" x 7-1/2" 97mils (12ga) | 43 mils (18ga) | 33 | 791 | 1164 | 1928 ¹ | 1122 | 1683 ² | 3365 ² | 3646 | 5199 ³ | 6903 ³ | 449,000 | |
| | 54mils (16ga) | 50 | 1606 | 2363 ¹ | 2975 ¹ | 2278 ² | 3417 ² | 3835 | 7403 ³ | 8979 ³ | 8979 ³ | | |
| | 68mils (14ga) | 50 | 2190 ¹ | 2975 ¹ | 2975 ¹ | 3107 ² | 3875 ² | 3875 ² | 8979 ³ | 8979 ³ | 8979 ³ | | |
| | 97mils (12ga) | 50 | 2190 ¹ | 2975 ¹ | 2975 ¹ | 3107 ² | 3875 ² | 3875 ² | 8979 ³ | 8979 ³ | 8979 ³ | | |
| | 43mils (18ga) | 33 | 791 | 1164 | 1928 ¹ | 1122 | 1683 ² | 3365 ² | 3646 | 5199 | 6903 ³ | | |
| MC107P 2" x 4" x 7-1/2" 118mils (10ga) | 54mils (16ga) | 50 | 1606 | 2363 ¹ | 3633 ¹ | 2278 ² | 3417 ² | 3835 ² | 7403 ³ | 9180 ³ | 9180 ³ | 451,000 | |
| | 68mils (14ga) | 50 | 2190 ¹ | 3223 ¹ | 3633 ¹ | 3107 ² | 4236 ² | 4236 ² | 9282 ³ | 9282 ³ | 9282 ³ | | |
| | 97mils (12ga) | 50 | 2190 ¹ | 3223 ¹ | 3633 ¹ | 3107 ² | 4236 ² | 4236 ² | 9282 ³ | 9282 ³ | 9282 ³ | | |

Notes:

- Cells marked with a "1" in shear column indicate that the shear capacity is limited to 1628 lbs when using 1/2" x 2" Hilti Kwik-Bolts into 3000psi concrete.
- Cells marked with a "2" in tension column indicate that the tension capacity is limited to 1509 lbs when using 1/2" x 2" Hilti Kwik-Bolts into 3000psi concrete.
- Cells marked with a "3" in the moment column indicate that the moment capacity is limited to 1761 in-lbs for 3-Series clips, 2767 in-lbs for 5-Series clips, and 3773 in-lbs for 7-Series clips when using 1/2" x 2" Hilti Kwik-Bolts into 3000psi concrete.
- Capacities listed in the table/notes assume that no load reductions are required for spacing or edge distance of Kwik-Bolts.
- Capacities listed in the table represent the capacity of the clip and the screws to the stud. Capacities listed in notes 1-3 are limits if the specified connector to the structure is used. Other 1/2" dia. anchors may be used to achieve the full clip capacity but must be designed separately.
- Moment capacities listed as Max. load/Factor of Safety. Loads must be limited by serviceability load taken as stiffness times the serviceability limit in radians.
- Stiffness is the max. allowable clip moment divided by the clip rotation measured at the max. allowable clip moment.
- No stud-to-track connection is required. Higher loads can be achieved when stud-to-track is connected.
- Use a linear interaction equation for connections involving any combination of F1, F2, and M.
- Allowable loads have not been increased for wind, seismic, or other factors.
- Torsional effects are considered on screw group for F1 & F2 (Shear & Tension) allowable loads.
- Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.
- It is the responsibility of the designer to properly detail connections on the contract drawings.

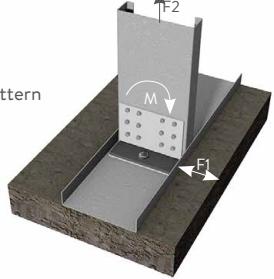


4 Screw Pattern



6 Screw Pattern

ClarkDietrich
Moment Clip
w/ 12 Screw Pattern
& Anchor Bolt



Pony Wall Heavy (12ga)

Partial wall framing connection to the floor

The ClarkDietrich Pony Wall Heavy is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track. Out-of-plane loads are transferred to the floor system through the base-plate, which is welded to the Pony Wall Heavy stud member.

PRODUCT DIMENSIONS

PW24 = 23-3/4" tall with 3-3/8" wide x 8" long plate

PW36 = 35-3/4" tall with 3-3/8" wide x 8" long plate

PW48 = 47-3/4" tall with 3-3/8" wide x 8" long plate

PW60 = 59-3/4" tall with 3-3/8" wide x 8" long plate

MATERIAL SPECIFICATIONS

Plate Material: ASTM A36 1/2" thick hot rolled steel

Stud Material: ASTM A1011 SS Grade 50, 50ksi (340 MPa)

12ga (97mils), 0.1017" Design thickness, 0.0966" Min. thickness

Coating: Envirocron® Powder Coating

Packaging: Individually

ASTM: A36, A1011

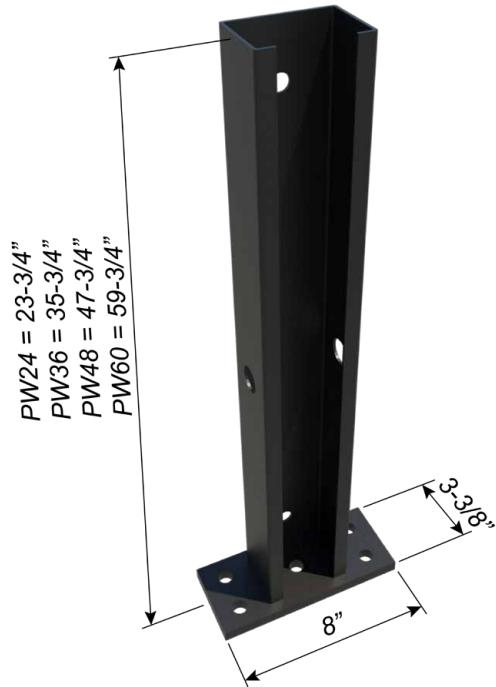
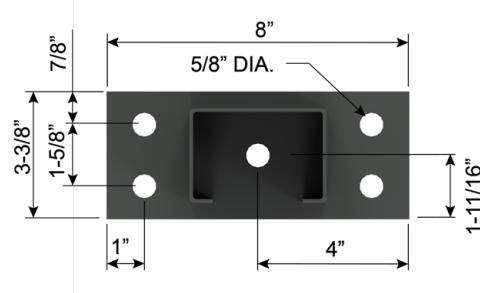
Pony Wall Heavy (PW)

| Product code | Thickness | | Size (in) | Packaging |
|--------------|---------------|-----------------------|-----------|--------------|
| | Mils (Gauge) | Design thickness (in) | | |
| PW24 | 97mils (12ga) | 0.1242 | 23-3/4" | Individually |
| PW36 | | | 35-3/4" | Individually |
| PW48 | | | 47-3/4" | Individually |
| PW60 | | | 59-3/4" | Individually |

Pony Wall Heavy (PW) Rotational Stiffness

| Product code | Member length, in | No. of Anchors | Rotational Stiffness for Wind Deflection (in-lbs/rad)* |
|--------------|-------------------|----------------|--|
| PW | 24/36/48/60 | 1 | 945,000 |
| | | 4 | 1,128,775 |

*Rotational stiffness is the max allowable moment divided by the Pony Wall Heavy (PW) rotation measured at the max allowable moment.



Pony Wall Heavy (PW) Allowable Loads

CONCENTRATED LOAD AT FREE END

MATERIAL SPECIFICATION:

PONY WALL HEAVY STUD

Material Thickness: 12ga (97mils), 0.1017" design thickness

Material Strength: Structural grade 50, 50ksi minimum yield strength

ASTM: A1011

PONY WALL HEAVY BASE PLATE

Material Thickness: 1/2" minimum thickness

Material Strength: 36ksi minimum yield strength

ASTM: A36



Pony Wall Heavy (PW) Allowable Loads

CONCENTRATED LOAD AT FREE END

| Member designation | Pony Wall Length (in) | Max point load @ cantilever end, lbs | | | | | Moment (ASD) due to point load, in-lbs | | | | |
|--------------------|-----------------------|--------------------------------------|--------|--------|--------|-----|--|--------|--------|--------|--------|
| | | L/720* | L/360* | L/240* | L/180* | Max | L/720* | L/360* | L/240* | L/180* | Max |
| Pony Wall Heavy | 24 | 165 | 330 | 495 | 661 | 763 | 3,964 | 7,927 | 11,891 | 15,854 | 18,316 |
| | 36 | 73 | 147 | 220 | 294 | 509 | 2,642 | 5,285 | 7,927 | 10,569 | 18,316 |
| | 48 | 41 | 83 | 124 | 165 | 382 | 1,982 | 3,964 | 5,945 | 7,927 | 18,316 |
| | 60 | 26 | 53 | 79 | 106 | 305 | 1,585 | 3,171 | 4,756 | 6,342 | 18,316 |

* The values shown are based on deflection of the strut member only which has an effective moment of inertia = 0.7739 in⁴. For overall assembly deflection, designers also need to consider deflection due to rotation at the base. The values needed for this additional analysis are provided in the rotational stiffness table.

Notes:

- 1 ClarkDietrich Pony Wall Heavy is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through the base-plate, which is welded to Pony Wall Heavy member.
- 3 ClarkDietrich Pony Wall Heavy (PW) may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 Base connection between ClarkDietrich Pony Wall Heavy and support structure are designed by others.
- 6 Serviceability/deflection needs to be checked separately. To do this, designers need to consider deflection of strut (effective moment of inertia = 0.7739 in⁴) and deflection due to rotation at the base (see rotational stiffness table).
- 7 Listed maximum point load at cantilever end calculated using maximum allowable moment. When both point load and uniform loads are applied, combined loads should be limited to maximum allowable moment.
- 8 It is the responsibility of the designer to properly detail connections on the contract drawings.

Pony Wall Heavy (PW) Allowable Loads w/Anchors

CONCENTRATED LOAD AT FREE END

| Member designation | Pony Wall length, in | Anchors to structure | No. of Anchors | Max point load @ cantilever end, lbs | | | | | Allowable base moment, in-lbs | | | | | |
|--------------------|----------------------|---|----------------|--------------------------------------|--------|--------|--------|-----|-------------------------------|-------|--------|--------|--------|--|
| | | | | L/720* | L/360* | L/240* | L/180* | Max | L/720 | L/360 | L/240 | L/180 | Max | |
| PW24 | 24 | 1/2" ϕ Hilti KB1 Expansion Anchor (3-5/8" Nominal Embedment, 3000psi Uncracked concrete) | 1 | 142 | 142 | 142 | 142 | 142 | 3,403 | 3,403 | 3,403 | 3,403 | 3,403 | |
| | | | 4 | 165 | 330 | 452 | 452 | 452 | 3,964 | 7,927 | 10,840 | 10,840 | 10,840 | |
| PW36 | 36 | | 1 | 73 | 95 | 95 | 95 | 95 | 2,642 | 3,403 | 3,403 | 3,403 | 3,403 | |
| | | | 4 | 73 | 147 | 220 | 294 | 301 | 2,642 | 5,285 | 7,927 | 10,569 | 10,840 | |
| PW48 | 48 | | 1 | 41 | 71 | 71 | 71 | 71 | 1,982 | 3,403 | 3,403 | 3,403 | 3,403 | |
| | | | 4 | 41 | 83 | 124 | 165 | 226 | 1,982 | 3,964 | 5,945 | 7,927 | 10,840 | |
| PW60 | 60 | | 1 | 26 | 53 | 57 | 57 | 57 | 1,585 | 3,171 | 3,403 | 3,403 | 3,403 | |
| | | | 4 | 26 | 53 | 79 | 106 | 181 | 1,585 | 3,171 | 4,756 | 6,342 | 10,840 | |

* The values shown are based on deflection of the strut member only which has an effective moment of inertia = 0.7739 in⁴. For overall assembly deflection, designers also need to consider deflection due to rotation at the base. The values needed for this additional analysis are provided in the rotational stiffness table.

Notes:

- 1 ClarkDietrich Pony Wall Heavy is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through base-plate, which is welded to Pony Wall member.
- 3 ClarkDietrich Pony Wall Heavy (PW) may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 Serviceability/deflection needs to be checked separately. To do this, designers need to consider deflection of strut (effective moment of inertia = 0.7739 in⁴) and deflection due to rotation at the base (see rotational stiffness table).
- 6 Above listed capacities w/anchors shall be used only when using 1/2" ϕ Hilti KB1 Expansion Anchors to concrete.
- 7 Other anchors may be used to achieve full Pony Wall Heavy capacity, but must be designed separately.
- 8 Above listed capacities have not been increased for wind, seismic, or other factors.
- 9 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.
- 10 It is the designer's responsibility to check for minimum concrete edge distance and minimum concrete thickness when using anchors.
- 11 It is the responsibility of the designer to properly detail connections on the contract drawings.



(1) Anchors to structure



(4) Anchors to structure

Pony Wall Heavy (12ga)

Pony Wall Heavy (PW) Allowable Loads

MAXIMUM ALLOWABLE LOADS

MATERIAL SPECIFICATION:

PONY WALL HEAVY STUD

Material Thickness: 12ga (97mils), 0.1017" design thickness

Material Strength: Structural grade 50, 50ksi minimum yield strength

ASTM: A1011

PONY WALL HEAVY BASE PLATE

Material Thickness: 1/2" minimum thickness

Material Strength: 36ksi minimum yield strength

ASTM: A36

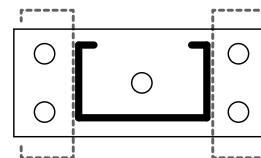


Pony Wall Heavy (PW) Allowable Loads

| Member designation | Pony Wall Length (in) | Anchors to structure | Strength based capacity (ASD) | | |
|--------------------|-----------------------|----------------------|-------------------------------|--------------------------------------|-------------------------------------|
| | | | Allowable moment, in-lbs | Max point load @ cantilever end, lbs | Max uniform live (UDL) load, lbs/ft |
| Pony Wall | 24 | Designed by others | 18,316 | 763 | 763 |
| | 36 | | | 509 | 339 |
| | 48 | | | 382 | 191 |
| | 60 | | | 305 | 122 |

Notes:

- 1 ClarkDietrich Pony Wall Heavy (PW) is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through the base-plate, which is welded to Pony Wall Heavy member.
- 3 ClarkDietrich Pony Wall Heavy (PW) may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 Base connection between ClarkDietrich Pony Wall Heavy and support structure are designed by others.
- 6 Serviceability/deflection needs to be checked separately. To do this, designers need to consider deflection of strut (effective moment of inertia = 0.7739 in⁴) and deflection due to rotation at the base (see rotational stiffness table).
- 7 Listed maximum point load at cantilever end calculated using maximum allowable moment. Similarly, listed maximum uniformly distributed load calculated using maximum allowable moment. When both point load and uniform loads are applied, combined loads should be limited to maximum allowable moment.
- 8 It is the responsibility of the designer to properly detail connections on the contract drawings.



Uniformly distributed loads are based on framing members placed on each side of the Pony Wall



(1) Anchor to structure



(4) Anchors to structure

Pony Wall Heavy (PW) Allowable Loads w/Anchors

| Member designation | Anchors to structure | Strength based capacity (ASD) | |
|--------------------|--|-------------------------------|-------------------------------|
| | | No. of Anchors to Structure | Allowable base moment, in-lbs |
| PW24/PW36/PW48/P60 | 1/2" ϕ Hilti KB1 Expansion Anchor (3-5/8" Nominal Embedment, 3000psi Uncracked Concrete) | 1 | 3,403 |
| | | 4 | 10,840 |

Notes:

- 1 ClarkDietrich Pony Wall Heavy is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through base-plate, which is welded to Pony Wall Heavy member.
- 3 ClarkDietrich Pony Wall Heavy (PW) may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 Serviceability/deflection needs to be checked separately. To do this, designers need to consider deflection of strut (effective moment of inertia = 0.7739 in⁴) and deflection due to rotation at the base (see rotational stiffness table).
- 6 Above listed capacities w/anchors shall be used only when using 1/2" ϕ Hilti KB1 Expansion Anchors to concrete.
- 7 Other anchors may be used to achieve full Pony Wall Heavy capacity, but must be designed separately.
- 8 Above listed capacities have not been increased for wind, seismic, or other factors.
- 9 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.
- 10 It is the designer's responsibility to check for minimum concrete edge distance and minimum concrete thickness when using anchors.
- 11 It is the responsibility of the designer to properly detail connections on the contract drawings.

Pony Wall Heavy (PW) Allowable Loads

UNIFORMLY DISTRIBUTED LOAD

MATERIAL SPECIFICATION:

PONY WALL HEAVY STUD

Material Thickness: 12ga (97mils), 0.1017" design thickness

Material Strength: Structural grade 50, 50ksi minimum yield strength

ASTM: A1011

PONY WALL HEAVY BASE PLATE

Material Thickness: 1/2" minimum thickness

Material Strength: 36ksi minimum yield strength

ASTM: A36



Pony Wall Heavy (PW) Allowable Loads

UNIFORMLY DISTRIBUTED LOAD

| Member designation | Pony Wall Length (in) | Uniformly distributed load, lbs/ft | | | | | Moment (ASD) due to uniform load, in-lbs | | | | |
|--------------------|-----------------------|------------------------------------|--------|--------|--------|-----|--|--------|--------|--------|--------|
| | | L/720* | L/360* | L/240* | L/180* | Max | L/720* | L/360* | L/240* | L/180* | Max |
| Pony Wall Heavy | 24 | 220 | 440 | 661 | 763 | 763 | 5,285 | 10,569 | 15,854 | 18,316 | 18,316 |
| | 36 | 65 | 130 | 196 | 261 | 339 | 3,523 | 7,046 | 10,569 | 14,093 | 18,316 |
| | 48 | 28 | 55 | 83 | 110 | 191 | 2,642 | 5,285 | 7,927 | 10,569 | 18,316 |
| | 60 | 14 | 28 | 42 | 56 | 122 | 2,114 | 4,228 | 6,342 | 8,456 | 18,316 |

* The values shown are based on deflection of the strut member only which has an effective moment of inertia = 0.7739 in⁴. For overall assembly deflection, designers also need to consider deflection due to rotation at the base. The values needed for this additional analysis are provided in the rotational stiffness table.

Notes:

1 ClarkDietrich Pony Wall Heavy is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.

2 Out-of-plane loads are transferred to the floor system through the base-plate, which is welded to Pony Wall member.

3 ClarkDietrich Pony Wall Heavy (PW) may be used in place of standard framing members, or in conjunction with them to frame the wall.

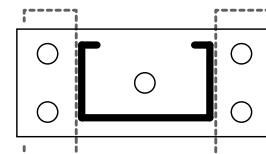
4 Listed allowable loads are based on Allowable Stress Design (ASD).

5 Base connection between ClarkDietrich Pony Wall Heavy and support structure are designed by others.

6 Serviceability/deflection needs to be checked separately. To do this, designers need to consider deflection of strut (effective moment of inertia = 0.7739 in⁴) and deflection due to rotation at the base (see rotational stiffness table).

7 Listed maximum point load at cantilever end calculated using maximum allowable moment. When both point load and uniform loads are applied, combined loads should be limited to maximum allowable moment.

8 It is the responsibility of the designer to properly detail connections on the contract drawings.



Uniformly distributed loads are based on framing members placed on each side of the Pony Wall



(1) Anchor to structure



(4) Anchors to structure

Pony Wall Heavy (PW) Allowable Loads w/Anchors

UNIFORMLY DISTRIBUTED LOAD

| Member designation | Pony Wall length, in | Anchors to structure | No. of Anchors | Uniformly distributed loads, lbs/ft | | | | | Allowable base moment, in-lbs | | | | |
|--------------------|----------------------|---|----------------|-------------------------------------|-------|-------|-------|-----|-------------------------------|--------|--------|--------|--------|
| | | | | L/720 | L/360 | L/240 | L/180 | Max | L/720 | L/360 | L/240 | L/180 | Max |
| PW24 | 24 | 1/2" ϕ Hilti KB1 Expansion Anchor (3-5/8" Nominal Embedment, 3000psi Uncracked concrete) | 1 | 142 | 142 | 142 | 142 | 142 | 3,403 | 3,403 | 3,403 | 3,403 | 3,403 |
| | | | 4 | 220 | 440 | 452 | 452 | 452 | 5,285 | 10,569 | 10,840 | 10,840 | 10,840 |
| PW36 | 36 | 1/2" ϕ Hilti KB1 Expansion Anchor (3-5/8" Nominal Embedment, 3000psi Uncracked concrete) | 1 | 63 | 63 | 63 | 63 | 63 | 3,403 | 3,403 | 3,403 | 3,403 | 3,403 |
| | | | 4 | 65 | 130 | 196 | 201 | 201 | 3,523 | 7,046 | 10,569 | 10,840 | 10,840 |
| PW48 | 48 | 1/2" ϕ Hilti KB1 Expansion Anchor (3-5/8" Nominal Embedment, 3000psi Uncracked concrete) | 1 | 28 | 35 | 35 | 35 | 35 | 2,642 | 3,403 | 3,403 | 3,403 | 3,403 |
| | | | 4 | 28 | 55 | 83 | 110 | 113 | 2,642 | 5,285 | 7,927 | 10,569 | 10,840 |
| PW60 | 60 | 1/2" ϕ Hilti KB1 Expansion Anchor (3-5/8" Nominal Embedment, 3000psi Uncracked concrete) | 1 | 14 | 23 | 23 | 23 | 23 | 2,114 | 3,403 | 3,403 | 3,403 | 3,403 |
| | | | 4 | 14 | 28 | 42 | 56 | 72 | 2,114 | 4,228 | 6,342 | 8,456 | 10,840 |

* The values shown are based on deflection of the strut member only which has an effective moment of inertia = 0.7739 in⁴. For overall assembly deflection, designers also need to consider deflection due to rotation at the base. The values needed for this additional analysis are provided in the rotational stiffness table.

Notes:

1 ClarkDietrich Pony Wall Heavy is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.

2 Out-of-plane loads are transferred to the floor system through base-plate, which is welded to Pony Wall member.

3 ClarkDietrich Pony Wall Heavy (PW) may be used in place of standard framing members, or in conjunction with them to frame the wall.

4 Listed allowable loads are based on Allowable Stress Design (ASD).

5 Serviceability/deflection needs to be checked separately. To do this, designers need to consider deflection of strut (effective moment of inertia = 0.7739 in⁴) and deflection due to rotation at the base (see rotational stiffness table).

6 Above listed capacities w/anchors shall be used only when using 1/2" ϕ Hilti KB1 Expansion Anchors to concrete.

7 Other anchors may be used to achieve full Pony Wall Heavy capacity, but must be designed separately.

8 Above listed capacities have not been increased for wind, seismic, or other factors.

9 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.

10 It is the designer's responsibility to check for minimum concrete edge distance and minimum concrete thickness when using anchors.

11 It is the responsibility of the designer to properly detail connections on the contract drawings.

Pony Wall Lite (16ga)

Partial wall framing connection to the floor

The ClarkDietrich Pony Wall Lite is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track. Out-of-plane loads are transferred to the floor system through the base-plate, which is welded to the Pony Wall Lite stud member.

PRODUCT DIMENSIONS

LGPW24 = 23-5/8" tall with 2-3/8" wide x 5-1/2" long plate

LGPW36 = 35-5/8" tall with 2-3/8" wide x 5-1/2" long plate

LGPW48 = 47-5/8" tall with 2-3/8" wide x 5-1/2" long plate

LGPW60 = 59-5/8" tall with 2-3/8" wide x 5-1/2" long plate

MATERIAL SPECIFICATIONS

Plate Material: ASTM A36, 3/8" thick hot rolled steel

Stud Material: ASTM A1011 SS Grade 50, 50ksi (340 MPa)

16ga (54mils), 0.0566" Design thickness, 0.0538" Min. thickness

Coating: Envirocron® Powder Coating

Packaging: Individually

ASTM: A36, A1011

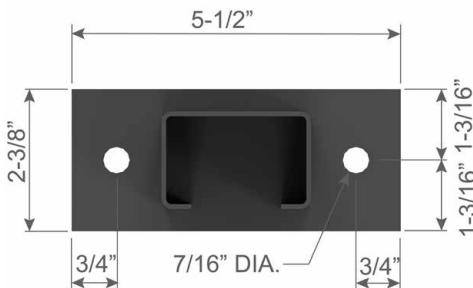
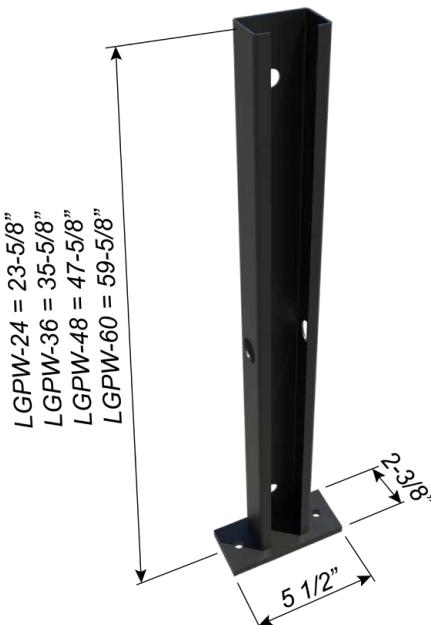
Pony Wall Lite (LGPW)

| Product code | Thickness | | Size (in) | Packaging |
|--------------|---------------|-----------------------|-----------|--------------|
| | Mils (Gauge) | Design thickness (in) | | |
| LGPW24 | | | 23-5/8" | |
| LGPW36 | 54mils (16ga) | 0.0566 | 35-5/8" | |
| LGPW48 | | | 47-5/8" | Individually |
| LGPW60 | | | 59-5/8" | |



INSTALLATION

Install the Pony Wall Lite inside the track or directly to the floor structure. Anchor to the floor as designed by EOR. Attach the studs to both flanges of the Pony Wall Lite. A minimum of 2-1/2" stud member can be used.



Pony Wall Lite (LGPW) Allowable Loads

CONCENTRATED LOAD AT FREE END

MATERIAL SPECIFICATION:

PONY WALL LITE STUD

Material Thickness: 16ga (54mils), 0.0566" design thickness

Material Strength: Structural grade 50, 50ksi minimum yield strength

ASTM: A1011

PONY WALL LITE BASE PLATE

Material Thickness: 3/8" minimum thickness

Material Strength: 36ksi minimum yield strength

ASTM: A36



Pony Wall Lite (LGPW) Allowable Loads

CONCENTRATED LOAD AT FREE END

| Member designation | Pony Wall Length (in) | Max point load @ cantilever end, lbs | | | Moment (ASD) due to point load, in-lbs | | |
|--------------------|-----------------------|--------------------------------------|-------|-----|--|-------|------|
| | | L/240 | L/180 | Max | L/240 | L/180 | Max |
| Pony Wall Lite | 24 | 86 | 115 | 177 | 2074 | 2766 | 4253 |
| | 36 | 38 | 51 | 118 | 1383 | 1844 | 4253 |
| | 48 | 22 | 29 | 89 | 1037 | 1383 | 4253 |
| | 60 | 14 | 18 | 71 | 830 | 1106 | 4253 |

Notes:

- 1 Pony Wall Lite is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through the base-plate, which is welded to Pony Wall Lite member.
- 3 Pony Wall Lite may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 Base connection between Pony Wall Lite and support structure are designed by others.
- 6 For serviceability/deflection calculations of Pony Wall Lite, use effective moment of inertia = 0.1350 in⁴ (54mils), 0.1626in⁴ (68mils)
- 7 Listed maximum point load @ cantilever end calculated using maximum allowable moment. When both point load and uniform loads are applied, combined loads should be limited to maximum allowable moment.
- 8 It is the responsibility of the designer to properly detail connections on the contract drawings.

Pony Wall Lite (LGPW) Allowable Loads w/Anchors

CONCENTRATED LOAD AT FREE END

| Member designation | Pony Wall length, in | Anchors to structure | No. of Anchors | Max point load @ cantilever end, lbs | | | Allowable base moment, in-lbs | | |
|--------------------|----------------------|--|----------------|--------------------------------------|-------|-----|-------------------------------|-------|------|
| | | | | L/240 | L/180 | Max | L/240 | L/180 | Max |
| LGPW24 | 24 | 3/8" ϕ Hilti KB1 (2-3/8" Nominal Embedment, 3000psi Uncracked concrete) | 2 | 73 | 73 | 73 | 1749 | 1749 | 1749 |
| LGPW36 | 36 | | | 38 | 49 | 49 | 1383 | 1749 | 1749 |
| LGPW48 | 48 | | | 22 | 29 | 36 | 1037 | 1383 | 1749 |
| LGPW60 | 60 | | | 14 | 18 | 29 | 830 | 1106 | 1749 |

Notes:

- 1 Pony Wall Lite is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through base-plate, which is welded to Pony Wall Lite member.
- 3 Pony Wall Lite may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 For serviceability/deflection calculations of Pony Wall Lite, use effective moment of inertia = 0.1350 in⁴ (54mils), 0.1626in⁴ (68mils)
- 6 Above listed capacities w/anchors shall be used only when using 3/8" ϕ Hilti KB1 anchors to concrete.
- 7 Other anchors may be used to achieve full Pony Wall Lite capacity, but must be designed separately.
- 8 Above listed capacities have not been increased for wind, seismic, or other factors.
- 9 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.
- 10 It is the designer's responsibility to check for minimum concrete edge distance and minimum concrete thickness when using anchors.
- 11 It is the responsibility of the designer to properly detail connections on the contract drawings.



(2) Anchors to structure

Pony Wall Lite (16ga)

Pony Wall Lite (LGPW) Allowable Loads

MAXIMUM ALLOWABLE LOADS

MATERIAL SPECIFICATION:

PONY WALL LITE STUD

Material Thickness: 16ga (54mils), 0.0566" design thickness

Material Strength: Structural grade 50, 50ksi minimum yield strength

ASTM: A1011

PONY WALL LITE BASE PLATE

Material Thickness: 3/8" minimum thickness

Material Strength: 36ksi minimum yield strength

ASTM: A36

Pony Wall Lite (LGPW) Allowable Loads

| Member designation | Pony Wall Length (in) | Anchors to structure | Strength based capacity (ASD) | | |
|--------------------|-----------------------|----------------------|-------------------------------|--------------------------------------|-------------------------------------|
| | | | Allowable moment, in-lbs | Max point load @ cantilever end, lbs | Max uniform live (UDL) load, lbs/ft |
| Pony Wall Lite | 24 | Designed by others | 4253 | 177 | 177 |
| | 36 | | | 118 | 79 |
| | 48 | | | 89 | 44 |
| | 60 | | | 71 | 28 |

Notes:

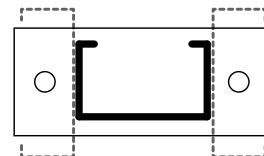
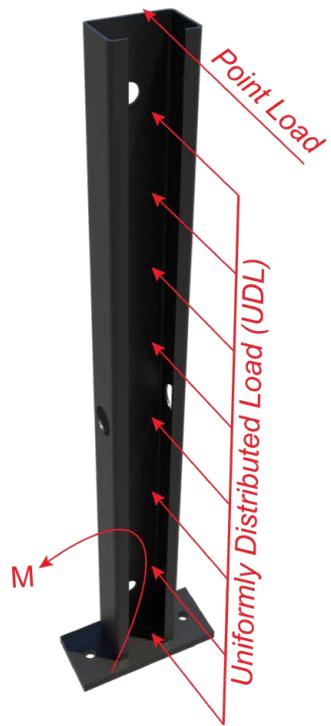
- 1 Pony Wall Lite is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through the base-plate, which is welded to Pony Wall Lite member.
- 3 Pony Wall Lite may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 Base connection between Pony Wall Lite and support structure are designed by others.
- 6 For serviceability/deflection calculations of Pony Wall Lite, use effective moment of inertia = 0.1350 in⁴ (54mils), 0.1626in⁴ (68mils)
- 7 Listed maximum point load @ cantilever end calculated using maximum allowable moment. Similarly, listed maximum uniformly distributed load calculated using maximum allowable moment. When both point load and uniform loads are applied, combined loads should be limited to maximum allowable moment.
- 8 It is the responsibility of the designer to properly detail connections on the contract drawings.

Pony Wall Lite (LGPW) Allowable Loads w/Anchors

| Member designation | Anchors to structure | Strength based capacity (ASD) | |
|--------------------------------|---|-------------------------------|-------------------------------|
| | | No. of Anchors to Structure | Allowable base moment, in-lbs |
| LGPW24, LGPW36, LGPW48, LGPW60 | 3/8" ϕ Hilti KB1 (2-3/8" Nominal Embedment, 3000psi Uncracked concrete) | 2 | 1749 |

Notes:

- 1 Pony Wall Lite is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through base-plate, which is welded to Pony Wall Lite member.
- 3 Pony Wall Lite may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 For serviceability/deflection calculations of Pony Wall Lite, use effective moment of inertia = 0.1350 in⁴ (54mils), 0.1626in⁴ (68mils)
- 6 Above listed capacities w/anchors shall be used only when using 3/8" ϕ Hilti KB1 anchors to concrete.
- 7 Other anchors may be used to achieve full Pony Wall Lite capacity, but must be designed separately.
- 8 Above listed capacities have not been increased for wind, seismic, or other factors.
- 9 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.
- 10 It is the designer's responsibility to check for minimum concrete edge distance and minimum concrete thickness when using anchors.
- 11 It is the responsibility of the designer to properly detail connections on the contract drawings.



Uniformly distributed loads are based on framing members placed on each side of the Pony Wall



(2) Anchors to structure

Pony Wall Lite (LGPW) Allowable Loads

UNIFORMLY DISTRIBUTED LOAD

MATERIAL SPECIFICATION:

PONY WALL LITE STUD

Material Thickness: 16ga (54mils), 0.0566" design thickness

Material Strength: Structural grade 50, 50ksi minimum yield strength

ASTM: A1011

PONY WALL LITE BASE PLATE

Material Thickness: 3/8" minimum thickness

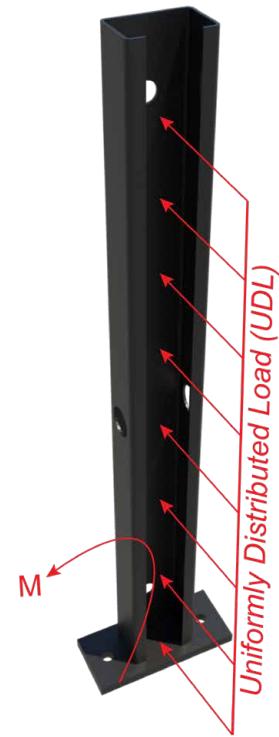
Material Strength: 36ksi minimum yield strength

ASTM: A36

| Pony Wall Lite (LGPW) Allowable Loads | | | UNIFORMLY DISTRIBUTED LOAD | | |
|---------------------------------------|-----------------------|------------------------------------|----------------------------|-------|--|
| Member designation | Pony Wall Length (in) | Uniformly distributed load, lbs/ft | | | Moment (ASD) due to uniform load, in-lbs |
| | | L/240 | L/180 | Max | |
| Pony Wall Lite | 24 | 115 | 154 | 177 | 2766 |
| | 36 | 34 | 46 | 79 | 1844 |
| | 48 | 14 | 19 | 44 | 1383 |
| | 60 | 7 | 10 | 28 | 1106 |
| | | | L/240 | L/180 | Max |
| | | | 3688 | 4253 | |
| | | | 2458 | 4253 | |
| | | | 1844 | 4253 | |
| | | | 1475 | 4253 | |

Notes:

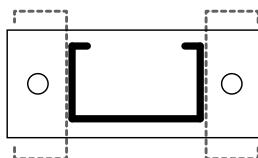
- 1 Pony Wall Lite is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through the base-plate, which is welded to Pony Wall Lite member.
- 3 Pony Wall Lite may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 Base connection between Pony Wall Lite and support structure are designed by others.
- 6 For serviceability/deflection calculations of Pony Wall Lite, use effective moment of inertia = 0.1350 in⁴ (54mils), 0.1626in⁴ (68mils)
- 7 Listed maximum uniformly distributed load calculated using maximum allowable moment. When both point load and uniform loads are applied, combined loads should be limited to maximum allowable moment.
- 8 It is the responsibility of the designer to properly detail connections on the contract drawings.



Pony Wall Lite (LGPW) Allowable Loads w/Anchors

UNIFORMLY DISTRIBUTED LOAD

| Member designation | Pony Wall length, in | Anchors to structure | No. of Anchors | Uniformly distributed loads, lbs/ft | | | Allowable base moment, in-lbs | | |
|--------------------|----------------------|---|----------------|-------------------------------------|-------|-----|-------------------------------|-------|------|
| | | | | L/240 | L/180 | Max | L/240 | L/180 | Max |
| LGPW24 | 24 | 3/8" ϕ Hilti KB1 (2-3/8" Nominal Embedment, 3000psi Uncracked concrete) | 2 | 73 | 73 | 73 | 1749 | 1749 | 1749 |
| LGPW36 | 36 | | | 32 | 32 | 32 | 1749 | 1749 | 1749 |
| LGPW48 | 48 | | | 14 | 18 | 18 | 1383 | 1749 | 1749 |
| LGPW60 | 60 | | | 7 | 10 | 12 | 1106 | 1475 | 1749 |



Uniformly distributed loads are based on framing members placed on each side of the Pony Wall



(2) Anchors to structure

Notes:

- 1 Pony Wall Lite is intended to support out-of-plane loading of cantilevered partial wall systems that are unsupported at the top track.
- 2 Out-of-plane loads are transferred to the floor system through base-plate, which is welded to Pony Wall Lite member.
- 3 Pony Wall Lite may be used in place of standard framing members, or in conjunction with them to frame the wall.
- 4 Listed allowable loads are based on Allowable Stress Design (ASD).
- 5 For serviceability/deflection calculations of Pony Wall Lite, use effective moment of inertia = 0.1350 in⁴ (54mils), 0.1626in⁴ (68mils)
- 6 Above listed capacities w/anchors shall be used only when using 3/8" ϕ Hilti KB1 anchors to concrete.
- 7 Other anchors may be used to achieve full Pony Wall Lite capacity, but must be designed separately.
- 8 Above listed capacities have not been increased for wind, seismic, or other factors.
- 9 Hilti is a registered trademark of Hilti Aktiengesellschaft Corporation.
- 10 It is the designer's responsibility to check for minimum concrete edge distance and minimum concrete thickness when using anchors.
- 11 It is the responsibility of the designer to properly detail connections on the contract drawings.

Fixed Universal Slip Clip

10 and 12 gauge fixed universal slip clip.

The clips are available in standard lengths of 6" and 8" in 12 and 10 gauge. They are ideal for medium to larger standoff conditions. FUS clips install quickly and provide adjustable standoff to ensure a plumb wall plane.

- Eliminates shims and scabs.
- Fast, one-piece universal installation. No left- or right-handed clips.
- Can be used in applications where significantly higher capacities are required.

PRODUCT DIMENSIONS

Lengths: 6" or 8"

MATERIAL SPECIFICATIONS

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

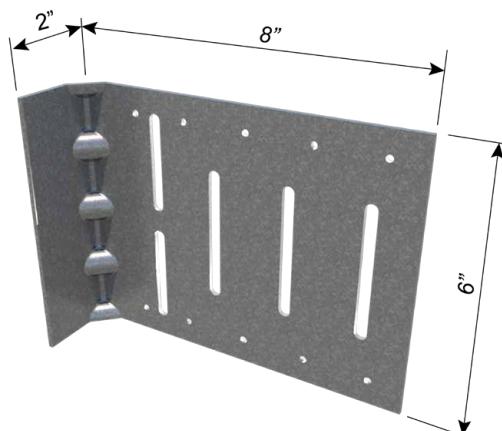
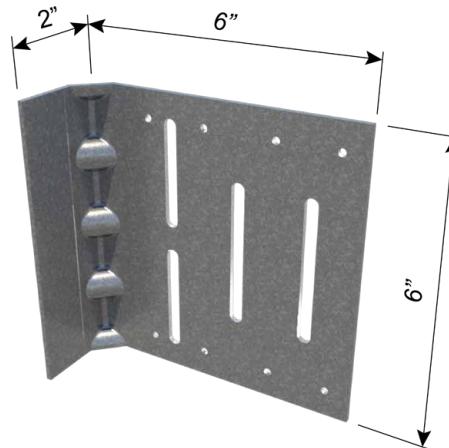
Gauge: 10 gauge (118mils)

Design Thickness: 0.1242 inches

Coating: G90 (Z275 hot-dipped galvanized coating)

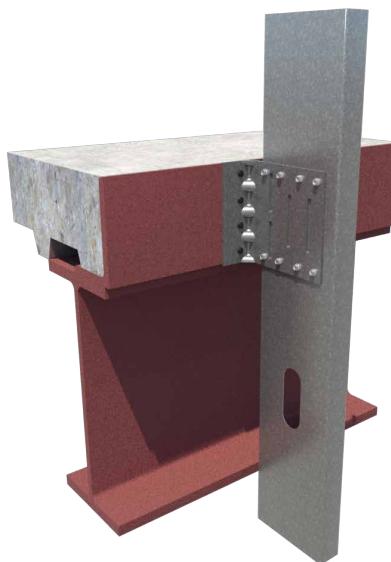
Material: Structural Grade 50 Type H (ST50H), 50ksi

ASTM: A653/A653M, ASTM A1003



Fixed Universal Slip Clip (FUS6, FUS8)

| Product code | Thickness | | Clip length (in) | Packaging Pcs./Box |
|--------------|----------------|-----------------------|------------------|--------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| FUS6-97 | 97mils (12ga) | 0.1017 | 6 | 10 |
| FUS8-97 | | | 8 | 10 |
| FUS6-118 | 118mils (10ga) | 0.1242 | 6 | 10 |
| FUS8-118 | | | 8 | 10 |



INSTALLATION

Connections to the building can be made with screws, welds powder-actuated fasteners. Mechanical fasteners shall be located on the embossed marks given on the scored line of the 2" flange. Attach building anchors to the structure according to the manufacturer's instructions. Anchors shall be installed through the embossments on the scored line of the clip as shown on the attached drawings. In no case shall anchors be installed more than 3/4" from the bend on the short leg of the clip. In cases of discrepancy between this information and the Design Engineer's details, the Design Engineer's details shall be followed.

For a Rigid Connection:

Attach the FUS clip to cold-formed steel framing members using (8) #12 self-tapping screws (not included) for the FUS6 clip and (10) #12 self-drilling screws (not included) for the FUS8 clip through the clip holes into the steel framing. For a rigid connection, screws should not be installed in any of the slotted holes.

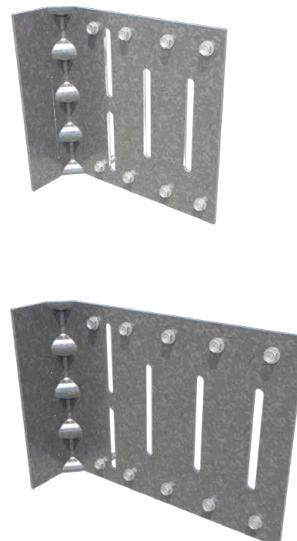
Fixed Universal Slip Clip Design Capacities

RIGID CONNECTIONS

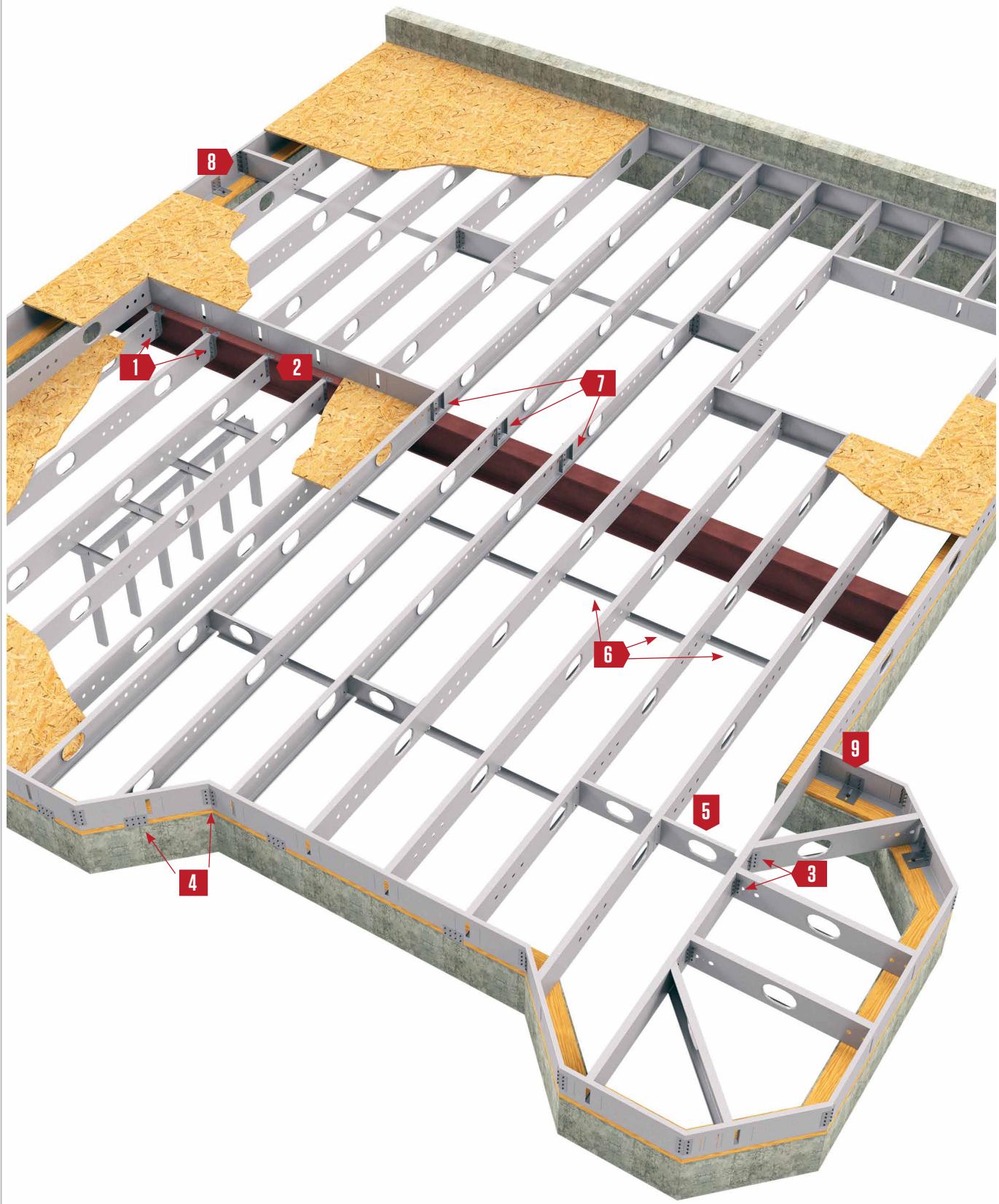
| Product code | Clip thickness mils (gauge) | Clip length (in) | No. of #12 screws to framing | Stud thickness mils (gauge) | Capacities (lbs) | | | |
|--------------|-----------------------------|------------------|------------------------------|-----------------------------|------------------|---------|-------------|-------|
| | | | | | In-Plane | Tension | Compression | Shear |
| | | | | | F1 | F2 | F3 | F4 |
| FUS6-97 | 97mils (12ga) | 6 | 8 | 33mils (20ga) | 162 | 1550 | 1258 | 921 |
| | | | | 43mils (18ga) | 239 | 1974 | 1716 | 1555 |
| | | | | 54mils (16ga) | 323 | 2439 | 2217 | 2250 |
| | | | | 68mils (14ga) | 476 | 2468 | 2789 | 2402 |
| | | | | 97mils (12ga) | 793 | 2529 | 3971 | 2718 |
| FUS8-97 | 97mils (12ga) | 8 | 10 | 33mils (20ga) | 162 | 1550 | 1258 | 921 |
| | | | | 43mils (18ga) | 250 | 1974 | 1652 | 1300 |
| | | | | 54mils (16ga) | 346 | 2439 | 2084 | 1716 |
| | | | | 68mils (14ga) | 513 | 2469 | 2638 | 2088 |
| | | | | 97mils (12ga) | 859 | 2531 | 3784 | 2857 |
| FUS6-118 | 118mils (10ga) | 6 | 8 | 33mils (20ga) | 171 | 1538 | 1470 | 921 |
| | | | | 43mils (18ga) | 229 | 2358 | 2107 | 1555 |
| | | | | 54mils (16ga) | 294 | 3255 | 2805 | 2250 |
| | | | | 68mils (14ga) | 458 | 3286 | 3515 | 2402 |
| | | | | 97mils (12ga) | 799 | 3351 | 4982 | 2718 |
| FUS8-118 | 118mils (10ga) | 8 | 10 | 33mils (20ga) | 171 | 1538 | 1470 | 921 |
| | | | | 43mils (18ga) | 241 | 2358 | 2216 | 1300 |
| | | | | 54mils (16ga) | 319 | 3255 | 3033 | 1716 |
| | | | | 68mils (14ga) | 474 | 3286 | 3672 | 2088 |
| | | | | 97mils (12ga) | 794 | 3351 | 4995 | 2857 |

Notes:

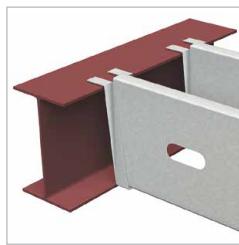
- 1 FUS was tested in compliance with ICC-ES AC-261 (2019) listed test setups.
- 2 #12 self-tapping screws were used to attach clips to framing members.
- 3 The ultimate screw shear strength and screw tension strength for #12 screws shall be at least 2000-lbs, and 2325-lbs respectively.
- 4 The screw strength capacities are based of CFSEI Tech Note (F701-12).
- 5 Allowable loads have not been increased for seismic or wind.



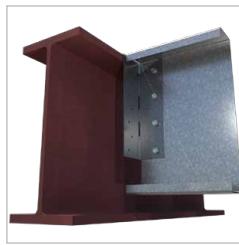
Product Detail



1 Bridle Hanger
pages 122-123



2 Universal Joist Hanger
pages 124-126



3 Skewable Angle
page 128-129



4 TradeReady® Rim Track Splice Plate
pages 130-131



5 TradeReady® Floor Joist Blocking
page 132



6 TradeReady® Structural Bridging
page 133



7 EasyClip™ QuickTwist™ Web Stiffener
pages 134-135



8 EasyClip E-Series™ Support Clip
pages 136-137



9 Custom Fabricated Clips & Connections
pages 2-3



Bridle Hanger

Attach floor joists to structural steel beams or wood ledgers.

Bridle hangers are commonly used to attach light-gauge C-joists to structural steel beams or wood ledgers. Connections can be made with screws, powder-actuated fasteners, drill-in concrete anchors or welding. Single- and double-wide bridle hangers are available.

PRODUCT DIMENSIONS

Widths: 2-1/16" or 4-1/8"

Heights: 6", 8", 10" or 12"

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

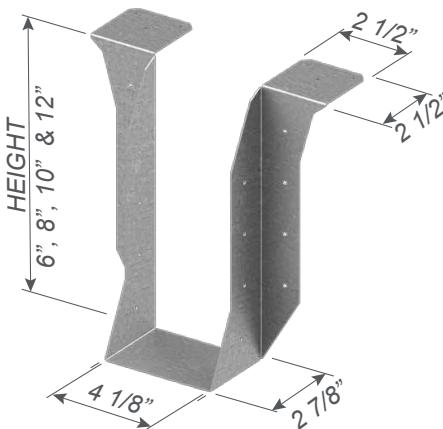
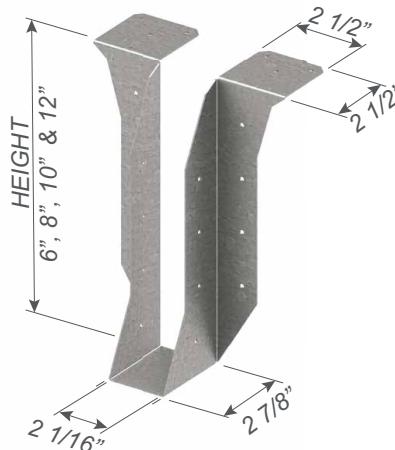
Coating: G90

ASTM: A653/A653M

INSTALLATION

Attach bridle hanger to the primary frame as specified.

When welding the hanger to the primary frame, a minimum of 2" fillet weld on each top flange is required. Distribute the weld equally on both top flanges. Uplift loads do not apply to weld-on applications. Special considerations must be taken when welding galvanized steel. Place joist into hanger and secure with fasteners. If bridle hanger is less than beam depth, provide back blocking.



Bridle Hangers (CDBV, CDMB)

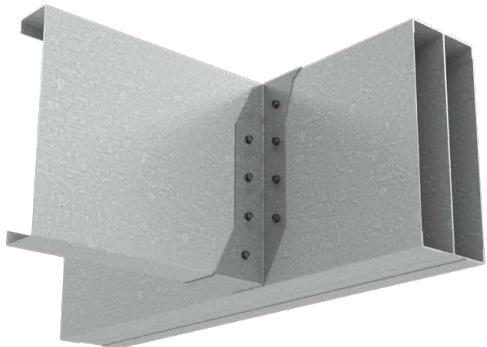
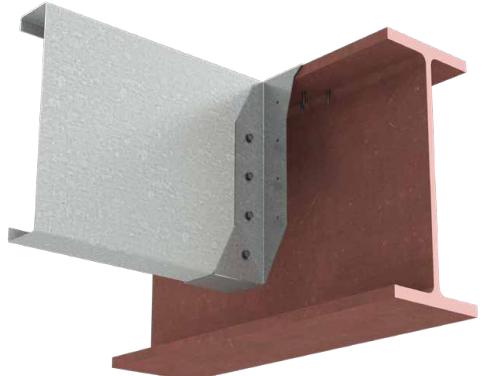
| Product code | Thickness | | Depth (H) (in) | Width (W) (in) | Packaging Pcs./Carton |
|-----------------|---------------|-----------------------|----------------|----------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | | |
| CDBV 1-5/8 x 6 | 68mils (14ga) | 0.0713 | 6 | 1-5/8 | 20 |
| CDBV 1-5/8 x 8 | | | 8 | | 20 |
| CDBV 1-5/8 x 10 | | | 10 | | 15 |
| CDBV 1-5/8 x 12 | | | 12 | | 15 |
| CDBV 2 x 6 | 68mils (14ga) | 0.0713 | 6 | 2-1/16 | 20 |
| CDBV 2 x 8 | | | 8 | | 20 |
| CDBV 2 x 10 | | | 10 | | 15 |
| CDBV 2 x 12 | | | 12 | | 15 |
| CDBV 4 x 6 | 68mils (14ga) | 0.0713 | 6 | 4-1/8 | 15 |
| CDBV 4 x 8 | | | 8 | | 15 |
| CDBV 4 x 10 | | | 10 | | 15 |
| CDBV 4 x 12 | | | 12 | | 15 |
| CDMB 1-5/8 x 6 | 97mils (12ga) | 0.1017 | 6 | 1-5/8 | 20 |
| CDMB 1-5/8 x 8 | | | 8 | | 20 |
| CDMB 1-5/8 x 10 | | | 10 | | 15 |
| CDMB 1-5/8 x 12 | | | 12 | | 15 |
| CDMB 2 x 6 | 97mils (12ga) | 0.1017 | 6 | 2-1/16 | 20 |
| CDMB 2 x 8 | | | 8 | | 20 |
| CDMB 2 x 10 | | | 10 | | 15 |
| CDMB 2 x 12 | | | 12 | | 15 |
| CDMB 4 x 6 | 97mils (12ga) | 0.1017 | 6 | 4-1/8 | 15 |
| CDMB 4 x 8 | | | 8 | | 15 |
| CDMB 4 x 10 | | | 10 | | 15 |
| CDMB 4 x 12 | | | 12 | | 15 |

Bridle Hangers (CDBV, CDMB)

| Product code | Member Designation (in) | | Screw Configuration / Hanger | | ASD Loads (lb) | | |
|--------------------------|-------------------------|--------|------------------------------|----------|----------------|--------|------|
| | Width | Height | Header | | Joist | Uplift | Down |
| | | | Flange | Web | Web | | |
| CDBV 68mils (14ga) | 1-11/16" | 6 | (6) #10 | (4) #12 | (2) #12 | 1146 | 1443 |
| | | 8 | (6) #10 | (6) #12 | (3) #12 | 1929 | 2193 |
| | | 10 | (6) #10 | (8) #12 | (4) #12 | 2314 | 2620 |
| | | 12 | (6) #10 | (10) #12 | (5) #12 | 2873 | 3319 |
| | | 6 | | | (2) #12 | — | 1554 |
| | | 8 | | | (3) #12 | — | 2089 |
| | 2-1/16" | 10 | | | (4) #12 | — | 2089 |
| | | 12 | | | (5) #12 | — | 2089 |
| | | 6 | (6) #10 | (4) #12 | (2) #12 | 1146 | 1443 |
| | | 8 | (6) #10 | (6) #12 | (3) #12 | 1929 | 2193 |
| CDMB 97mils (12ga) | 4-1/8" | 10 | (6) #10 | (8) #12 | (4) #12 | 2314 | 2620 |
| | | 12 | (6) #10 | (10) #12 | (5) #12 | 2873 | 3319 |
| | | 6 | | | (2) #12 | — | 1554 |
| | | 8 | | | (3) #12 | — | 2089 |
| | | 10 | | | (4) #12 | — | 2089 |
| | | 12 | | | (5) #12 | — | 2089 |
| | 1-11/16" | 6 | (6) #10 | (4) #12 | (4) #12 | 2293 | 2886 |
| | | 8 | (6) #10 | (6) #12 | (6) #12 | 3699 | 4197 |
| | | 10 | (6) #10 | (8) #12 | (8) #12 | 4629 | 5239 |
| | | 12 | (6) #10 | (10) #12 | (10) #12 | 5025 | 6054 |
| | 2-1/16" | 6 | | | (4) #12 | — | 3108 |
| | | 8 | | | (6) #12 | — | 3771 |
| | | 10 | | | (8) #12 | — | 5055 |
| | | 12 | | | (10) #12 | — | 5104 |
| | | 6 | (6) #10 | (4) #14 | (2) #14 | 1545 | 2032 |
| | | 8 | (6) #10 | (6) #14 | (3) #14 | 2370 | 2687 |
| | 4-1/8" | 10 | (6) #10 | (8) #14 | (4) #14 | 3166 | 3474 |
| | | 12 | (6) #10 | (10) #14 | (5) #14 | 3927 | 4950 |
| | | 6 | | | (2) #14 | — | 2032 |
| | | 8 | | | (3) #14 | — | 2462 |
| | | 10 | | | (4) #14 | — | 2993 |
| | | 12 | | | (5) #14 | — | 2993 |
| | 1-11/16" | 6 | (6) #10 | (4) #14 | (2) #14 | 1545 | 2032 |
| | | 8 | (6) #10 | (6) #14 | (3) #14 | 2370 | 2687 |
| | | 10 | (6) #10 | (8) #14 | (4) #14 | 3166 | 3474 |
| | | 12 | (6) #10 | (10) #14 | (5) #14 | 3927 | 4950 |
| | | 6 | | | (2) #14 | — | 2032 |
| | | 8 | | | (3) #14 | — | 2462 |
| | 2-1/16" | 10 | | | (4) #14 | — | 2993 |
| | | 12 | | | (5) #14 | — | 2993 |
| | | 6 | (6) #10 | (4) #14 | (4) #14 | 3090 | 4064 |
| | | 8 | (6) #10 | (6) #14 | (6) #14 | 4332 | 5558 |
| | 4-1/8" | 10 | (6) #10 | (8) #14 | (8) #14 | 6332 | 6949 |
| | | 12 | (6) #10 | (10) #14 | (10) #14 | 7771 | 8948 |
| | | 6 | | | (4) #14 | — | 4064 |
| | | 8 | | | (6) #14 | — | 4789 |
| | 1-11/16" | 10 | | | (8) #14 | — | 6078 |
| | | 12 | | | (10) #14 | — | 6489 |

Notes:

- 1 Screws shall be installed through the pre-drilled holes in the hanger or as detailed by the designer.
- 2 CFS joist shall be laterally braced per designer specification.
- 3 An 1/8" gap shall be maintained between end of the joist and the supporting header.
- 4 CFS header must be braced to prevent web crippling/buckling per designer specification.
- 5 CFS header must have full bearing of 2-1/2" flange-depth.
- 6 The ultimate screw shear strength for #12 screws shall be at least 2330 lbs.
- 7 The ultimate screw shear strength for #14 screws shall be at least 3048 lbs.
- 8 The screw shear strength capacities are based on CFSEI Tech Note (F701-12).
- 9 Allowable loads have not been increased for seismic or wind.
- 10 Contact ClarkDietrich Engineering Services for technical assistance.



Floor joist connection to structural steel beams or CFS headers

The Universal Joist Hangers (UJH) 68mils (14ga) are used to connect joists to CFS headers (with screws, welds or PAF fasteners) and steel I-beams (with welds or PAF fasteners). The UJH is sized to fit joist sizes from 8" to 14" deep. Also available in 97mils (12ga).

PRODUCT DIMENSIONS

Dimensions: 4" x 7-1/2" long

Packaging: (25) pieces per bucket

MATERIAL SPECIFICATIONS

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Yield Strength: Structural Grade 50
Type H (ST50H), 50ksi

Coating: G90

ASTM: A1003, ASTM A653

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Yield Strength: Structural Grade 50
Type H (ST50H), 50ksi

Coating: G90

ASTM: A1003, ASTM A653

INSTALLATION

Clip to Joist Attachment:

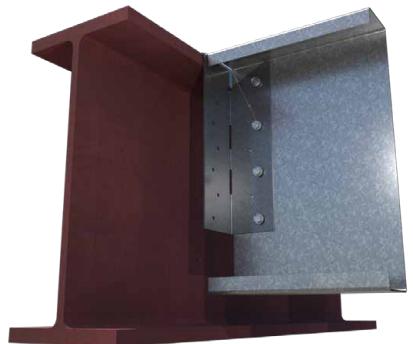
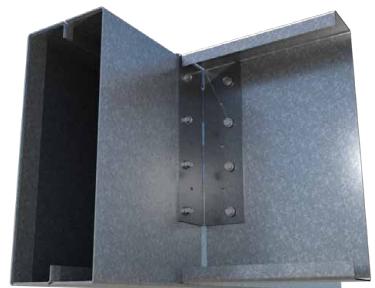
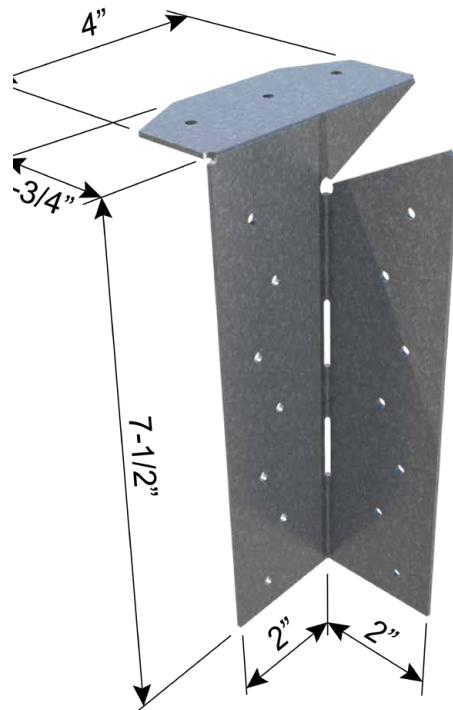
- The joist flange must rest on top of the Universal Joist Hanger as shown in the image to the right. Attach the UJH hanger with specified number of #10 or #14 screws as listed in the table below under the Joist column.

Clip attachment to CFS Header:

- Attach the UJH hanger to the top and side (face) of the CFS Header with specified number of #10 screws as listed in the table below.

Clip attachment to Structural/Steel Beam

- Welded Connection:**
The minimum required weld to the top flange is 2" fillet weld to each side of top flange. Special considerations must be taken when welding galvanized steel.
- PAF (Powder Actuated Fasteners):**
For powder actuated fasteners attachment (PAF, 0.157"), steel beam shall have minimum 3/16" thickness and minimum yield strength of 36ksi.



Universal Joist Hanger (UJH)

| Product code | Thickness | | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | |
| UJH-68 | 68mils (14ga) | 0.0713" | 50 |
| UJH-97 | 97mils (12ga) | 0.1017" | 50 |

UJH-68 Mils (14ga)

ALLOWABLE HANGER LOADS

| Product code | Joist (Gauge) | Header (Gauge) | Fasteners | | | Allowable ASD Loads (lbs) | |
|---------------------------------|---------------|----------------|-----------|---------|---------|---------------------------|------|
| | | | Top | Face | Joist | Uplift | Down |
| ATTACHMENT TO CFS HEADER | | | | | | | |
| UJH-68 | 18 | 16 | 2 - #10 | 2 - #10 | 2 - #10 | 430 | 473 |
| | | | 3 - #10 | 4 - #10 | 4 - #10 | 860 | 946 |
| | | | 3 - #10 | 7 - #10 | 7 - #10 | 860 | 1021 |
| | 16 | 16 | 2 - #10 | 2 - #10 | 2 - #10 | 789 | 789 |
| | | | 3 - #10 | 4 - #10 | 4 - #10 | 1548 | 1548 |
| | | | 3 - #10 | 7 - #10 | 7 - #10 | 1548 | 1705 |
| | 14 | 14 | 2 - #10 | 2 - #10 | 2 - #10 | 852 | 935 |
| | | | 3 - #10 | 4 - #10 | 4 - #10 | 1639 | 1798 |
| | | | 3 - #10 | 7 - #10 | 7 - #10 | 2077 | 2115 |
| | 12 | 12 | 2 - #10 | 2 - #10 | 2 - #10 | 906 | 1035 |
| | | | 3 - #10 | 4 - #10 | 4 - #10 | 1710 | 1953 |
| | | | 3 - #10 | 7 - #10 | 7 - #10 | 2536 | 3026 |

ATTACHMENT TO STEEL HEADER

| | | | | | | | |
|--------|---|----|----------------|---------|------|------|--|
| UJH-68 | 2" long fillet [Weld to each side of top flange] | 18 | 2 - #10 | 132 | 788 | | |
| | | 16 | 4 - #10 | 263 | 975 | | |
| | | 14 | 7 - #10 | 298 | 975 | | |
| | | 12 | 2 - #10 | 132 | 997 | | |
| | | 18 | 4 - #10 | 263 | 1148 | | |
| | | 16 | 7 - #10 | 334 | 1148 | | |
| | | 14 | 2 - #10 | 132 | 997 | | |
| | | 12 | 4 - #10 | 263 | 1148 | | |
| | | 18 | 7 - #10 | 334 | 1148 | | |
| | | 16 | 2 - #10 | 132 | 1035 | | |
| | | 14 | 4 - #10 | 263 | 1285 | | |
| | | 12 | 7 - #10 | 334 | 1285 | | |
| | | 18 | 2 x 0.157" PAF | 2 - #10 | 126 | 784 | |
| | | 16 | 3 x 0.157" PAF | 4 - #10 | 136 | 869 | |
| | | 14 | 2 x 0.157" PAF | 7 - #10 | 136 | 869 | |
| | | 12 | 3 x 0.157" PAF | 2 - #10 | 132 | 965 | |
| | | 18 | 4 - #10 | 171 | 1117 | | |
| | | 16 | 7 - #10 | 171 | 1117 | | |
| | | 14 | 2 x 0.157" PAF | 2 - #10 | 132 | 965 | |
| | | 12 | 4 - #10 | 171 | 1117 | | |
| | | 18 | 7 - #10 | 171 | 1117 | | |
| | | 16 | 2 x 0.157" PAF | 2 - #10 | 132 | 1035 | |
| | | 14 | 4 - #10 | 241 | 1279 | | |
| | | 12 | 7 - #10 | 241 | 1304 | | |

Notes:

- 1 Screws shall be installed through the pre-drilled holes in the hanger or as detailed by the designer.
- 2 CFS joist shall be laterally braced per designer specification.
- 3 For a gap between the end of the joist and the face of the hanger ranging between 0" - 1/2", no adjustment factor is required. When the gap is between 1/2" and 7/8", an adjustment factor of 0.95 shall be used to the load capacities listed.
- 4 For skew condition up to 45°, an adjustment factor of 0.95 for 7-screw condition and 0.80 for 4-screw condition shall be used. No skew is allowed for 2-screw connection.
- 5 If the clip is installed hard side (exterior web) of CFS joist, an adjustment factor of 0.95 shall be used to the load capacities listed. In addition, if the clip has to be skewed up to 45°, an additional adjustment factor of 0.95 for 7-screw condition and 0.80 for 4-screw condition shall be used to the load capacities listed.
- 6 CFS header must be braced to prevent web crippling/buckling per designer specification.
- 7 CFS header must provide full bearing of 1-5/8" flange depth.
- 8 Backing of the steel beam cavity is not required behind the hanger for the load listed.
- 9 The ultimate screw shear strength for #10 screws shall be at least 1644 lbs.
- 10 The screw shear strength capacities are based on CFSEI Tech Note (F701-12).
- 11 Allowable loads have not been increased for seismic or wind.
- 12 Contact ClarkDietrich Engineering Services for technical assistance.

Universal Joist Hanger

UJH-97 Mils (12ga)

ALLOWABLE HANGER LOADS

| Product code | Joist (Ga) | Header (Ga) | Fasteners | | | Allowable ASD Loads (lbs) | |
|---------------------------------|------------|-------------|-----------|---------|---------|---------------------------|------|
| | | | Top | Face | Joist | Uplift | Down |
| ATTACHMENT TO CFS HEADER | | | | | | | |
| UJH-97 | 18 | 16 | 2 - #10 | 2 - #10 | 2 - #14 | 439 | 489 |
| | | | 3 - #10 | 4 - #10 | 4 - #14 | 860 | 959 |
| | | | 3 - #10 | 7 - #14 | 7 - #14 | 958 | 1021 |
| UJH-97 | 16 | 16 | 2 - #10 | 2 - #10 | 2 - #14 | 940 | 940 |
| | | | 3 - #10 | 4 - #10 | 4 - #14 | 1773 | 1773 |
| | | | 3 - #10 | 7 - #14 | 7 - #14 | 1773 | 1931 |
| UJH-97 | 14 | 14 | 2 - #10 | 2 - #10 | 2 - #14 | 1123 | 1327 |
| | | | 3 - #10 | 4 - #10 | 4 - #14 | 2041 | 2413 |
| | | | 3 - #10 | 7 - #14 | 7 - #14 | 2388 | 2445 |
| UJH-97 | 12 | 12 | 2 - #10 | 2 - #10 | 2 - #14 | 1238 | 1898 |
| | | | 3 - #10 | 4 - #10 | 4 - #14 | 2135 | 3273 |
| | | | 3 - #10 | 7 - #14 | 7 - #14 | 4092 | 4350 |

ATTACHMENT TO STEEL HEADER

| | | | | | |
|--------|----|---|---------|-----|------|
| UJH-97 | 18 | 2" long fillet [Weld to each side of top flange] | 2 - #14 | 201 | 837 |
| | | | 4 - #14 | 401 | 975 |
| | | | 7 - #14 | 431 | 975 |
| | | | 2 - #14 | 201 | 1472 |
| | | | 4 - #14 | 401 | 1570 |
| | | | 7 - #14 | 577 | 1696 |
| | | | 2 - #14 | 201 | 1472 |
| | | | 4 - #14 | 401 | 1570 |
| | | | 7 - #14 | 577 | 1696 |
| | | | 2 - #14 | 201 | 1651 |
| | | | 4 - #14 | 401 | 1738 |
| | | | 7 - #14 | 598 | 1761 |
| UJH-97 | 18 | 2 x 0.157" PAF | 2 - #14 | 201 | 890 |
| | | 3 x 0.157" PAF | 4 - #14 | 252 | 890 |
| | | 2 x 0.157" PAF | 7 - #14 | 252 | 890 |
| | | 3 x 0.157" PAF | 2 - #14 | 201 | 1380 |
| UJH-97 | 16 | 2 x 0.157" PAF | 4 - #14 | 332 | 1626 |
| | | 3 x 0.157" PAF | 7 - #14 | 332 | 1626 |
| | | 2 x 0.157" PAF | 2 - #14 | 201 | 1380 |
| | | 3 x 0.157" PAF | 4 - #14 | 332 | 1626 |
| UJH-97 | 14 | 2 x 0.157" PAF | 7 - #14 | 332 | 1626 |
| | | 3 x 0.157" PAF | 2 - #14 | 201 | 1644 |
| | | 2 x 0.157" PAF | 4 - #14 | 367 | 1730 |
| | | 3 x 0.157" PAF | 7 - #14 | 367 | 1812 |

Notes:

- 1 Screws shall be installed through the pre-drilled holes in the hanger or as detailed by the designer.
- 2 CFS joist shall be laterally braced per designer specification.
- 3 For a gap between the end of the joist and the face of the hanger ranging between 0" - 7/8", no adjustment factor is required.
- 4 For skew condition up to 45°, an adjustment factor of 0.85 for 7-screw condition and 0.90 for 4-screw condition shall be used.
No skew is allowed for 2-screw connection.
- 5 If the clip is installed hard side (exterior web) of CFS joist, no adjustment factor is required.
- 6 CFS header must be braced to prevent web crippling/buckling per designer specification.
- 7 CFS header must provide full bearing of 1-5/8" flange-depth.
- 8 Backing of the steel beam cavity is not required behind the hanger for the load listed.
- 9 The ultimate screw shear strength for #14 screws shall be at least 3048 lbs.
- 10 The screw shear strength capacities are based on CFSEI Tech Note (F701-12).
- 11 Allowable loads have not been increased for seismic or wind.
- 12 Contact ClarkDietrich Engineering Services for technical assistance.

Skewable Angle

For rigid and off-angle attachments of joist-to-joist, joist-to-hip beam, or to other structural steel members.

ClarkDietrich skewable angles are used to make rigid attachments of joist-to-joist or joist-to-other miscellaneous framing. This clip is ideal for making off-angle attachments. It is easily field bent from 0° to 90°.

CAUTION: This clip can only be bent one time.

PRODUCT DIMENSIONS

Legs: 2" x 2"

Clip Lengths: 3", 4-3/8", 5", 6-3/8", 7", 9"

MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

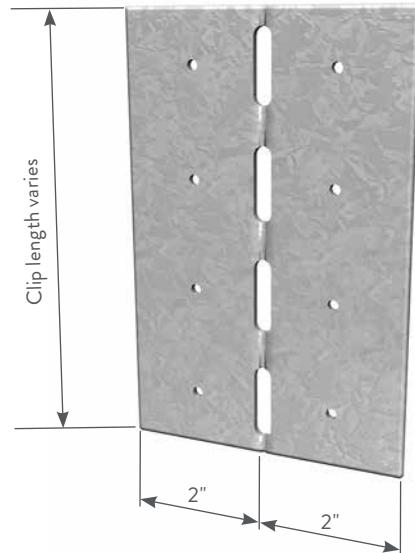
Design Thickness: 0.0451 inches

Coating: G90

ASTM: A653/A1003

INSTALLATION

Use specified fasteners. For off-angle connections, field bend (ONE TIME ONLY) to the required degree so the Skewable Angle fits securely over the two adjoining members. Secure the Skewable Angle by filling all prepunched screw holes with #10 screws or as required by design. Joist must be constrained against rotation when using a single Skewable Angle per connection.

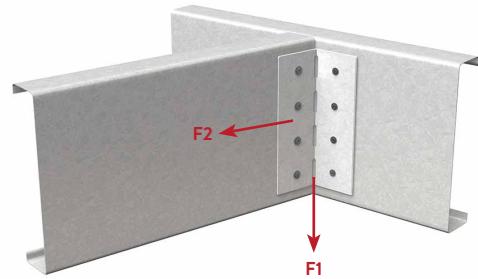


Skewable Angles (SA)

| Product code | Product Thickness | | Height (in) | Packaging Pcs./Carton |
|--------------|-------------------|--------------------------|----------------|--------------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| SA3 | 43mils (18ga) | 0.0451 | 3 | 100 |
| SA4 | 43mils (18ga) | 0.0451 | 4-3/8 | 100 |
| SA5 | 43mils (18ga) | 0.0451 | 5 | 100 |
| SA6 | 43mils (18ga) | 0.0451 | 6-3/8 | 100 |
| SA7 | 43mils (18ga) | 0.0451 | 7 | 100 |
| SA9 | 43mils (18ga) | 0.0451 | 9 | 100 |

Skewable Angle Allowable Loads

| Product code | Stud thickness Mils (Gauge) | Length (in) | Fasteners | Allowable Loads (lbs) | |
|--------------|--------------------------------|-------------|-----------|-----------------------|--------------|
| | | | | Shear (F1) | Tension (F2) |
| SA3 | 33mils (20ga) | 3.000 | 6 - #10 | 339 | 251 |
| | 43mils (18ga) | | | 372 | 328 |
| | 54mils (16ga) | | | 372 | 594 |
| | 68mils (14ga) | | | 372 | 677 |
| | 97mils (12ga) | | | 372 | 677 |
| SA4 | 33mils (20ga) | 4.375 | 6 - #10 | 339 | 251 |
| | 43mils (18ga) | | | 505 | 328 |
| | 54mils (16ga) | | | 512 | 594 |
| | 68mils (14ga) | | | 512 | 748 |
| | 97mils (12ga) | | | 512 | 930 |
| SA5 | 33mils (20ga) | 5.000 | 8 - #10 | 510 | 335 |
| | 43mils (18ga) | | | 744 | 437 |
| | 54mils (16ga) | | | 744 | 792 |
| | 68mils (14ga) | | | 744 | 998 |
| | 97mils (12ga) | | | 744 | 1353 |
| SA6 | 33mils (20ga) | 6.375 | 10 - #10 | 690 | 419 |
| | 43mils (18ga) | | | 884 | 546 |
| | 54mils (16ga) | | | 884 | 990 |
| | 68mils (14ga) | | | 884 | 1247 |
| | 97mils (12ga) | | | 884 | 1607 |
| SA7 | 33mils (20ga) | 7.000 | 10 - #10 | 690 | 419 |
| | 43mils (18ga) | | | 1027 | 546 |
| | 54mils (16ga) | | | 1116 | 990 |
| | 68mils (14ga) | | | 1116 | 1247 |
| | 97mils (12ga) | | | 1116 | 1779 |
| SA9 | 33mils (20ga) | 9.000 | 14 - #10 | 1061 | 587 |
| | 43mils (18ga) | | | 1116 | 765 |
| | 54mils (16ga) | | | 1116 | 1386 |
| | 68mils (14ga) | | | 1116 | 1746 |
| | 97mils (12ga) | | | 1116 | 2030 |

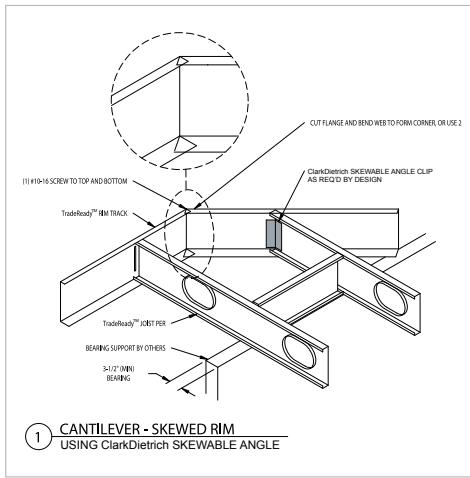


Notes:

- 1 Screws shall be attached through the pre-drilled holes provided.
- 2 The allowable values for F1 and F2 are to be used only when the clip leg is attached to cold-formed steel framing. The capacity of the attachment to other materials and structures must be checked separately.
- 3 This table is intended for use by a qualified design professional. It is the responsibility of the engineer to verify that the tabulated values apply to a specific connection application. The 1/8-in deflection service load limit is not included in the listed tension (F2) capacities.
- 4 Values for 18ga (43 mils) skewable angles were based on using 33 ksi calculations for worst case. These angles are manufactured using 50 ksi.
- 5 The ultimate screw shear strength and tensile strength for #10 screws should be at least 1644 lbs and 1158 lbs respectively. These shear and tensile capacities of #10 screws are based on CFSEI Tech Note (F701-12).
- 6 Allowable loads have not been increased for seismic or wind.
- 7 Contact ClarkDietrich Engineering Services for technical assistance.

Typical Construction Details

Visit our CAD Library at itools.clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.



Field Skewable TradeReady® Rim Track Splice Plate

Ideal for splicing rim joist and is easily field skewable for off-angle rim joist connections.

The ClarkDietrich field skewable TradeReady® rim track splice plate provides an easy and efficient method for splicing TradeReady rim. This prepunched plate is also ideal for connecting and reinforcing the rim at bay or bow window details. The center of the plate allows for easy one-time field bending from 0° to 135°.

CAUTION: This plate can only be bent one time.

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Yield Strength: 50ksi

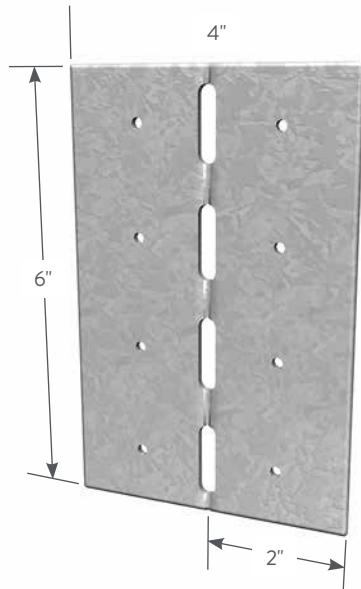
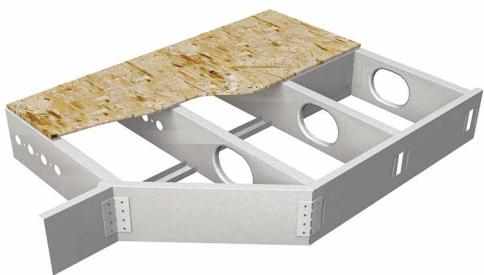
Coating: G90

ASTM: A653/A653M

INSTALLATION

For splicing connections, align center slots in splice plate over the joint of the rim joists. Secure splice plate by filling all prepunched screw holes with #10 screws.

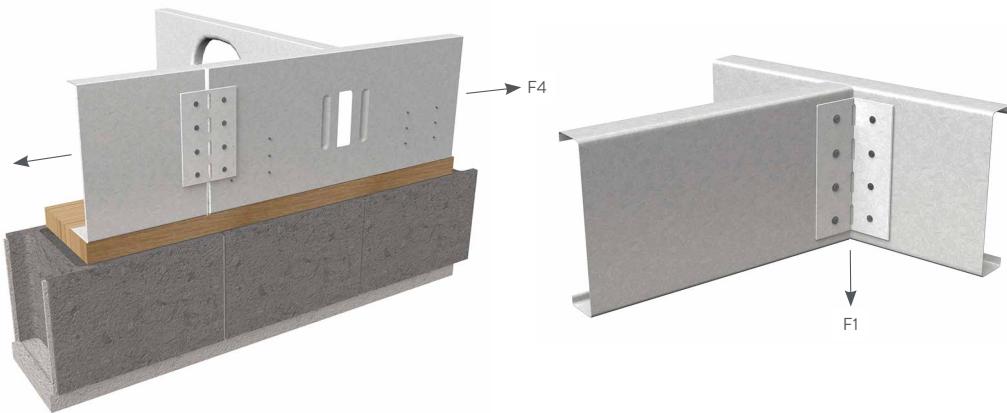
For off-angle connections, field bend (ONE TIME ONLY) to the required degree so the plate fits securely over the two adjoining members. Secure field skewable plate by filling all prepunched screw holes with #10 screws.



Field Skewable TradeReady Rim Track Splice Plate

Field Skewable TradeReady® Rim Track Splice Plates (TDSP)

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|-----------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| TDSP | 54mils (16ga) | 0.0566 | 4 x 6 | 100 |



Field Skewable TradeReady® Rim Track Splice Plates (TDSP)

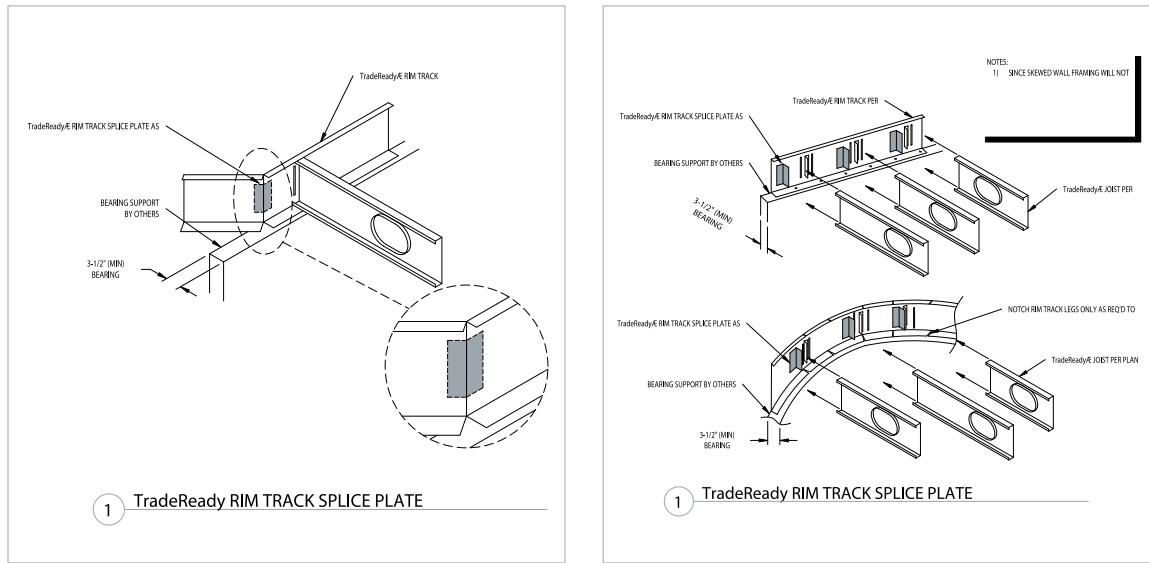
ALLOWABLE LOADS

| Product code | TDSP gauge | Framing material gauge | Framing material yield (ksi) | Tension F4 (lbs) | Shear F1 (lbs) |
|--------------|------------|------------------------|------------------------------|------------------|----------------|
| TDSP | 18 | 20 | 33 | 560 | 437 |
| | | 18 or thicker | 33 | 832 | 650 |
| TDSP | 16 | 20 | 33 | 560 | 437 |
| | | 18 | 33 | 832 | 650 |
| | | 16 or thicker | 33 | 1172 | 915 |
| | | | 50 | 1680 | 1312 |

Notes:

- 1 Screws shall be attached in the pre-drilled holes provided.
- 2 The allowable values for F1 and F4 are to be used only when the clip leg is attached to the CFS framing. The screw pattern must be as shown above. The capacity of the attachment to other materials and structures must be checked separately.
- 3 This table is intended for use by qualified engineers only. It is the responsibility of the engineer to verify that the tabulated values apply to a specific connection application.
- 4 The screw diameter must be 0.19" (min.) for #10 screws.
- 5 The ultimate screw shear strength must be a minimum of 1400 lbs for #10 screws.
- 6 Screws must be long enough so that at least three exposed threads are visible after installation.
- 7 Allowable loads have not been increased 33% for wind or seismic.
- 8 For connections made to 14 gauge (68mils), and 12 gauge (97mils), use the tabulated values for 16 gauge (54mils), 50ksi, when using TDSP (16 gauge). Similarly when TDSP (18 gauge) is used with thicker base materials, the values for 18 gauge x 33ksi are to be used.
- 9 It is the responsibility of the design professional to detail the drawings for proper clip attachment.
- 10 Contact ClarkDietrich at 888-437-3244 for technical assistance.

TYPICAL CONSTRUCTION DETAILS



Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

TradeReady® Floor Joist Blocking

Quick and efficient system that prevents joist rotation and accommodates mechanical passing

TradeReady Floor Joist Blocking is one of the primary components that make up the TradeReady floor bracing system. TradeReady Blocking features a large extruded hole to accommodate HVAC, mechanical, plumbing and sprinkler runs.

TradeReady Blocking is pre-cut and formed to fit securely between the floor joists to prevent joist rotation. Designed to be used with joist up to 3" legs. Pre-punched holes in the connection legs are added for quick attachment to each floor joist. Structural blocking is an economical alternative to Tension Bracing (CDTB) or Diagonal Tension Strapping.

Floor Joist Blocking is typically used in conjunction with a continuous row of TradeReady Structural Bridging (TDSB) that ties the floor system to the structure allowing bracing against lateral movement.

ALTERNATIVE PRODUCTS

Tension Bracing

Diagonal Tension Strapping

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

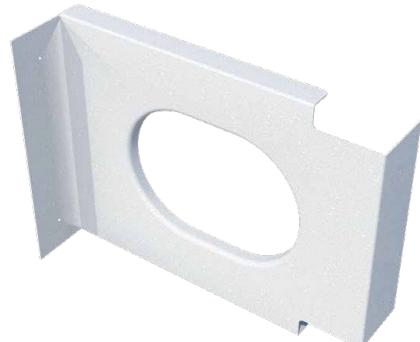
Design Thickness: 0.0566 inches

Coating: G90

ASTM: A1003

INSTALLATION

Place the notched end of the TradeReady Blocking inside the open side of one floor joist. Attached each end of the TradeReady Blocking to each floor joist with (2) #10-16 screws in pre-punched holes.



Floor Joist Blocking (JB)

| Product code | Thickness | | Joist Size (in) | Hole Size (in) | Packaging Pcs./Ctn |
|--------------|---------------|--------------------------|--------------------|-------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | | |
| 725JB12 | 54mils (16ga) | 0.0566 | 7-1/4 | 4-1/2" x 7" | 10 |
| 800JB12 | | | 8 | 4-1/2" x 7" | |
| 925JB12 | | | 9-1/4 | 6-1/2" x 9" | |
| 1000JB12 | | | 10 | 6-1/2" x 9" | |
| 1125JB12 | | | 11-1/4 | 6-1/2" x 9" | |
| 1200JB12 | | | 12 | 6-1/2" x 9" | |
| 1400JB12 | | | 14 | 6-1/2" x 9" | |
| 725JB16 | | | 7-1/4 | 4-1/2" x 7" | |
| 800JB16 | | | 8 | 4-1/2" x 7" | |
| 925JB16 | | | 9-1/4 | 6-1/2" x 9" | |
| 1000JB16 | | | 10 | 6-1/2" x 9" | |
| 1125JB16 | | | 11-1/4 | 6-1/2" x 9" | |
| 1200JB16 | | | 12 | 6-1/2" x 9" | |
| 1400JB16 | | | 14 | 6-1/2" x 9" | |
| 725JB24 | | | 7-1/4 | 4-1/2" x 7" | |
| 800JB24 | | | 8 | 4-1/2" x 7" | |
| 925JB24 | | | 9-1/4 | 6-1/2" x 9" | |
| 1000JB24 | | | 10 | 6-1/2" x 9" | |
| 1125JB24 | | | 11-1/4 | 6-1/2" x 9" | |
| 1200JB24 | | | 12 | 6-1/2" x 9" | |
| 1400JB24 | | | 14 | 6-1/2" x 9" | |

TradeReady® Structural Bridging

Pre-cut structural blocking that installs easily to the underside of the joists to prevent joist rotation.

TradeReady® structural bridging is the third component of the TradeReady steel floor system. Prepunched for quick attachment, structural blocking is pre-cut to fit securely between the underside of the floor joists to prevent joist rotation. Structural blocking is an economical alternative to cross bracing, X-bracing or strapping.

CAUTION: In order to prevent joist rolling, the TDSB blocking must be tied into the structure or otherwise braced against lateral movement.

NOTE: TDSB blocking is not required if sheathing is applied to the joists top and bottom.

PRODUCT DIMENSIONS

2-1/2" x 12"

2-1/2" x 16"

2-1/2" x 19.2"

2-1/2" x 24"

MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

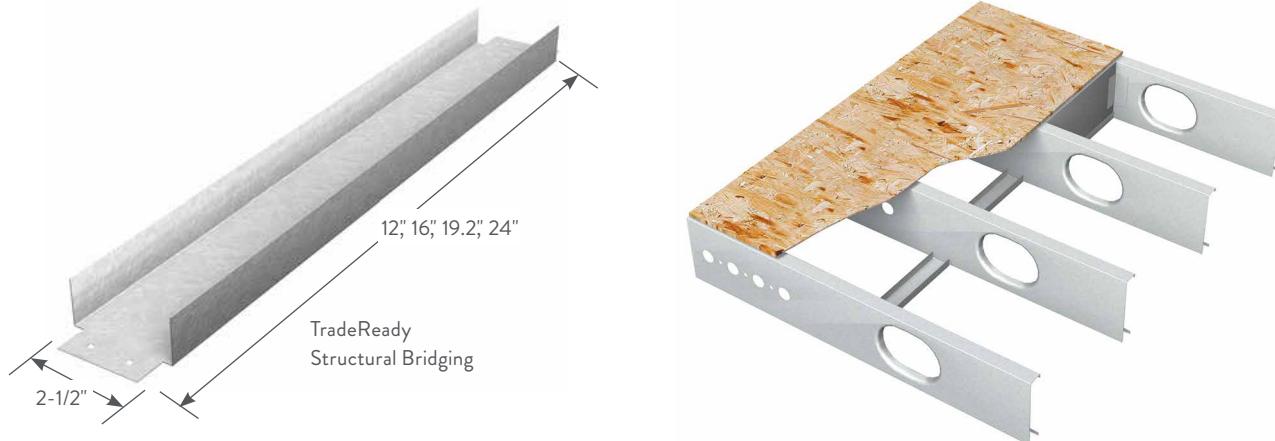
Design Thickness: 0.0451 inches

Coating: CP60

ASTM: A653/A653M, C955

INSTALLATION

A continuous row of TradeReady structural blocking should be installed every 8' o.c. maximum and staggered for easy attachment. Blocking is secured to each joist flange using two #10 screws at each end.



TradeReady® Structural Bridging (TDSB)

| Product code | Thickness | | Size (in) | Packaging Pcs./Bundle |
|--------------|---------------|-----------------------|--------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| TDSB12 | 43mils (18ga) | 0.0451 | 2-1/2 x 12 | 10 |
| TDSB16 | 43mils (18ga) | 0.0451 | 2-1/2 x 16 | 10 |
| TDSB19 | 43mils (18ga) | 0.0451 | 2-1/2 x 19.2 | 10 |
| TDSB24 | 43mils (18ga) | 0.0451 | 2-1/2 x 24 | 10 |

EasyClip™ QuickTwist™ Web Stiffener

Excellent reinforcement at critical load points to prevent web crippling.

ClarkDietrich EasyClip™ QuickTwist™ web stiffeners are used to provide reinforcement of joist webs to prevent crippling. Web reinforcement is often required by design to enhance the load capacity of joists. The unique design of QTWS allows the installer to easily insert the stiffener on the inside of the joist *after* the joist is installed. This stiffener eliminates the need to pre-insert traditional web stiffeners prior to joist installation. The one-piece assembly is easily rotated in-place for a tight fit.

PRODUCT DIMENSIONS

3-1/2" x 6"-14" x 1-1/4"

6" x 6"-14" x 1-1/4"

MATERIAL SPECIFICATIONS

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

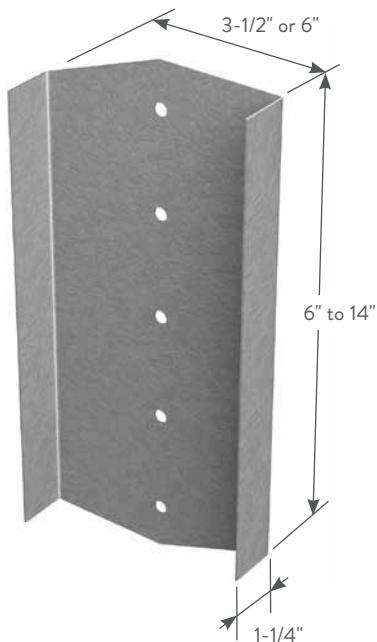
Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

INSTALLATION

The unique design of the EasyClip QuickTwist web stiffener allows it to be easily rotated in-place for a tight fit between flanges. The web stiffener shall be secured to the web of the joist with (3) #10-16 screws. Screws shall be driven through the top, bottom and middle prepunched holes as shown in the illustrations.



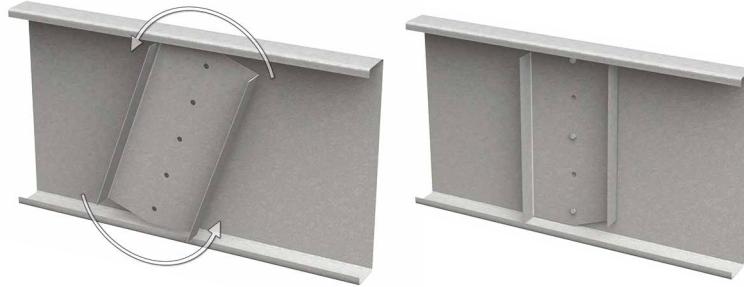
EasyClip™ QuickTwist™ Web Stiffeners (QTWS)

| Product code | Size (in) width | Thickness | | Size* (in) length | Packaging |
|--------------|-----------------|---------------|-----------------------|-------------------|-----------------------------|
| | | Mils (Gauge) | Design thickness (in) | | |
| QTWS | 3-1/2 | 97mils (12ga) | 0.1017 | 6** | Dependent on order quantity |
| | | | | 7-1/4 | |
| | | | | 8 | |
| | | | | 9-1/4 | |
| | | | | 10 | |
| | | | | 11-1/4 | |
| | | | | 12 | |
| | | | | 14 | |
| QTWS | 6 | 97mils (12ga) | 0.1017 | 6** | Dependent on order quantity |
| | | | | 7-1/4 | |
| | | | | 8 | |
| | | | | 9-1/4 | |
| | | | | 10 | |
| | | | | 11-1/4 | |
| | | | | 12 | |
| | | | | 14 | |

*Dimension is nominal size. Actual product is shorter to fit inside joist.

**Load data is not available for 6" length.

Note: The QTWS is designed to work with all floor joist flanges but the length of the QTWS clip shall match the depth of the supporting floor joist.



QTWS Allowable Web Crippling Loads (lbs)

| Joist size (in) | Joist Mils (gauge) | Fy (ksi) | 3-1/2" Web Stiffener | | | 6" Web Stiffener | | |
|-----------------|--------------------|----------|----------------------|---------|---------|------------------|---------|---------|
| | | | Cond. 1 | Cond. 2 | Cond. 3 | Cond. 1 | Cond. 2 | Cond. 3 |
| 7.25 | 43 (18) | 33 | 5,360 | 5,781 | 5,659 | 5,932 | 6,403 | 6,265 |
| | 54 (16) | 33 | 5,457 | 6,155 | 5,924 | 6,042 | 6,817 | 6,558 |
| | 50 | 5,574 | 6,632 | 6,282 | 6,177 | 7,351 | 6,959 | |
| | 68 (14) | 33 | 5,615 | 6,761 | 6,346 | 6,220 | 7,482 | 7,021 |
| | 50 | 5,813 | 7,550 | 6,921 | 6,447 | 8,359 | 7,660 | |
| | 33 | 6,074 | 8,524 | 7,559 | 6,733 | 9,401 | 8,340 | |
| | 50 | 6,509 | 10,222 | 8,759 | 7,224 | 11,267 | 9,659 | |
| | 43 (18) | 33 | 5,350 | 5,752 | 5,645 | 5,920 | 6,370 | 6,249 |
| 8 | 54 (16) | 33 | 5,443 | 6,116 | 5,905 | 6,027 | 6,773 | 6,537 |
| | 50 | 5,553 | 6,573 | 6,253 | 6,153 | 7,285 | 6,926 | |
| | 68 (14) | 33 | 5,596 | 6,708 | 6,320 | 6,200 | 7,424 | 6,992 |
| | 50 | 5,786 | 7,470 | 6,882 | 6,416 | 8,270 | 7,617 | |
| | 33 | 6,045 | 8,438 | 7,516 | 6,700 | 9,307 | 8,293 | |
| 9.25 | 97 (12) | 50 | 6,465 | 10,092 | 8,694 | 7,174 | 11,124 | 9,588 |
| | 43 (18) | 33 | 5,334 | 5,707 | 5,623 | 5,902 | 6,320 | 6,224 |
| | 54 (16) | 33 | 5,422 | 6,056 | 5,875 | 6,002 | 6,706 | 6,503 |
| | 50 | 5,521 | 6,481 | 6,208 | 6,116 | 7,182 | 6,876 | |
| | 68 (14) | 33 | 5,568 | 6,626 | 6,279 | 6,167 | 7,332 | 6,947 |
| 10 | 50 | 5,742 | 7,345 | 6,820 | 6,366 | 8,132 | 7,548 | |
| | 33 | 5,999 | 8,304 | 7,450 | 6,649 | 9,159 | 8,220 | |
| | 50 | 6,396 | 9,888 | 8,594 | 7,096 | 10,900 | 9,477 | |
| | 54 (16) | 33 | 5,410 | 6,021 | 5,858 | 5,988 | 6,667 | 6,484 |
| | 50 | 5,503 | 6,429 | 6,182 | 6,095 | 7,124 | 6,847 | |
| 11.25 | 68 (14) | 33 | 5,552 | 6,579 | 6,256 | 6,148 | 7,280 | 6,922 |
| | 50 | 5,718 | 7,275 | 6,785 | 6,338 | 8,053 | 7,510 | |
| | 33 | 5,973 | 8,228 | 7,412 | 6,619 | 9,076 | 8,179 | |
| | 50 | 6,356 | 9,773 | 8,537 | 7,052 | 10,773 | 9,415 | |
| | 97 (12) | 50 | 6,294 | 9,590 | 8,447 | 6,981 | 10,573 | 9,316 |
| 12 | 54 (16) | 33 | 5,391 | 5,967 | 5,831 | 5,966 | 6,606 | 6,454 |
| | 50 | 5,474 | 6,347 | 6,141 | 6,062 | 7,032 | 6,802 | |
| | 68 (14) | 33 | 5,526 | 6,505 | 6,220 | 6,119 | 7,198 | 6,881 |
| | 50 | 5,679 | 7,163 | 6,730 | 6,294 | 7,929 | 7,448 | |
| | 33 | 5,932 | 8,108 | 7,353 | 6,573 | 8,943 | 8,114 | |
| 14 | 97 (12) | 50 | 6,294 | 9,590 | 8,447 | 6,981 | 10,573 | 9,316 |
| | 54 (16) | 33 | 5,380 | 5,936 | 5,816 | 5,954 | 6,571 | 6,437 |
| | 50 | 5,457 | 6,300 | 6,118 | 6,043 | 6,979 | 6,775 | |
| | 68 (14) | 33 | 5,511 | 6,463 | 6,199 | 6,102 | 7,151 | 6,858 |
| | 50 | 5,657 | 7,099 | 6,699 | 6,268 | 7,858 | 7,413 | |
| 14 | 33 | 5,908 | 8,039 | 7,319 | 6,547 | 8,867 | 8,076 | |
| | 50 | 6,258 | 9,486 | 8,395 | 6,941 | 10,458 | 9,259 | |
| | 68 (14) | 33 | 5,474 | 6,356 | 6,146 | 6,060 | 7,033 | 6,800 |
| | 50 | 5,601 | 6,937 | 6,619 | 6,204 | 7,678 | 7,325 | |
| 97 (12) | 33 | 5,849 | 7,865 | 7,233 | 6,480 | 8,677 | 7,982 | |
| | 50 | 6,169 | 9,223 | 8,265 | 6,840 | 10,169 | 9,116 | |

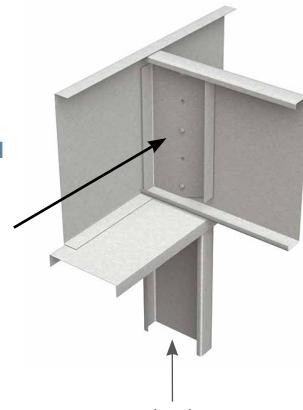
*Load data is not available for 6" length.

Notes:

- The tabulated values indicate the total allowable web crippling capacities of a ClarkDietrich joist of the listed size, stiffened with the QuickTwist web stiffener.
- The joist flanges must be fastened to the support at the bearing location.
- The 3-1/2" web stiffeners are to be used with bearing widths of 3-1/2" to 5-1/2" in the direction of the joist. The 6" web stiffeners are to be used with bearing widths 6" and greater, in the direction of the joist. A minimum-bearing dimension of 3" in the direction perpendicular to the joist is assumed.
- Use (3) #10 screws to attach the QuickTwist web stiffener to the joist. Drive screws through the top, bottom, and middle pre-punched holes.
- This table is intended for use by qualified engineers only. It is the responsibility of the engineer to verify that the QuickTwist web stiffener configuration and tabulated values apply to a specific web crippling application.
- Contact ClarkDietrich at 888-437-3244 for technical assistance.

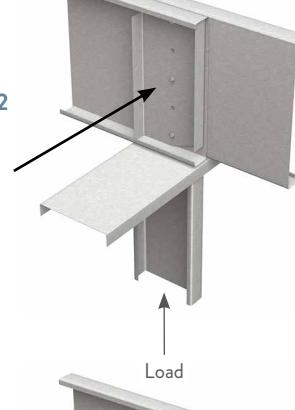
CONDITION 1

(3) #10-16 screws,
top, bottom, and
middle holes



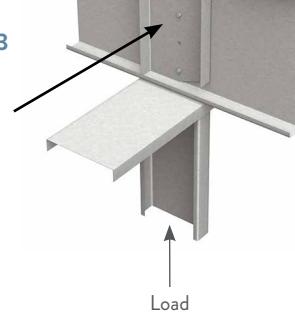
CONDITION 2

(3) #10-16 screws,
top, bottom, and
middle holes



CONDITION 3

(3) #10-16 screws,
top, bottom, and
middle holes



EasyClip™ E-Series™ Support Clip

Long leg accommodates greater standoff for rigid connections.

ClarkDietrich EasyClip™ E-Series™ support clips are primarily used for rigid standoff connections. The 4" wide leg provides extra length to achieve standoff connections up to 3". The EasyClip E-Series support clips are also commonly used in bypass wall conditions, a variety of floor framing applications including solid and ladder blocking attachments and joist-to-joist connections, and to secure rafter framing to the primary structure. Available in a variety of lengths and gauges, these clips are prepunched for faster and more accurate fastener placement.

ALTERNATIVE PRODUCTS

Uni-Clip™

EasyClip™ D-Series™ Anchor Clip

EasyClip T-Series™ Tall Anchor Clip

SwiftClip™ LE-Series™ Support Clip

PRODUCT DIMENSIONS

1-1/2" x 4" x 3"

1-1/2" x 4" x 5"

1-1/2" x 4" x 7"

1-1/2" x 4" x 9"

1-1/2" x 4" x 11"

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

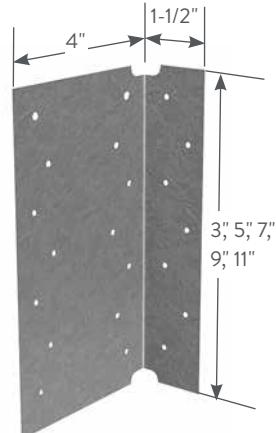
Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

INSTALLATION

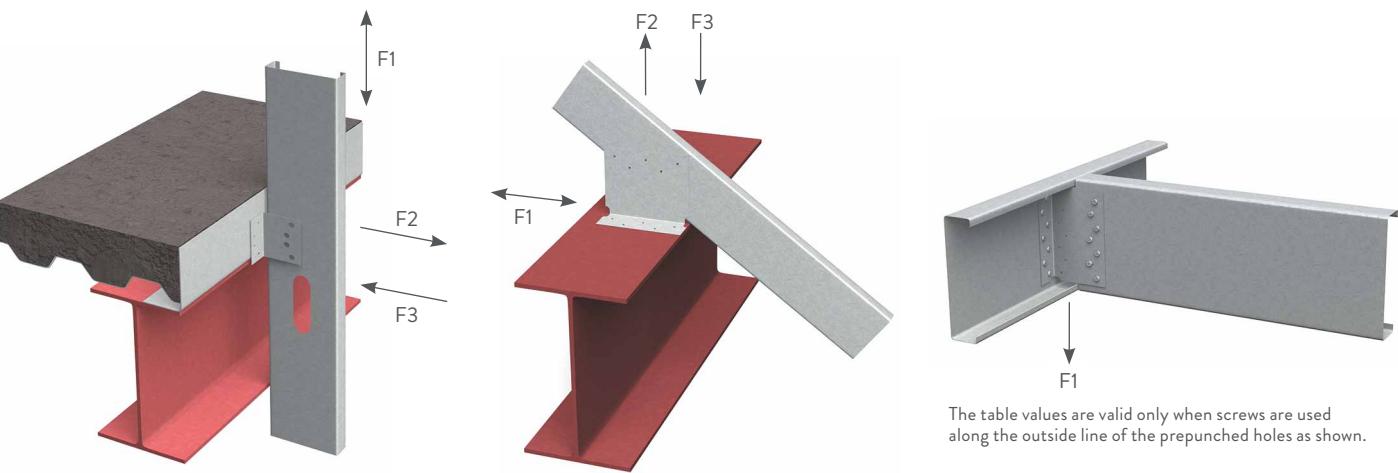
EasyClip E-Series support clips are attached to the cold-formed steel (CFS) framing members using #10 minimum self-drilling screws driven through the clip holes into the steel framing. When not filling all holes, install fasteners symmetrically starting at the top and bottom edges and move toward the center of the clip. Clip can also be welded to the CFS framing. Connections to the building frame can be made with powder-actuated fasteners, drill-in concrete anchors or welding. When using the tabular values for a welded clip, provide a full weld to the structure, top to bottom, along the outside of the clip. A 3/4" minimum weld on the outside edge of the 1-1/2" leg is also required to control warping or to hold the clip in place before final welding.



EasyClip E-Series
Support Clip

EasyClip™ E-Series™ Support Clips

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|----------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| E543 | 54mils (16ga) | 0.0566 | 4 x 1-1/2 x 3 | 100 |
| E545 | 54mils (16ga) | 0.0566 | 4 x 1-1/2 x 5 | 100 |
| E547 | 54mils (16ga) | 0.0566 | 4 x 1-1/2 x 7 | 100 |
| E549 | 54mils (16ga) | 0.0566 | 4 x 1-1/2 x 9 | 50 |
| E541 | 54mils (16ga) | 0.0566 | 4 x 1-1/2 x 11 | 50 |
| E683 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 3 | 100 |
| E685 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 5 | 100 |
| E687 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 7 | 80 |
| E689 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 9 | 50 |
| E681 | 68mils (14ga) | 0.0713 | 4 x 1-1/2 x 11 | 50 |
| E973 | 97mils (12ga) | 0.1017 | 4 x 1-1/2 x 3 | 50 |
| E975 | 97mils (12ga) | 0.1017 | 4 x 1-1/2 x 5 | 50 |
| E977 | 97mils (12ga) | 0.1017 | 4 x 1-1/2 x 7 | 50 |
| E979 | 97mils (12ga) | 0.1017 | 4 x 1-1/2 x 9 | 50 |
| E971 | 97mils (12ga) | 0.1017 | 4 x 1-1/2 x 11 | 40 |



The table values are valid only when screws are used along the outside line of the prepunched holes as shown.

E-Series™ Support Clips Allowable Clip Capacities (lbs)

USING #10-16 SELF-DRILLING SCREWS

| Product code | No. of screws to steel framing | Stud Thickness and Yield Strength | | | | | | | | |
|--------------|--------------------------------|-----------------------------------|-------------|------|---------------------|-------------|------|---------------------|-------------|------|
| | | 20ga (33mils) 33ksi | | | 18ga (43mils) 33ksi | | | 16ga (54mils) 50ksi | | |
| | | F1 | F2 | F3 | F1 | F2 | F3 | F1 | F2 | F3 |
| E543 | 3 | 101 (101) | 210 (531) | 507 | 150 (150) | 210 (788) | 507 | 266 (155) | 210 (1195) | 507 |
| E545 | 2 | 176 (176) | 354 (354) | 354 | 261 (261) | 371 (525) | 525 | 463 (453) | 371 (933) | 811 |
| | 5 | 251 (251) | 371 (885) | 885 | 372 (372) | 371 (1313) | 912 | 625 (479) | 371 (2105) | 912 |
| E547 | 4 | 380 (380) | 531 (708) | 708 | 564 (564) | 531 (1050) | 1050 | 1002 (970) | 531 (1867) | 1347 |
| | 7 | 455 (455) | 531 (1239) | 1239 | 675 (675) | 531 (1838) | 1318 | 1169 (960) | 531 (3015) | 1318 |
| E549 | 4 | 477 (477) | 692 (708) | 708 | 707 (707) | 692 (1050) | 1050 | 1257 (1257) | 692 (1867) | 1753 |
| | 9 | 706 (706) | 692 (1593) | 1593 | 1048 (1048) | 692 (2363) | 1724 | 1862 (1576) | 692 (3925) | 1724 |
| E541 | 6 | 727 (727) | 852 (1062) | 1062 | 1079 (1079) | 852 (1576) | 1576 | 1918 (1918) | 852 (2800) | 2053 |
| | 11 | 995 (995) | 852 (1947) | 1947 | 1476 (1476) | 852 (2889) | 2130 | 2623 (2301) | 852 (4835) | 2130 |
| E683 | 3 | 101 (101) | 333 (531) | 531 | 150 (150) | 333 (788) | 788 | 266 (196) | 333 (1400) | 1011 |
| | 2 | 176 (176) | 354 (354) | 354 | 261 (261) | 525 (525) | 525 | 463 (463) | 587 (933) | 933 |
| E685 | 5 | 251 (251) | 587 (885) | 885 | 372 (372) | 587 (1313) | 1313 | 661 (602) | 587 (2333) | 1817 |
| | 4 | 380 (380) | 708 (708) | 708 | 564 (564) | 841 (1050) | 1050 | 1002 (1002) | 841 (1867) | 1867 |
| E687 | 7 | 455 (455) | 841 (1239) | 1239 | 675 (675) | 841 (1838) | 1838 | 1200 (1200) | 841 (3267) | 2625 |
| | 4 | 477 (477) | 708 (708) | 708 | 707 (707) | 1050 (1050) | 1050 | 1257 (1257) | 1095 (1867) | 1867 |
| E689 | 9 | 706 (706) | 1095 (1593) | 1593 | 1048 (1048) | 1095 (2363) | 2363 | 1862 (1862) | 1095 (4200) | 3434 |
| | 6 | 727 (727) | 1062 (1062) | 1062 | 1079 (1079) | 1349 (1576) | 1576 | 1918 (1918) | 1349 (2800) | 2800 |
| E681 | 11 | 995 (995) | 1349 (1947) | 1947 | 1476 (1476) | 1349 (2889) | 2889 | 2623 (2623) | 1349 (5133) | 4244 |
| | 3 | 101 (101) | 531 (531) | 531 | 150 (150) | 679 (788) | 788 | 266 (266) | 679 (1400) | 1400 |
| E975 | 2 | 176 (176) | 354 (354) | 354 | 261 (261) | 525 (525) | 525 | 463 (463) | 933 (933) | 933 |
| | 5 | 251 (251) | 885 (885) | 885 | 372 (372) | 1196 (1313) | 1313 | 661 (661) | 1196 (2333) | 2333 |
| E977 | 4 | 380 (380) | 708 (708) | 708 | 564 (564) | 1050 (1050) | 1050 | 1002 (1002) | 1713 (1867) | 1867 |
| | 7 | 455 (455) | 1239 (1239) | 1239 | 675 (675) | 1713 (1838) | 1838 | 1200 (1200) | 1713 (3267) | 3267 |
| E979 | 4 | 477 (477) | 708 (708) | 708 | 707 (707) | 1050 (1050) | 1050 | 1257 (1257) | 1867 (1867) | 1867 |
| | 9 | 706 (706) | 1593 (1593) | 1593 | 1048 (1048) | 2229 (2363) | 2363 | 1862 (1862) | 2229 (4200) | 4200 |
| E971 | 6 | 727 (727) | 1062 (1062) | 1062 | 1079 (1079) | 1576 (1576) | 1576 | 1918 (1918) | 2746 (2800) | 2800 |
| | 11 | 995 (995) | 1947 (1947) | 1947 | 1476 (1476) | 2746 (2889) | 2889 | 2623 (2623) | 2746 (5133) | 5133 |

Notes:

Screw Capacity Notes:

- The tabulated value indicates the number of screws in a single clip leg attached to the cold-formed steel (CFS) framing.
- Screws shall be attached in a symmetric manner, starting at the outside holes. See screw options on opposite page and above for examples.
- The allowable values for F1 are based only on the shear capacity of the 4" clip leg attached to the CFS framing. The capacity of the attachment to other materials and structures must be checked separately.
- The allowable values for F2 assume mechanical fasteners are attached to the structure using the 1-1/2" leg, and are along the vertical centerline of the clip leg. Mechanical fasteners to other materials and structures must be checked separately.
- This table is intended for use by qualified engineers only. It is the responsibility of the engineer to verify that the tabulated values apply to a specific connection application.
- When clips have combinations of F1, F2, and F3, use a linear interaction for combinations of F1 and F3, and a squared interaction for combinations of F1 and F2.
- The screw diameter must be 0.19" (min) for #10 screws.
- The ultimate screw shear strength must be a minimum of 1400 lbs for #10 screws.

9 Screws must be long enough so at least three exposed threads are visible after installation.

10 Allowable loads have not been increased 33% for wind or seismic.

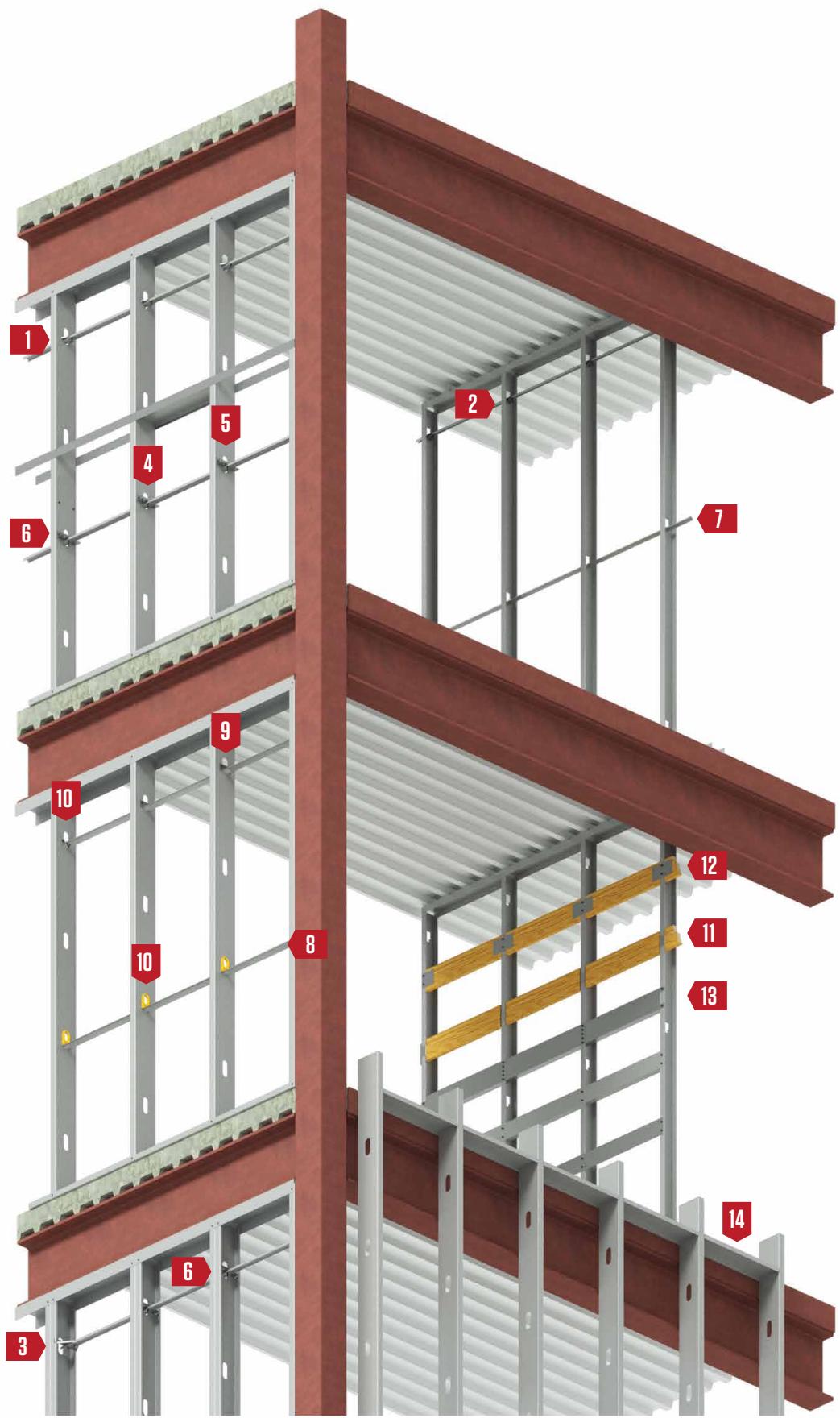
11 For connections made to 14ga (68mils) and 12ga (97mils), use the tabulated values for 16ga (54mils), 50ksi.

12 Contact ClarkDietrich Technical Services at 888-437-3244 for assistance.

Weld Capacity Notes:

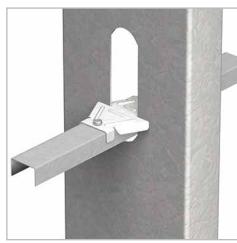
- F1 and F2 values in parentheses are maximum shear and tension capacities when the clips are welded to the base structure (min 3/16" – 36ksi).
- Listed weld capacities are computed assuming an E70XX welding rod or wire.
- The clips are to be welded to the structure along the back corner along the complete length of the clip. When secondary welds are used to hold the clip in place, they are not used in capacity calculations.

Product Detail



1 FastBridge™ Clip

pages 140–141



2 CC33 3/4" Channel Clip

page 142–143



3 Bridging Termination Clip

page 144–145



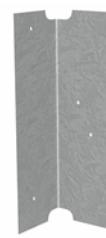
4 EasyClip™ X-Series™ Clip Angle

pages 146–147



5 EasyClip™ U-Series™ Clip Angle

page 89



6 SwiftClip™ L-Series™ Support Clip

pages 86–87



7 Spazzer® 9200 Spacer Bar

page 148



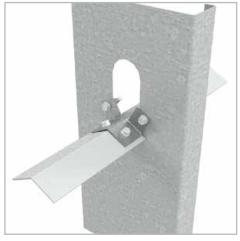
8 Spazzer® 5400 Spacer Bar

page 149–153



9 Spazzer® Bar Fly Clip

page 154



10 Spazzer® Bar Guard and Snap-in Grommet

page 149



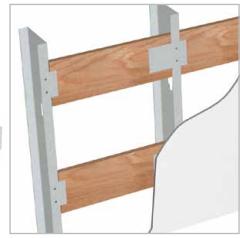
11 FastBack™ Backing System

page 155



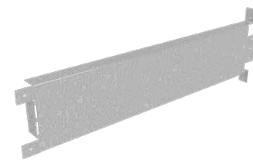
12 Danback® Flexible Wood Backing Plate

pages 156–157



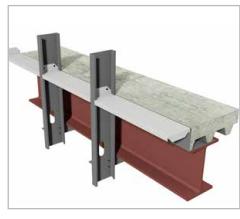
13 Backer Bar

page 158



14 BlazeFrame® Shield

page 159



FastBridge™ Clip

Secures U-channel (cold-rolled channel) framing members for load-bearing or curtain wall applications.

The ClarkDietrich FastBridge clip is used to secure U-Channel or Cold-Rolled Channel (CRC) to structural or non-structural wall studs when used in load-bearing, curtain wall or drywall framing applications. The wall stud friction fit design allows for as little as one screw for the connection to the U-channel.

The FastBridge clip is a stiffened, G90 galvanized steel clip that's tested and designed to facilitate the rapid, efficient installation of 1-1/2" U-channel lateral bracing for exterior curtain wall framing, load-bearing walls or interior partitions constructed of structural or non-structural studs.

- FB33 for use with 20ga-16ga structural studs or ProSTUD® Drywall Studs
- FB43 for use with 20ga-16ga structural studs
- FB68 for use with 16ga-12ga structural studs

MATERIAL SPECIFICATIONS

Gauge: 20 gauge STR (33mils)

Design Thickness: 0.0346 inches

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

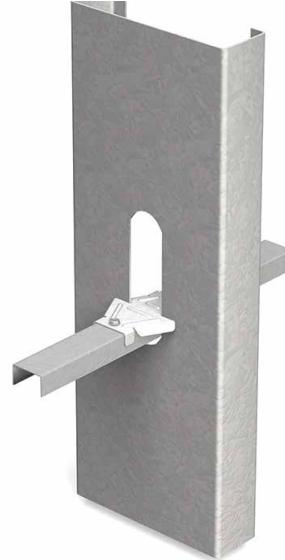
ASTM: A653

ALTERNATIVE PRODUCTS

- Spazzer® 5400 and 9200 Bridging Bar
- U-Channel with SwiftClip™ LS-Series™ Support Clip
- EasyClip™ U-Series™ Clips

INSTALLATION

U-Channel is inserted into the stud punchout (spacing as specified by design) and rotated into place (leg down). Place the FastBridge Clip inside the punchout (stiffened wings down) and twist allowing the friction fit design to hold the clip into place. The clip must be firmly seated over the top web of the U-channel. FastBridge clips are fastened using #10 self-drilling screws driven through the clip hole into the U-channel. More than one screw may be needed depending on design. The FastBridge clip should not be used in studs over 8" wide.



FastBridge™ Clip Angles (FB)

| Product code | Thickness | | | | Knockout size | Packaging pcs./bucket |
|--------------|-------------------|----------------|-----------------------|---------------------|---------------|-----------------------|
| | Mils (Gauge) | Yield strength | Design thickness (in) | Min. thickness (in) | | |
| FB33 | 33mils (20ga STR) | 33ksi | 0.0346 | 0.0329 | 1-1/2" | 200 |
| FB43 | 43mils (18ga) | 50ksi | 0.0451 | 0.0428 | 1-1/2" | 200 |
| FB68 | 68mils (14ga) | 50ksi | 0.0713 | 0.0677 | 1-1/2" | 200 |

U.S. Patent No. D692,746 and Canadian Patent No. 152,547

FastBridge™ Clip Angles (FB43) Allowable Clip Capacities (lbs)

| Product code | No. of screws to steel framing | Stud depth (in) | Allowable connector capacity | Stud Thickness and Yield Strength | | |
|--------------|--------------------------------|-----------------|--------------------------------|-----------------------------------|---------------|---------------|
| | | | | 33mils (20ga) | 43mils (18ga) | 54mils (16ga) |
| FB43 | 1 | 3.625 | Axial Brace Stiffness (lbs/in) | 1140 | 1330 | 2270 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 1220 | 1480 | 2270 |
| | 1 | | Axial Brace Strength (lbs) | 178 | 210 | 273 |
| | 2 | | Axial Brace Strength (lbs) | 275 | 318 | 424 |
| | 1 | | Torsional Moment (in-lbs) | 148 | 182 | 208 |
| | 2 | | Torsional Moment (in-lbs) | 331 | 430 | 556 |
| FB43 | 1 | 4.00 | Axial Brace Stiffness (lbs/in) | 1030 | 1460 | 2170 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 1190 | 1520 | 3030 |
| | 1 | | Axial Brace Strength (lbs) | 191 | 213 | 263 |
| | 2 | | Axial Brace Strength (lbs) | 283 | 321 | 426 |
| | 1 | | Torsional Moment (in-lbs) | 137 | 182 | 234 |
| | 2 | | Torsional Moment (in-lbs) | 403 | 403 | 498 |
| FB43 | 1 | 6.00 | Axial Brace Stiffness (lbs/in) | 790 | 990 | 1730 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 990 | 1160 | 1930 |
| | 1 | | Axial Brace Strength (lbs) | 107 | 214 | 290 |
| | 2 | | Axial Brace Strength (lbs) | 263 | 324 | 450 |
| | 1 | | Torsional Moment (in-lbs) | 166 | 170 | 172 |
| | 2 | | Torsional Moment (in-lbs) | 296 | 406 | 567 |
| FB43 | 1 | 8.00 | Axial Brace Stiffness (lbs/in) | — | 750 | 1910 |
| | 2 | | Axial Brace Stiffness (lbs/in) | — | 750 | 1960 |
| | 1 | | Axial Brace Strength (lbs) | — | 212 | 272 |
| | 2 | | Axial Brace Strength (lbs) | — | 302 | 438 |
| | 1 | | Torsional Moment (in-lbs) | — | 152 | 343 |
| | 2 | | Torsional Moment (in-lbs) | — | 461 | 526 |

FastBridge™ Clip Angles (FB68) Allowable Clip Capacities (lbs)

| Product code | No. of screws to steel framing | Stud depth (in) | Allowable connector capacity | Stud Thickness and Yield Strength | | |
|--------------|--------------------------------|-----------------|--------------------------------|-----------------------------------|---------------|---------------|
| | | | | 54mils (16ga) | 68mils (14ga) | 97mils (12ga) |
| FB68 | 1 | 3.625 | Axial Brace Stiffness (lbs/in) | 3410 | 4410 | 6270 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 4010 | 6880 | 7585 |
| | 1 | | Axial Brace Strength (lbs) | 465 | 520 | 573 |
| | 2 | | Axial Brace Strength (lbs) | 665 | 732 | 823 |
| | 1 | | Torsional Moment (in-lbs) | 332 | 440 | 435 |
| | 2 | | Torsional Moment (in-lbs) | 735 | 894 | 1150 |
| FB68 | 1 | 4.00 | Axial Brace Stiffness (lbs/in) | 3060 | 3440 | 6740 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 3710 | 4670 | 8960 |
| | 1 | | Axial Brace Strength (lbs) | 475 | 505 | 505 |
| | 2 | | Axial Brace Strength (lbs) | 676 | 752 | 878 |
| | 1 | | Torsional Moment (in-lbs) | 382 | 462 | 564 |
| | 2 | | Torsional Moment (in-lbs) | 724 | 802 | 938 |
| FB68 | 1 | 6.00 | Axial Brace Stiffness (lbs/in) | 2270 | 3240 | 3200 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 2710 | 3870 | 3530 |
| | 1 | | Axial Brace Strength (lbs) | 468 | 506 | 515 |
| | 2 | | Axial Brace Strength (lbs) | 682 | 788 | 885 |
| | 1 | | Torsional Moment (in-lbs) | 294 | 412 | 670 |
| | 2 | | Torsional Moment (in-lbs) | 686 | 758 | 1004 |
| FB68 | 1 | 8.00 | Axial Brace Stiffness (lbs/in) | 1940 | 2500 | 2530 |
| | 2 | | Axial Brace Stiffness (lbs/in) | 1960 | 2810 | 3015 |
| | 1 | | Axial Brace Strength (lbs) | 463 | 510 | 517 |
| | 2 | | Axial Brace Strength (lbs) | 637 | 747 | 898 |
| | 1 | | Torsional Moment (in-lbs) | 310 | 512 | 674 |
| | 2 | | Torsional Moment (in-lbs) | 682 | 788 | 963 |

Notes:

- Allowable loads are based on the use of cold-formed steel studs with a minimum yield strength of $F_y=33\text{ksi}$ and tensile strength $F_u=45\text{ksi}$ for 43mils (18ga) or thinner; and a minimum yield strength $F_y=50\text{ksi}$ and tensile strength $F_u=65\text{ksi}$ for 54mils (16ga) or thicker.
- Allowable loads are based on 54mils (16ga) u-channel bridging with a minimum yield strength $F_y=33\text{ksi}$ and tensile strength $F_u=45\text{ksi}$.
- Allowable loads are for the bridging connection only. The strength and serviceability of the framing members is the responsibility of the designer.
- Allowable loads are based on #10 self-drilling screws with a nominal diameter of 0.190 in. and a washer diameter of 0.375 in. Fasteners must have a minimum nominal shear strength of $P_{ss}=1718\text{ lbs}$ and a nominal tensile strength of $P_{ts}=2654\text{ lbs}$.

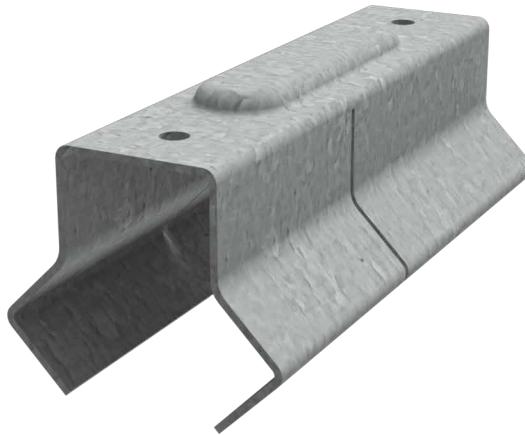
- Allowable loads may not be increased for wind or seismic load.
- Allowable loads are for use when using ASD design methodology. For LRFD loads, multiply ASD allowable loads by 1.6.
- Allowable brace loads are based on ultimate test loads divided by a safety factor. Serviceability limits are not considered. Brace stiffness requirements are detailed in AISI S100 Section D3.3.
- Axial brace stiffness values apply to both ASD and LRFD designs.

CC33 3/4" Channel Clip

33mils (20 gauge) lateral bracing clip used to secure 3/4" U-channel (cold-rolled channel) to drywall studs.

The ClarkDietrich CC33 clip is used to secure U-Channel or Cold-Rolled Channel (CRC) to non-structural wall studs. The wall stud friction fit design allows for as few as one screw for the connection to the U-Channel.

The CC33 clip is a stiffened, G90 galvanized steel clip that's tested and designed to facilitate the rapid, efficient installation of 3/4" U-Channel lateral bracing for non-structural interior wall framing constructed of ProSTUD® Drywall Framing or non-structural studs. The CC33 clip should not be used in studs over 6" wide.



PRODUCT DIMENSIONS

Made to fit over 3/4" U-Channel and inside a drywall punchout.

Packaging: (200) pieces per bucket

Product weight: 0.12 lb/piece

MATERIAL SPECIFICATIONS

Gauge: 20gauge (33mils)

Design Thickness: 0.0346 inches

Coating: G90

Yield Strength: 33ksi

ASTM: C645, A1003

ALTERNATIVE PRODUCTS

- U-Channel with SwiftClip™ LS-Series™ Support Clip
- Spazzer® 9200 Bridging Bar

INSTALLATION

CC33 clips are fastened using #8 self-drilling screws driven through the clip hole into the U-Channel. More than one screw may be needed depending on design. Design loads & tables can be found at clarkdietrich.com.



CC33 3/4" Channel Clip (CC33)

| Product code | Thickness | | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|--------------------------|
| | Mils (Gauge) | Design thickness (in) | |
| CC33 | 33mils (20ga) | 0.0346 | 200 |

U.S. Patent No. D822,455

CC33 3/4" Channel Clip**DRYWALL BRIDGING CONNECTOR W/ PROSTUD DRYWALL STUDS**

| Product code | Stud member | Stud thickness (mils) | Allowable Torsional Moment (in-lbs) | |
|--------------|-------------|-----------------------|-------------------------------------|--------------|
| | | | 1 - #8 Screw | 2 - #8 Screw |
| CC33 | 362PDS125 | PDS125-15 | 50 | 70 |
| | | PDS125-19 | 70 | 90 |
| | | PDS125-22 | 85 | 100 |
| | | PDS125-30 | 90 | 125 |
| | | PDS125-33 | 90 | 135 |
| | 600PDS125 | PDS125-15 | 70 | 85 |
| | | PDS125-19 | 95 | 100 |
| | | PDS125-22 | 95 | 100 |
| | | PDS125-30 | 100 | 125 |
| | | PDS125-33 | 100 | 140 |

Notes:

- 1 Allowable loads are based on cold-formed steel studs with a minimum yield strength specified for ProSTUD Members.
- 2 Allowable loads are based on 54 mils (16ga) u-channel bridging with a minimum yield strength, $F_y=33\text{ksi}$ and tensile strength, $F_u=45\text{ksi}$.
- 3 Allowable loads consider the bridging connection only. It is the responsibility of the designer to verify the strength and serviceability of the framing members.
- 4 Allowable loads are based on #8 self-drilling screws with a nominal diameter of 0.164-in and a head diameter of 0.272-in. Fasteners must have a minimum nominal shear strength, $P_{ss}=1278\text{-lbs}$ and a nominal tensile strength, $P_{ts}=586\text{-lbs}$.
- 5 Screw shear strength is the average value, and tension strength is the lowest value listed on CFSEI Tech Note (F701-12).
- 6 Allowable loads may not be increased for wind or seismic load.
- 7 Allowable loads are for use when utilizing ASD (Allowable Stress Design) methodology. For LRFD loads multiply the ASD tabulated values by 1.6.

CC33 Maximum Bridging Distance (ft.)

| Stud spacing (in) | Stud member | Stud thickness (mils) | Lateral Stud Pressure (psf) | | | |
|-------------------|-------------|-----------------------|-----------------------------|--------------|--------------|--------------|
| | | | 5psf | 10psf | 5psf | 10psf |
| | | | 1 - #8 Screw | 1 - #8 Screw | 2 - #8 Screw | 2 - #8 Screw |
| 12 | 362PDS125 | PDS125-15 | 8 | 4 | 8 | 5 |
| | | PDS125-19 | 8 | 5 | 8 | 7 |
| | | PDS125-22 | 8 | 7 | 8 | 8 |
| | | PDS125-30 | 8 | 7 | 8 | 8 |
| | | PDS125-33 | 8 | 7 | 8 | 8 |
| | 600PDS125 | PDS125-15 | 8 | 6 | 8 | 8 |
| | | PDS125-19 | 8 | 8 | 8 | 8 |
| | | PDS125-22 | 8 | 8 | 8 | 8 |
| | | PDS125-30 | 8 | 8 | 8 | 8 |
| | | PDS125-33 | 8 | 8 | 8 | 8 |
| 16 | 362PDS125 | PDS125-15 | 6 | 3 | 8 | 4 |
| | | PDS125-19 | 8 | 4 | 8 | 5 |
| | | PDS125-22 | 8 | 5 | 8 | 6 |
| | | PDS125-30 | 8 | 5 | 8 | 7 |
| | | PDS125-33 | 8 | 5 | 8 | 8 |
| | 600PDS125 | PDS125-15 | 8 | 5 | 8 | 6 |
| | | PDS125-19 | 8 | 6 | 8 | 6 |
| | | PDS125-22 | 8 | 7 | 8 | 7 |
| | | PDS125-30 | 8 | 7 | 8 | 8 |
| | | PDS125-33 | 8 | 7 | 8 | 8 |
| 24 | 362PDS125 | PDS125-15 | 4 | 2 | 5 | 3 |
| | | PDS125-19 | 5 | 3 | 7 | 3 |
| | | PDS125-22 | 7 | 3 | 8 | 4 |
| | | PDS125-30 | 7 | 4 | 8 | 5 |
| | | PDS125-33 | 7 | 4 | 8 | 5 |
| | 600PDS125 | PDS125-15 | 6 | 3 | 8 | 4 |
| | | PDS125-19 | 8 | 4 | 8 | 4 |
| | | PDS125-22 | 8 | 4 | 8 | 5 |
| | | PDS125-30 | 8 | 5 | 8 | 6 |
| | | PDS125-33 | 8 | 5 | 8 | 7 |

Notes:

- 1 Tabulated maximum bridging distances are for ASD lateral pressures.
- 2 Tabulated maximum bridging distances are based on the CC33 tested connection strength.
- 3 Studs must be checked for unbraced length separately.
- 4 Lateral pressures shall be determined based on the load combinations of the applicable building code.

Bridging Termination Clip

U-Channel lateral bracing clip

The ClarkDietrich Bridging Termination clip is used to secure U-Channel or Cold Rolled Channel (CRC) to structural wall studs when used in load-bearing or curtain wall applications. (loads for structural stud gauges of 20, 18, 16, 14 & 12). The BTC's unique design allows for quicker installation in end-of-wall conditions.

The BTC is a stiffened, G90 galvanized steel clip that's tested and designed to facilitate rapid, efficient installation of 1-1/2" U-Channel lateral bracing for exterior curtain wall framing, load-bearing walls or high interior partitions constructed of structural studs.

BTC clips are fastened using #8 self-drilling screws; 2 screws between clip and U-channel and 2 screws between clip and stud flanges. The BTC clips are designed to be used with 3-5/8", 4" or 6" structural studs only.

U.S. Patent No. 10,851,539 B2

MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

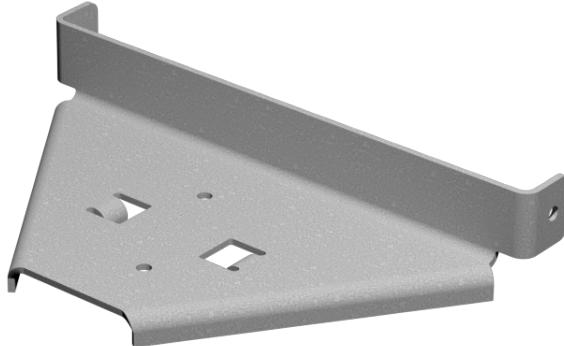
ASTM: A653/A653M, A1003/A1003M

ALTERNATIVE PRODUCTS

- FastBridge™ Clip (FB33, FB43 & FB68)
- U-Channel with SwiftClip™ LS-Series™ Support Clip

INSTALLATION

Install the BTC by sliding the flanges of the clip over the open side of the stud and positioning the clip over the CRC using the guides on the underside of the clip. Once in place, fasten to the CRC using #8 screws. Finally, fasten the flanges of the clip to the stud flange by using #8 screws.



BTC for 3-5/8" studs

| Product code | Thickness | | | | Packaging Pcs./Bucket |
|--------------|---------------|----------------|-----------------------|---------------------|-----------------------|
| | Mils (Gauge) | Yield Strength | Design thickness (in) | Min. thickness (in) | |
| BTC3-43 | 43mils (18ga) | 50 ksi | 0.0451 | 0.0428 | 100 |
| BTC3-54 | 54mils (16ga) | | 0.0566 | 0.0538 | 100 |
| BTC3-68 | 68mils (14ga) | | 0.0713 | 0.0677 | 100 |



BTC for 4" studs

| Product code | Thickness | | | | Packaging Pcs./Bucket |
|--------------|---------------|----------------|-----------------------|---------------------|-----------------------|
| | Mils (Gauge) | Yield Strength | Design thickness (in) | Min. thickness (in) | |
| BTC4-43 | 43mils (18ga) | 50 ksi | 0.0451 | 0.0428 | 100 |
| BTC4-54 | 54mils (16ga) | | 0.0566 | 0.0538 | 100 |
| BTC4-68 | 68mils (14ga) | | 0.0713 | 0.0677 | 100 |

BTC for 6" studs

| Product code | Thickness | | | | Packaging Pcs./Bucket |
|--------------|---------------|----------------|-----------------------|---------------------|-----------------------|
| | Mils (Gauge) | Yield Strength | Design thickness (in) | Min. thickness (in) | |
| BTC6-43 | 43mils (18ga) | 50 ksi | 0.0451 | 0.0428 | 50 |
| BTC6-54 | 54mils (16ga) | | 0.0566 | 0.0538 | 50 |
| BTC6-68 | 68mils (14ga) | | 0.0713 | 0.0677 | 50 |

Bridging Termination Clip Load Tables

| Product code | Stud depth | Clip Mils (Gauge) | Allowable capacities | Stud Thickness, mils (gauge) | | | | |
|--------------|------------|-------------------|--------------------------------|------------------------------|---------------|---------------|---------------|---------------|
| | | | | 33mils (20ga) | 43mils (18ga) | 54mils (16ga) | 68mils (14ga) | 97mils (12ga) |
| BTC3 | 3-5/8" | 43mils (18ga) | Axial Brace Stiffness (lbs/in) | 2120 | 2120 | 2120 | 2190 | 2190 |
| BTC4 | 4" | | Axial Brace Strength (lbs) | 215 | 235 | 240 | 280 | 280 |
| BTC6 | 6" | | Torsional Moment (in-lbs) | 310 | 310 | 320 | 325 | 325 |
| BTC3 | 3-5/8" | 54mils (16ga) | Axial Brace Stiffness (lbs/in) | 2965 | 3135 | 3175 | 3345 | 3345 |
| BTC4 | 4" | | Axial Brace Strength (lbs) | 320 | 350 | 375 | 410 | 410 |
| BTC6 | 6" | | Torsional Moment (in-lbs) | 510 | 515 | 520 | 525 | 525 |
| BTC3 | 3-5/8" | 68mils (14ga) | Axial Brace Stiffness (lbs/in) | 3915 | 4325 | 4525 | 4825 | 4825 |
| BTC4 | 4" | | Axial Brace Strength (lbs) | 460 | 500 | 555 | 570 | 570 |
| BTC6 | 6" | | Torsional Moment (in-lbs) | 760 | 775 | 775 | 790 | 790 |

Notes:

- Allowable loads are based on the use of cold-formed steel studs with a minimum yield strength, $F_y=33$ ksi and tensile strength, $F_u=45$ ksi for 43mils (18ga) or thinner and a minimum yield strength, $F_y=50$ ksi and tensile strength, $F_u=65$ ksi for 54 mils (16ga) or thicker.
- Allowable loads are based on 54mils (16ga) U-Channel bridging with a minimum yield strength, $F_y=33$ ksi and tensile strength, $F_u=45$ ksi.
- Allowable loads are for the termination bridging connection only. The strength and serviceability of the framing members is the responsibility of the designer.
- Allowable loads are based on minimum #8 self drilling with a minimum nominal diameter of 0.163-in and a minimum head diameter of 0.437-in. Fasteners must have a minimum nominal shear strength of, $P_{ss}=1452$ -lbs and a nominal tensile strength of, $P_{ts}=2089$ lbs.

(See ICC-ESR 1271 for fastener information.)

- Allowable loads are based on the use of 2 screws between clip and U-Channel and 2 screws between clip and stud flanges.
- Allowable loads may not be increased for wind or seismic load.
- Allowable loads are for use when using ASD design methodology. For LRFD loads, multiply ASD allowable loads by 1.6.
- Allowable brace loads were derived from nominal loads obtained from tests, divided by a safety factor. Serviceability limits are not considered. Brace stiffness requirements are detailed in AISI S100 Section D3.3.
- Axial brace stiffness values apply to both ASD and LRFD designs.

EasyClip™ X-Series™ Clip Angle

Secures U-channel (cold-rolled channel) framing members for lateral bridging, or secures one framing member to another for rigid connections.

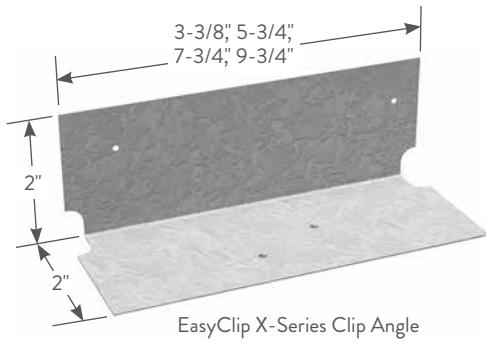
ClarkDietrich EasyClip™ X-Series™ clip angles are used to secure U-channel to wall studs for lateral bridging. U-Channel is passed through the stud knockout and an EasyClip X-Series clip is screw attached or welded to provide a rigid connection. X-Series clip angles and U-channel should not be used in lateral bridging when stud width exceeds 6".

ALTERNATIVE PRODUCTS

FastBridge™ Clip
EasyClip™ U-Series™ Clip Angle
EasyClip S-Series™ Support Clip
SwiftClip™ LS-Series™ Support Clip
Spazzer® 5400 and Spazzer® 9200 Spacer Bars

PRODUCT DIMENSIONS

2" x 2" x 3-3/8"
2" x 2" x 5-3/4"
2" x 2" x 7-3/4"
2" x 2" x 9-3/4"



EasyClip™ X-Series™ Clip Angles

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|---------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| X543 | 54mils (16ga) | 0.0566 | 2 x 2 x 3-3/8 | 200 |
| X545 | 54mils (16ga) | 0.0566 | 2 x 2 x 5-3/4 | 170 |
| X547 | 54mils (16ga) | 0.0566 | 2 x 2 x 7-3/4 | 100 |
| X549 | 54mils (16ga) | 0.0566 | 2 x 2 x 9-3/4 | 100 |
| X683 | 68mils (14ga) | 0.0713 | 2 x 2 x 3-3/8 | 200 |
| X685 | 68mils (14ga) | 0.0713 | 2 x 2 x 5-3/4 | 100 |
| X687 | 68mils (14ga) | 0.0713 | 2 x 2 x 7-3/4 | 100 |
| X689 | 68mils (14ga) | 0.0713 | 2 x 2 x 9-3/4 | 80 |
| X973 | 97mils (12ga) | 0.1017 | 2 x 2 x 3-3/8 | 100 |
| X975 | 97mils (12ga) | 0.1017 | 2 x 2 x 5-3/4 | 100 |
| X977 | 97mils (12ga) | 0.1017 | 2 x 2 x 7-3/4 | 60 |
| X979 | 97mils (12ga) | 0.1017 | 2 x 2 x 9-3/4 | 60 |

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Coating: G90

Yield Strength: 50ksi

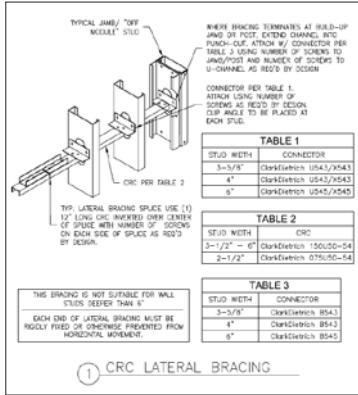
ASTM: A653/A653M

INSTALLATION

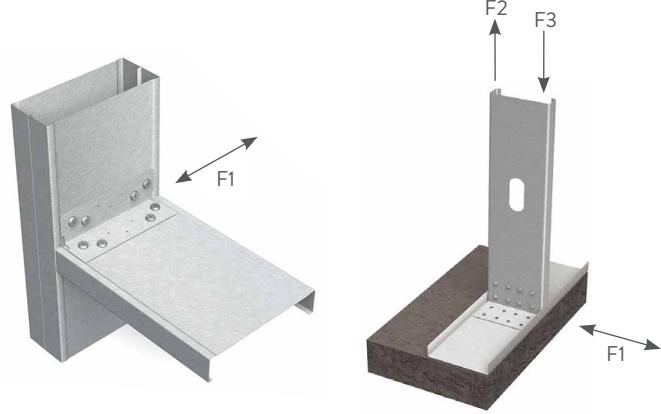
EasyClip X-Series Clip Angles are attached to cold-formed steel (CFS) framing members using #10 minimum self-drilling screws driven through the clip holes into the steel framing. Four pilot clip holes are provided and should be filled when this clip is used in a bridging application. This clip should not be more than 1/4" less in width than the cold-formed framing member.



TYPICAL CONSTRUCTION DETAILS



Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.



EasyClip™ X-Series™ Clip Angles Allowable Clip Capacities (lbs)

USING #10-16 SELF-DRILLING SCREWS

| Product code | No. of screws to steel framing | Stud Thickness and Yield Strength | | | | | | | | | | | |
|--------------|--------------------------------|-----------------------------------|-------------|------|---------------------|-------------|------|---------------------|-------------|------|--|--|--|
| | | 20ga (33mils) 33ksi | | | 18ga (43mils) 33ksi | | | 16ga (54mils) 50ksi | | | | | |
| | | F1 | F2 | F3 | F1 | F2 | F3 | F1 | F2 | F3 | | | |
| X543 | 4 | 390 (390) | 150 (531) | 531 | 578 (578) | 150 (788) | 788 | 1028 (904) | 150 (1400) | 1400 | | | |
| X545 | 3 | 449 (449) | 231 (531) | 531 | 666 (666) | 231 (788) | 788 | 1184 (1184) | 231 (1400) | 1400 | | | |
| | 5 | 677 (677) | 231 (885) | 885 | 1004 (1004) | 231 (1313) | 1313 | 1785 (1785) | 231 (2333) | 2333 | | | |
| X547 | 7 | 974 (974) | 231 (1239) | 1239 | 1445 (1445) | 231 (1838) | 1838 | 2568 (1810) | 231 (2617) | 3267 | | | |
| | 5 | 761 (761) | 311 (885) | 885 | 1130 (1130) | 311 (1313) | 1313 | 2007 (2007) | 311 (2333) | 2333 | | | |
| | 7 | 1031 (1031) | 311 (1239) | 1239 | 1529 (1529) | 311 (1838) | 1838 | 2718 (2718) | 311 (3267) | 3267 | | | |
| X549 | 9 | 1298 (1298) | 311 (1593) | 1593 | 1926 (1926) | 311 (2363) | 2363 | 3423 (2789) | 311 (3527) | 4200 | | | |
| | 7 | 1102 (1102) | 391 (1239) | 1239 | 1635 (1635) | 391 (1838) | 1838 | 2905 (2905) | 391 (3267) | 3267 | | | |
| | 9 | 1397 (1397) | 391 (1593) | 1593 | 2072 (2072) | 391 (2363) | 2363 | 3682 (3682) | 391 (4200) | 4200 | | | |
| X683 | 4 | 390 (390) | 238 (531) | 531 | 578 (578) | 238 (788) | 788 | 1028 (1028) | 238 (1400) | 1400 | | | |
| X685 | 3 | 449 (449) | 365 (531) | 531 | 666 (666) | 365 (788) | 788 | 1184 (1184) | 365 (1400) | 1400 | | | |
| | 5 | 677 (677) | 365 (885) | 885 | 1004 (1004) | 365 (1313) | 1313 | 1785 (1785) | 365 (2333) | 2333 | | | |
| | 7 | 974 (974) | 365 (1239) | 1239 | 1445 (1445) | 365 (1838) | 1838 | 2568 (2278) | 365 (3267) | 3267 | | | |
| X687 | 5 | 761 (761) | 492 (885) | 885 | 1130 (1130) | 492 (1313) | 1313 | 2007 (2007) | 492 (2333) | 2333 | | | |
| | 7 | 1031 (1031) | 492 (1239) | 1239 | 1529 (1529) | 492 (1838) | 1838 | 2718 (2718) | 492 (3267) | 3267 | | | |
| | 9 | 1298 (1298) | 492 (1593) | 1593 | 1926 (1926) | 492 (2363) | 2363 | 3423 (3423) | 492 (4200) | 4200 | | | |
| X689 | 7 | 1102 (1102) | 619 (1239) | 1239 | 1635 (1635) | 619 (1838) | 1838 | 2905 (2905) | 619 (3267) | 3267 | | | |
| | 9 | 1397 (1397) | 619 (1593) | 1593 | 2072 (2072) | 619 (2363) | 2363 | 3682 (3682) | 619 (4200) | 4200 | | | |
| | 11 | 1690 (1690) | 619 (1947) | 1947 | 2508 (2508) | 619 (2889) | 2889 | 4457 (4457) | 619 (5133) | 5133 | | | |
| X973 | 4 | 390 (390) | 485 (531) | 531 | 578 (578) | 485 (788) | 788 | 1028 (1028) | 485 (1400) | 1400 | | | |
| X975 | 3 | 449 (449) | 531 (531) | 531 | 666 (666) | 743 (788) | 788 | 1184 (1184) | 743 (1400) | 1400 | | | |
| | 5 | 677 (677) | 743 (885) | 885 | 1004 (1004) | 743 (1313) | 1313 | 1785 (1785) | 743 (2333) | 2333 | | | |
| | 7 | 974 (974) | 743 (1239) | 1239 | 1445 (1445) | 743 (1838) | 1838 | 2568 (2568) | 743 (3267) | 3267 | | | |
| X977 | 5 | 761 (761) | 885 (885) | 885 | 1130 (1130) | 1002 (1313) | 1313 | 2007 (2007) | 1002 (2333) | 2333 | | | |
| | 7 | 1031 (1031) | 1002 (1239) | 1239 | 1529 (1529) | 1002 (1838) | 1838 | 2718 (2718) | 1002 (3267) | 3267 | | | |
| | 9 | 1298 (1298) | 1002 (1593) | 1593 | 1926 (1926) | 1002 (2363) | 2363 | 3423 (3423) | 1002 (4200) | 4200 | | | |
| X979 | 7 | 1102 (1102) | 1239 (1239) | 1239 | 1635 (1635) | 1260 (1838) | 1838 | 2905 (2905) | 1260 (3267) | 3267 | | | |
| | 9 | 1397 (1397) | 1260 (1593) | 1593 | 2072 (2072) | 1260 (2363) | 2363 | 3682 (3682) | 1260 (4200) | 4200 | | | |
| | 11 | 1690 (1690) | 1260 (1947) | 1947 | 2508 (2508) | 1260 (2889) | 2889 | 4457 (4457) | 1260 (5133) | 5133 | | | |

Notes:

Screw Capacity Notes:

- The tabulated value indicates the number of screws in a single clip leg attached to the cold-formed steel (CFS) framing.
- Screws shall be attached in a symmetric manner starting at the top and bottom and moving toward the center.
- The allowable values for F1 are based only on the shear capacity of the clip leg attached to the CFS framing. The capacity of the attachment to other materials and structures must be checked separately.
- The allowable values for F2 assume mechanical fasteners are attached to the structure, and are located no more than 1" away from the angle bend. Mechanical fasteners to other materials and structures must be checked separately.
- This table is intended for use by qualified engineers only. It is the responsibility of the engineer to verify that the tabulated values apply to a specific connection application.
- When clips have combinations of F1, F2 and F3, use a linear interaction for combinations of F1 and F3, and a squared interaction for combinations of F1 and F2.

7 Allowable loads have not been increased 33% for wind or seismic.

8 For connections made to 14ga (68mils) and 12ga (97mils), use the tabulated values for 16ga (54mils), 50ksi.

9 It is the responsibility of the design professional to detail the drawings for proper clip attachment.

10 Contact ClarkDietrich Technical Services at 888-437-3244 for assistance.

Weld Capacity Notes:

- F1 and F2 values in parentheses are maximum shear and tension capacities when the clips are welded to the base structure (min 3/16" – 36ksi steel).
- Listed weld capacities are computed assuming an E70XX welding rod or wire.
- The clips are to be welded to the structure along the back corner along the complete length of the clip. When secondary welds are used to hold the clip in place, they are not used in capacity calculations.

Spazzer® 9200 Spacer Bar

Facilitates the rapid erection of interior, nonload-bearing, nonstructural studs into a rigid, accurately laid out gridwork.

The TradeReady® Spazzer® 9200 spacer bar is a prenotched, 20 gauge, galvanized steel spacer and bridging bar. The Spazzer 9200 bar facilitates rapid erection of studs into a rigid, accurately laid out gridwork that has excellent resistance to stud rotation and displacement. Hanging drywall is also faster and easier because the Spazzer 9200 bar eliminates the bow that often occurs in tall interior studs. TradeReady Spazzer 9200 bar is a 20 gauge bar that is 50" long and prenotched to hold studs rigidly on 16" or 24" centers. The slots have been pre-engineered to hold studs in place by utilizing "shear" to bridge studs into a rigid gridwork. Eliminates clip angles and saves up to 40% in combined labor and material costs.

ALTERNATIVE PRODUCTS

U-Channel with EasyClip™ U-Series™ Clip Angle
U-Channel with SwiftClip™ LS-Series™ Support Clip
Spazzer® 5400 Spacer Bar



PRODUCT DIMENSIONS

7/8" x 7/8" x 50"

MATERIAL SPECIFICATIONS

Gauge: 20 gauge (33mils)

Design Thickness: 0.0346 inches

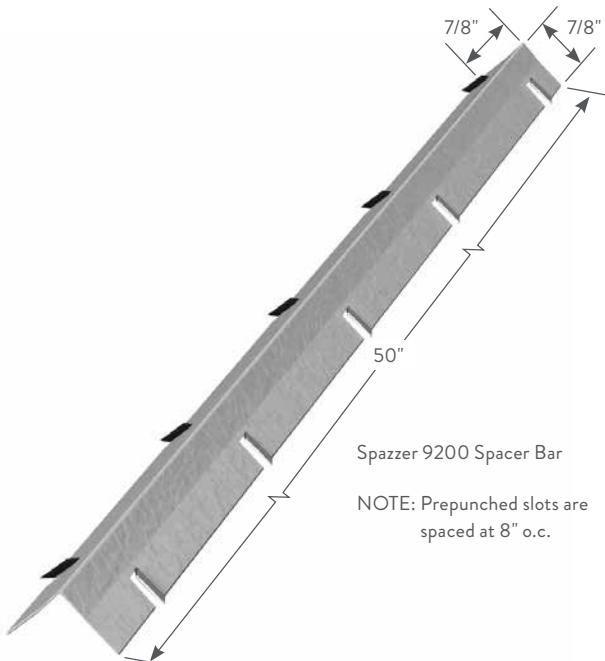
Coating: G40

Yield Strength: 33ksi

ASTM: C645, A653/A653M

INSTALLATION

Insert the prenotched, 50" Spazzer bar through the appropriate stud punchouts and rotate the bridging bar to engage or grip the stud. Use the prenotched slots to automatically lay out studs on 16" or 24" centers. Press the Spazzer bar firmly into place. Overlap the last slot with the next piece of Spazzer and continue to repeat the process.



Spazzer® 9200 Spacer Bar (SPZD)

| Product code | Thickness | | Size (in) | Packaging | |
|--------------|---------------|-----------------------|----------------|-------------|-----------|
| | Mils (Gauge) | Design thickness (in) | | Pcs./Carton | Pcs./Skid |
| SPZD | 33mils (20ga) | 0.0346 | 7/8 x 7/8 x 50 | 25 | 1350 |

Spazzer® 5400 Spacer Bar, Bar Guard™ & Grommet

Engineered to facilitate the rapid erection of exterior curtain wall framing.

ClarkDietrich TradeReady® Spazzer® 5400 (16 gauge and 18 gauge) spacer bar is a pre-notched, galvanized steel spacer and bridging bar, engineered to facilitate the rapid, efficient erection of exterior curtain wall framing, load-bearing walls and high interior partitions constructed of structural studs. Until now, most bridging in steel studs was accomplished with cold-rolled channel that required bridging clips or welding. The Spazzer bridging bar is equipped with proprietary prepunched slots that reduce installation costs up to 40% and provide excellent torsional and lateral stud restraint. The Spazzer Bar Guard™ retainer clip or the Spazzer snap-in grommet should be used to secure the Spazzer bar when used in load-bearing applications.

ALTERNATIVE PRODUCTS

U-Channel with EasyClip™ U-Series™, U-Channel with SwiftClip™ LS-Series™ Support Clip, U-Channel with FastBridge Clip, Block and Strap

PRODUCT DIMENSIONS

1-1/4" x 1-1/4" x 50"

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Coating: CP60

Yield Strength: 50ksi

ASTM: A653/A653M, C955

Spazzer® 5400 Spacer Bar (SPZS)

| Product code | Thickness | | Size (in) | Packaging | |
|--------------|---------------|-----------------------|--------------------|-------------|-----------|
| | Mils (Gauge) | Design thickness (in) | | Pcs./Carton | Pcs./Skid |
| SPZS-54 | 54mils (16ga) | 0.0566 | 1-1/4 x 1-1/4 x 50 | 20 | 680 |
| SPZS-43 | 43mils (18ga) | 0.0451 | 1-1/4 x 1-1/4 x 50 | 20 | 680 |

Spazzer® Bar Guard™ (SPBG) and Spazzer® Grommet (SPGR)

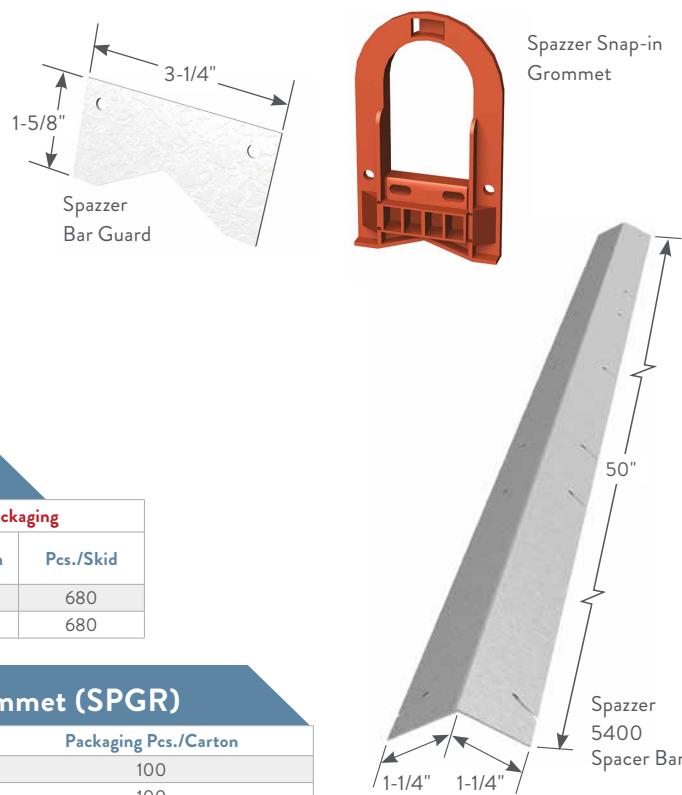
| Product code | Size (in) | Packaging Pcs./Carton |
|--------------|---------------|-----------------------|
| SPBG | 3-1/4 x 1-5/8 | 100 |
| SPGR | 1-1/2 x 4 | 100 |

LOAD-BEARING WALL INSTALLATION

The TradeReady Spazzer bar is passed through the stud knockouts and rotated 90° into position, engaging each side of the knockout. For load-bearing studs, the Spazzer bar guard bar retainer clip and the Spazzer snap-in grommet both require screws to keep the bar in place. The TradeReady Spazzer bar should be installed at a maximum 4' o.c. vertically or per specification. The Spazzer 5400 is not designed for use with 12ga and heavier structural studs and should not be used in studs over 8" wide.

NONLOAD-BEARING WALL INSTALLATION

The TradeReady Spazzer bar is passed through the stud knockouts and rotated 90° into position, engaging each side of the knockout. For 20 gauge studs, the Spazzer bar guard retainer clip and the Spazzer snap-in grommet both require screws to keep the bar in place. The TradeReady Spazzer bar should be installed at maximum 5' o.c. vertically or per specification. The Spazzer 5400 is not designed for use with 12ga and heavier structural studs and should not be used in studs over 8" wide.



Spazzer® 5400 Spacer Bar Connection Strength and Stiffness

| Product code | Stud depth (in) | Allowable Capacities | Stud Thickness mils (ga) | | | |
|--------------|--------------------|---------------------------|--------------------------|---------------|---------------|---------------|
| | | | 33mils (20ga) | 43mils (18ga) | 54mils (16ga) | 68mils (14ga) |
| SPZS54 | 3-5/8 | Brace stiffness (lbs/in) | 1320 | 1984 | 2792 | 3120 |
| | | Brace strength (lbs) | 310 | 420 | 570 | 570 |
| | | Torsional Moment (in-lbs) | 325 | 400 | 535 | 630 |
| | 6 | Brace stiffness (lbs/in) | 920 | 1680 | 2240 | 2400 |
| | | Brace strength (lbs) | 300 | 400 | 555 | 555 |
| | | Torsional Moment (in-lbs) | 265 | 365 | 610 | 705 |
| | 8 | Brace stiffness (lbs/in) | – | 1080 | 1440 | 2176 |
| | | Brace strength (lbs) | – | 395 | 525 | 525 |
| | | Torsional Moment (in-lbs) | – | 405 | 560 | 680 |

Notes:

1 Allowable loads are based on the use of cold-formed steel studs with a minimum yield strength, $F_y=33$ ksi and tensile strength, $F_u=45$ ksi for 43mils (18ga) or thinner and a minimum yield strength, $F_y=50$ ksi and tensile strength, $F_u=65$ ksi for 54mils (16ga) or thicker.

2 Allowable loads are based on 54mils (16ga) 5400 Spazzer Bar with a minimum yield strength, $F_y=50$ ksi and tensile strength, $F_u=65$ ksi.

3 Allowable loads are for the bridging connection only. The strength and serviceability of the framing members is the responsibility of the designer.

4 Allowable loads may not be increased for wind or seismic load.

5 Allowable loads are for use when using ASD design methodology. For LRFD loads, multiply ASD allowable loads by 1.6.

6 Allowable brace loads are based on ultimate test loads divided by a safety factor. Serviceability limits are not considered. Brace stiffness requirements are detailed in AISI S100 Section D3.3.

7 Axial brace stiffness values apply to both ASD and LRFD designs.

8 Listed Spazzer Bar capacities are based on Spazzer Bar fully seated in the bottom of the stud knockout as shown in Figure-1.

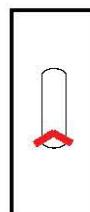


Figure-1

Spazzer® 5400 Spacer Bar Maximum Bridging Distance (ft.)

| Product code | Stud spacing (in) | Stud section (in) | Stud thickness mils (ga) | Lateral stud pressure (psf) | | | | | | | | | |
|--------------|-------------------|-------------------|--------------------------|-----------------------------|----|----|----|----|----|----|----|----|----|
| | | | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| SPZS54 | 12 | 362S162 | 33mils (20ga) | 8 | 8 | 8 | 8 | 7 | 5 | 5 | 4 | 4 | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 4 |
| | | | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 6 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 7 |
| | | 362S200 | 33mils (20ga) | 8 | 8 | 8 | 6 | 5 | 4 | 4 | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 6 | 5 | 4 | 4 | - | - |
| | | | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 4 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 6 | 5 |
| | | 600S162 | 33mils (20ga) | 8 | 8 | 8 | 8 | 6 | 5 | 4 | 4 | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 4 |
| | | | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | | 600S200 | 33mils (20ga) | 8 | 8 | 8 | 6 | 5 | 4 | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 7 | 5 | 5 | 4 | 4 | - |
| | | | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 6 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 |
| | | 800S162 | 43mils (18ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 |
| | | | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 |
| | | 800S200 | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 |
| | | | 33mils (20ga) | 8 | 8 | 8 | 6 | 5 | 4 | 4 | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 6 | 5 | 4 | 4 | - | - |
| | 16 | 362S162 | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 4 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 |
| | | | 33mils (20ga) | 8 | 8 | 8 | 6 | 5 | 4 | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 6 | 5 | 4 | 4 | - | - |
| | | 362S200 | 54mils (16ga) | 8 | 8 | 8 | 8 | 6 | 5 | 5 | 4 | 4 | - |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 4 |
| | | | 33mils (20ga) | 8 | 8 | 8 | 6 | 5 | 4 | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 7 | 5 | 5 | 4 | 4 | - |
| | | 600S162 | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 6 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 |
| | | | 33mils (20ga) | 8 | 8 | 6 | 4 | 4 | - | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 6 | 5 | 4 | - | - | - | - |
| | | 600S200 | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 4 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 |
| | | | 33mils (20ga) | 8 | 8 | 6 | 4 | 4 | - | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 6 | 5 | 4 | - | - | - | - |
| | | 800S162 | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 |
| | | | 33mils (20ga) | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 4 |
| | | 800S200 | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 |
| | | | 33mils (20ga) | 8 | 8 | 5 | 4 | - | - | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 7 | 5 | 4 | - | - | - | - | - |
| | 24 | 362S162 | 54mils (16ga) | 8 | 8 | 8 | 7 | 6 | 5 | 4 | - | - | - |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 7 | 5 | 5 | 4 | 4 | - |
| | | | 33mils (20ga) | 8 | 6 | 4 | - | - | - | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 5 | 4 | - | - | - | - | - | - |
| | | 362S200 | 54mils (16ga) | 8 | 8 | 7 | 5 | 4 | 4 | - | - | - | - |
| | | | 68mils (14ga) | 8 | 8 | 8 | 6 | 5 | 4 | - | - | - | - |
| | | | 33mils (20ga) | 8 | 8 | 5 | 4 | - | - | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 7 | 5 | 4 | 4 | - | - | - | - |
| | | 600S162 | 54mils (16ga) | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 5 | 4 | 4 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 5 | 5 | 4 |
| | | | 33mils (20ga) | 8 | 6 | 4 | - | - | - | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 5 | 4 | - | - | - | - | - | - |
| | | 600S200 | 54mils (16ga) | 8 | 8 | 8 | 7 | 6 | 5 | 4 | - | - | - |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 4 | - | - |
| | | | 33mils (20ga) | 8 | 8 | 8 | 7 | 5 | 4 | 4 | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 |
| | | 800S162 | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 |
| | | | 33mils (20ga) | 8 | 8 | 8 | 7 | 5 | 4 | 4 | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 7 | 6 | 5 | 4 | - | - | - |
| | | 800S200 | 54mils (16ga) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 6 | 5 |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | - |
| | | | 33mils (20ga) | 8 | 8 | 7 | 5 | 4 | - | - | - | - | - |
| | | | 43mils (18ga) | 8 | 8 | 8 | 7 | 6 | 5 | 4 | - | - | - |

Notes:

- 1 Tabulated maximum bridging distances are for ASD lateral pressures.
- 2 Tabulated maximum bridging distances are based on the tested connection strength.
- 3 Studs must be checked for unbraced length separately.
- 4 Lateral pressures shall be determined based on the load combinations of the applicable building code.
- 5 For designs using 2009 IBC and earlier, wind pressures are at the working stress level and may be used directly.
- 6 For designs using 2012 IBC and 2015 IBC, wind pressures are at the strength level and must be multiplied by 0.6 for ASD load combinations.

Spazzer® 5400 Spacer Bar Connection Strength and Stiffness

| Product code | Stud depth (in) | Allowable Capacities | Stud Thickness mils (ga) | | | |
|--------------|--------------------|---------------------------|--------------------------|---------------|---------------|---------------|
| | | | 33mils (20ga) | 43mils (18ga) | 54mils (16ga) | 68mils (14ga) |
| SPZS43 | 3-5/8 | Brace stiffness (lbs/in) | 525 | 735 | 1160 | 1380 |
| | | Brace strength (lbs) | 310 | 360 | 360 | 360 |
| | | Torsional Moment (in-lbs) | 150 | 240 | 300 | 300 |
| | 6 | Brace stiffness (lbs/in) | 290 | 420 | 520 | 890 |
| | | Brace strength (lbs) | 300 | 340 | 340 | 340 |
| | | Torsional Moment (in-lbs) | 210 | 250 | 290 | 290 |
| | 8 | Brace stiffness (lbs/in) | — | 240 | 430 | 650 |
| | | Brace strength (lbs) | — | 290 | 320 | 320 |
| | | Torsional Moment (in-lbs) | — | 230 | 250 | 280 |

Notes:

1 Allowable loads are based on the use of cold-formed steel studs with a minimum yield strength, $F_y=33$ ksi and tensile strength, $F_u=45$ ksi for 43mils (18ga) or thinner and a minimum yield strength, $F_y=50$ ksi and tensile strength, $F_u=65$ ksi for 54mils (16ga) or thicker.

2 Allowable loads are based on 43mils (18ga) 4300 Spazzer Bar with a minimum yield strength, $F_y=33$ ksi and tensile strength, $F_u=45$ ksi.

3 Allowable loads are for the bridging connection only. The strength and serviceability of the framing members is the responsibility of the designer.

4 Allowable loads may not be increased for wind or seismic load.

5 Allowable loads are for use when using ASD design methodology. For LRFD loads, multiply ASD allowable loads by 1.6.

6 Allowable brace loads are based on ultimate test loads divided by a safety factor. Serviceability limits are not considered. Brace stiffness requirements are detailed in AISI S100 Section D3.3.

7 Axial brace stiffness values apply to both ASD and LRFD designs.

8 Listed Spazzer Bar capacities are based on Spazzer Bar fully seated in the bottom of the stud knockout as shown in Figure-1.

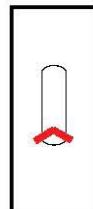


Figure-1

Spazzer® 5400 Spacer Bar Maximum Bridging Distance (ft.)

| Product code | Stud spacing (in) | Stud section (in) | Stud thickness mils (ga) | Lateral stud pressure (psf) | | | | | | | | | |
|--------------|-------------------|-------------------|--------------------------|-----------------------------|----|----|----|----|----|----|----|----|----|
| | | | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| SPZS43 | 12 | 362S162 | 33mils (20ga) | 8 | 8 | 5 | 4 | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 8 | 6 | 5 | 4 | 4 | — | — | — |
| | | | 54mils (16ga) | 8 | 8 | 8 | 8 | 6 | 5 | 4 | 4 | — | — |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 6 | 5 | 4 | 4 | — | — |
| | | 362S200 | 33mils (20ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 6 | 5 | 4 | — | — | — | — | — |
| | | | 54mils (16ga) | 8 | 8 | 8 | 6 | 5 | 4 | — | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 8 | 6 | 5 | 4 | — | — | — | — |
| | | 600S162 | 33mils (20ga) | 8 | 8 | 8 | 6 | 5 | 4 | 4 | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | — | — |
| | | | 54mils (16ga) | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | — |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | 4 |
| | | 600S200 | 33mils (20ga) | 8 | 8 | 6 | 5 | 4 | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 7 | 6 | 4 | 4 | — | — | — | — |
| | | | 54mils (16ga) | 8 | 8 | 8 | 7 | 5 | 4 | 4 | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 8 | 7 | 5 | 4 | 4 | — | — | — |
| | | 800S162 | 43mils (18ga) | 8 | 8 | 8 | 8 | 6 | 5 | 4 | 4 | — | — |
| | | | 54mils (16ga) | 8 | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | — |
| | | | 68mils (14ga) | 8 | 8 | 8 | 8 | 8 | 6 | 5 | 5 | 4 | 4 |
| | | | 800S200 | 43mils (18ga) | 8 | 8 | 8 | 6 | 5 | 4 | — | — | — |
| | | 362S162 | 54mils (16ga) | 8 | 8 | 8 | 6 | 5 | 4 | 4 | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 8 | 7 | 6 | 5 | 4 | 4 | — | — |
| | | | 33mils (20ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 6 | 5 | 4 | — | — | — | — | — |
| | | 362S200 | 54mils (16ga) | 8 | 8 | 8 | 6 | 5 | 4 | — | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 8 | 6 | 5 | 4 | — | — | — | — |
| | | | 33mils (20ga) | 8 | 4 | — | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 7 | 5 | 4 | — | — | — | — | — | — |
| | | 600S162 | 54mils (16ga) | 8 | 8 | 6 | 4 | 4 | — | — | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 6 | 4 | 4 | — | — | — | — | — |
| | | | 33mils (20ga) | 8 | 8 | 6 | 5 | 4 | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 7 | 6 | 4 | 4 | — | — | — | — |
| | | 600S200 | 54mils (16ga) | 8 | 8 | 8 | 7 | 5 | 4 | 4 | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 8 | 7 | 5 | 4 | 4 | — | — | — |
| | | | 33mils (20ga) | 8 | 7 | 5 | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 6 | 4 | — | — | — | — | — | — |
| | | 800S162 | 54mils (16ga) | 8 | 8 | 7 | 5 | 4 | — | — | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 7 | 5 | 4 | — | — | — | — | — |
| | | | 33mils (20ga) | 8 | 8 | 6 | 4 | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 8 | 6 | 5 | 4 | 4 | — | — | — |
| | | 800S200 | 54mils (16ga) | 8 | 8 | 8 | 6 | 5 | 4 | 4 | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 7 | 5 | 4 | 4 | — | — | — | — |
| | | | 33mils (20ga) | 8 | 4 | — | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | 362S162 | 54mils (16ga) | 8 | 8 | 5 | 4 | — | — | — | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 5 | 4 | — | — | — | — | — | — |
| | | | 33mils (20ga) | 6 | — | — | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 5 | — | — | — | — | — | — | — | — |
| | | 362S200 | 54mils (16ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | | 68mils (14ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | | 33mils (20ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 7 | 5 | 4 | — | — | — | — | — | — |
| | | 600S162 | 54mils (16ga) | 8 | 8 | 6 | 4 | — | — | — | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 6 | 4 | 4 | — | — | — | — | — |
| | | | 33mils (20ga) | 8 | 5 | — | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | 600S200 | 54mils (16ga) | 8 | 7 | 4 | — | — | — | — | — | — | — |
| | | | 68mils (14ga) | 8 | 7 | 4 | — | — | — | — | — | — | — |
| | | | 33mils (20ga) | 8 | 8 | 5 | 4 | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 8 | 6 | 4 | — | — | — | — | — | — |
| | | 800S162 | 54mils (16ga) | 8 | 8 | 6 | 4 | — | — | — | — | — | — |
| | | | 68mils (14ga) | 8 | 8 | 6 | 5 | 4 | — | — | — | — | — |
| | | | 33mils (20ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | | 43mils (18ga) | 8 | 6 | 4 | — | — | — | — | — | — | — |
| | | 800S200 | 54mils (16ga) | 8 | 7 | 5 | 4 | — | — | — | — | — | — |
| | | | 68mils (14ga) | 8 | 7 | 5 | 4 | — | — | — | — | — | — |

Notes:

- 1 Tabulated maximum bridging distances are for ASD lateral pressures.
- 2 Tabulated maximum bridging distances are based on the tested connection strength.
- 3 Studs must be checked for unbraced length separately.
- 4 Lateral pressures shall be determined based on the load combinations of the applicable building code.
- 5 For designs using 2009 IBC and earlier, wind pressures are at the working stress level and may be used directly.
- 6 For designs using 2012 IBC and 2015 IBC, wind pressures are at the strength level and must be multiplied by 0.6 for ASD load combinations.

Spazzer® Bar Fly Clip

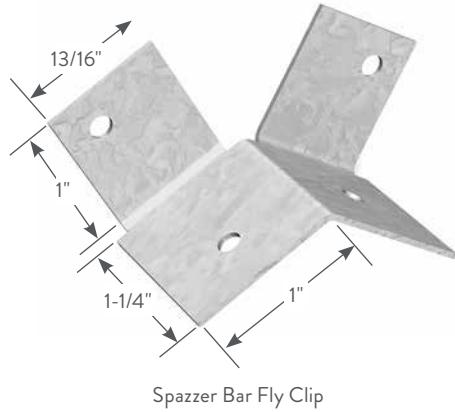
A prepunched clip that eliminates the need for cutting and bending when using the Spazzer® 5400 Spacer Bar to facilitate rapid installation of exterior curtain wall framing.

The Spazzer bar fly clip is a secure, fast and efficient way to finish a wall section when using the TradeReady® Spazzer 5400 spacer bar to facilitate the rapid erection of curtain wall or load-bearing framing. Traditionally, at the end of a section, the Spazzer bar would need to be cut and bent to keep the bar in place. With the new Spazzer bar fly clip, installation is as easy as fastening the prepunched clip to the stud and the Spazzer bar. The excess Spazzer bar is cut and installation is complete.

The Spazzer fly clip is the perfect solution for installing off-module studs with the 5400 series Spazzer bar. Simply cut the Spazzer bar just short of the stud web, and use the Spazzer fly clip to quickly connect the Spazzer bar to the face of the stud with self-drilling framing screws.

ALTERNATIVE PRODUCTS

Traditional cutting and bending



Spazzer® Bar Fly Clip (SFLY)

| Product code | Size (in) | Packaging Pcs./Carton |
|--------------|---------------|-----------------------|
| SFLY | 1 x 1-1/4 x 1 | 100 |

PRODUCT DIMENSIONS

1" x 1-1/4" x 1"

MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Coating: G90

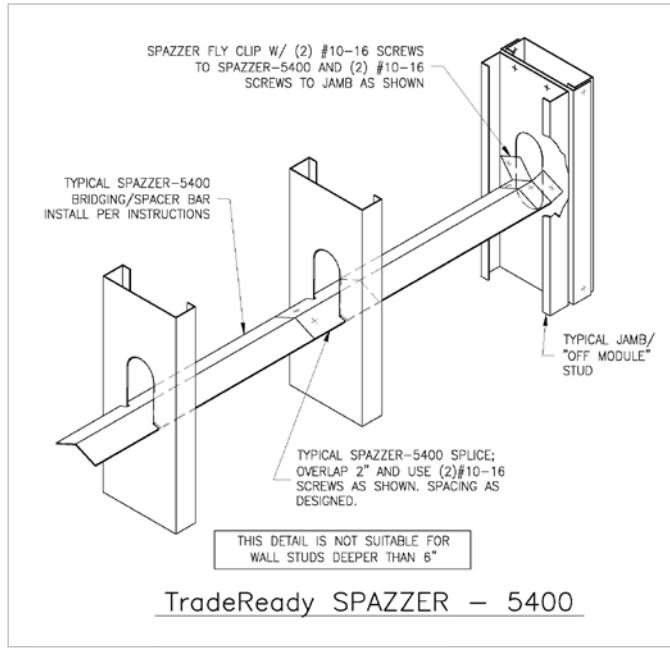
Yield Strength: 50ksi

ASTM: A653/A653M

LOAD-BEARING WALL INSTALLATION

The TradeReady Spazzer 5400 spacer bar is passed through the stud knockouts and rotated 90° into position, engaging each side of the knockout. In load-bearing applications, some type of attachment is required to keep the bar in place—the Spazzer bar fly clip is an optimum solution. The TradeReady Spazzer 5400 bar should be installed at a maximum 4' o.c. vertically or per specifications. The Spazzer bar should not be used in studs over 6" wide.

TYPICAL CONSTRUCTION DETAILS



Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

FastBack™ Backing System

Reduces finishing time with no exposed fasteners on the face of the product.

The FastBack™ backing system features a universal design that works with studs in either direction—concealing fasteners on the face of the product. The system creates an interlocked design between the stud and track for baseboard backing installations; and a cutaway design allows backing and bracing to be installed all the way to the floor. Optional pre-cut and fire-rated D-Blaze® or FlamePRO® Wood Backing is sized to fit 12", 16" and 24" o.c. spacing and can be used with the FBBC5 or FBBC10 clip. Available for overnight delivery. FBBC5-2X, 162-FBBC5-2X and 200-FBBC5-2X are designed to support traditional 2X lumber.

FastBack™ Backing System

| Product code | Stud Flange (F) | Height (H) | Backing (B) | Packaging Pcs./Carton |
|--------------|-----------------|------------|--------------------|-----------------------|
| FBBC5 | 1-1/4" | 5-1/8" | 3/4" (5 ply) | 100 |
| FBBC10 | 1-1/4" | 10-1/4" | 3/4" (5 ply) | 100 |
| FBBC5-2X | 1-1/4" | 5-1/8" | 3/4" (5 ply) | 100 |
| 162-FBBC5-2X | 1-5/8" | 5-1/8" | 1-1/2" (2X lumber) | 100 |
| 200-FBBC5-2X | 2" | 5-1/8" | 1-1/2" (2X lumber) | 100 |

Wood Backing

| Product code | Height (in) | Length (in) | Packaging Pcs./Skid |
|--------------|-------------|-------------|---------------------|
| 5FBW12 | 5-1/8" | 10-1/2" | 720 |
| 5FBW16 | 5-1/8" | 14-1/2" | 540 |
| 5FBW24 | 5-1/8" | 22-1/2" | 360 |
| 10FBW12 | 10-1/4" | 10-1/2" | 720 |
| 10FBW16 | 10-1/4" | 14-1/2" | 540 |
| 10FBW24 | 10-1/4" | 22-1/2" | 360 |

U.S. Patent No. 7,882,676 of Jeffrey Thomas Ellis

D-Blaze® is a registered trademark of Viance, LLC

FlamePRO® is a registered trademark of Koppers Performance Chemicals, Inc.

FlamePRO® Fire Retardant complies with or has been granted the following:

- UL GREENGUARD Gold Certification – UL 2818
- ICC ESR-4244
- AWPA E12, AWPA M4, AWPA P50, AWPA T1 standard
- Cal Fire Certified
- American Institute of Architects Approved
- ASTM 2768
- ASTM D3201, D5516, D5664, E84, E119, 2768, D6305, D6841
- AWPA T1
- AWPA UC-1
- Class A FRT wood
- UL Recognized Component
- NFPA 703, 101 Life Safety Code
- City of Los Angeles Building Code
- City of Los Angeles Residential Code
- National Building Code of Canada
- One & two hour tested wall assemblies
- 50-year warranty
- UL Classified with an FR-S Rating for flame spread and smoke development values of 25 or less

(All are subject to revision, re-examination)

INSTALLATION

Rotate the FastBack clip over the flange of the stud until it sits flush. Fasten into place using drywall screws in the pre-drilled holes. Place wood onto tabs and fasten into place using standard drywall screws.



D-Blaze® Fire Retardant or D-Blaze® FRT Wood complies with or has been granted the following:

- ASTM E84
- ASTM D3201
- ASTM D5516
- ASTM D5664
- Underwriters Laboratories Classified
- UL Class A (Class 1) with FR-S Rating CAN/ULC S102 & S102.2
- GREENGUARD Gold Certified
- National Fire Protection Association (NFPA 255)
- City of Los Angeles Research Report: RR24502 in accordance with ICC-ES ESR 2645
- New York City Building Code (MEA Numbers 406-87 and 407-87)
- National Building Code of Canada
- AWPA Standardized (P50, U1, UCFA) Interior Type A-High Temperature (HT) FRTW
- California Department of Forestry and Fire Protection CSFM BML Listings for D-Blaze Plywood and Lumber
- ICC-ES ESR-2645
- 50-year warranty

(All are subject to revision, re-examination)

Danback® Flexible Wood Backing Plate

Reduces steel stud backing labor costs by up to 75%.

Danback® Flexible Wood Backing System, featuring D-Blaze® or FlamePRO® fire-retardant treated wood (FRT), has made wood backing installation easy and economical-eliminating cutting, notching, ripping and routing.

Danback provides superior connection shear and pullout strength to support and meet even some of the heaviest loading conditions. Simply snap, flex and screw Danback into place. The patented hinge design actually flexes around the stud and snaps into place for a perfect fit-every time.

- Provides extra screw pullout strength for heavy-duty backing applications
- Available in 48" sections, for either 16" or 24" o.c. framing
- Meets all specifications for commercial and residential applications

Perfect backing system for baseboards, door jams and wood trim, cabinets and vanities and ceiling and crown moldings.

The Evaluation Report Service found that the wood backing material complies with the requirements for fire retardant treated wood described in the International Building Codes (IBC & IRC).

Danback flexible wood backing is available with FSC®-certified lumber and may contribute LEED® points to your project.

MATERIAL SPECIFICATIONS

Material: 3/4" CDX Doug Fir fire-retardant treated wood

Dimensions: 5-1/8" x 48" (130mm x 1219mm)

Packaging: (250) pieces per skid

Product weight: 5.114 lbs/piece

Danback® Flexible Wood Backing Plates (D16, D24)

| Product code | Width (in) | Length (in) | Spacing | Packaging Pcs./Skid |
|--------------|------------|-------------|----------|---------------------|
| D16F* | 5-1/8 | 48 | 16" o.c. | 250 |
| D24F* | 5-1/8 | 48 | 24" o.c. | 250 |
| D16C** | 5-1/8 | 48 | 16" o.c. | 250 |
| D24C** | 5-1/8 | 48 | 24" o.c. | 250 |

*F = fire-treated plywood.

Trimmables available for off-module spacing in bulk quantity.

**FSC-certified lumber available on request, which can contribute to LEED® points on your project.

Contact ClarkDietrich LEED professionals at 888-437-3244 for more information.

FSC chain-of-custody # BV-COC-008121

Load Tables

| Installation condition | Nominal (lbs) |
|------------------------|---------------|
| Shear / 0" Offset | 2440 |
| Shear / 1" Offset | 825 |
| Shear / 3" Offset | 310 |
| Tension | 635 |

U.S. Patent Nos. 6,705,056 is owned by Kathy Tollenaar

Danback® is a trademark of Kathy Tollenaar

D-Blaze® is a registered trademark of Viance, LLC

FlamePRO® is a registered trademark of Koppers Performance Chemicals, Inc.

Notes:

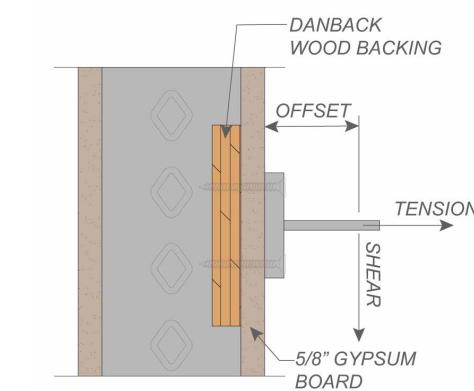
1 Listed load values are nominal test load values, appropriate safety factors/resistance factors should be applied by the designer for calculating loads for intended use.

2 Shear / Offset (moment-rotation) Load refers to load directed in the plane of the wall.

3 Tension Load refers to load directed perpendicular to wall or plywood surface.

4 Tabulated loads include the contribution of 5/8" gypsum board.

5 Test loads were applied to the gypsum board and backing system through a 1/2" thick, 2-3/4" diameter steel plate secured with (4) #12 hex head screws.



6 Loads were applied directly through the steel plate or to a steel rod that cantilevered from the plate.

7 Typical failure mode in backing testing was the gypsum board failure.

8 24-in o.c. stud spacing test results were similar/identical to 16-in o.c. test results.

9 Listed nominal capacities are based on using 33mils (20ga) non-structural framing members/studs.

10 Anchor to the stud flange using (3) #8 wafer head/pan head screws.

Easy installation.



Snap starter edge into the open side of the stud flange.



HINT: Start with the first full bay. Use Danback trimmables for off-module bays.



Flex Danback flexible wood backing around stud flange using the flexible connector plate.



Repeat the process.



Overlap connector plates when using in long backing runs.



Secure each plate to the stud flange using three small pan or wafer-head screws.

Commonly used in: hospitals, medical centers, schools, hotels/motels, assisted living, condominiums, and others. The perfect backing solution for: cabinets, shelves, counters, sinks, handrails, chalkboards, towel and shower bars, or other wall-mounted fixtures that require heavy-duty backing.



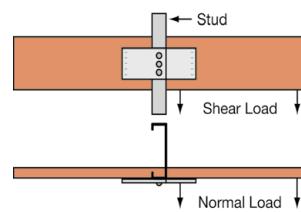
Use Danback trimmables for off-module bays:



Danback trimmables for off-module backing.

Cut to required length. Secure connector plate to the trimmed edge. Leave 1-1/4" extended over the trimmed edge. Fasten the plate to Danback using three small pan or wafer-head screws.

Connector plates included with trimmables.



FlamePRO® Fire Retardant complies with or has been granted the following:

- UL GREENGUARD Gold Certification – UL 2818
- ICC ESR-4244
- AWPA E12, AWPA M4, AWPA P50, AWPA T1 standard
- Cal Fire Certified
- American Institute of Architects Approved
- ASTM 2768
- ASTM D3201, D5516, D5664, E84, E119, 2768, D6305, D6841
- AWPA T1
- AWPA UC-1
- Class A FRT wood
- UL Recognized Component
- NFPA 703, 101 Life Safety Code
- City of Los Angeles Building Code
- City of Los Angeles Residential Code
- National Building Code of Canada
- One & two hour tested wall assemblies
- 50-year warranty
- UL Classified with an FR-S Rating for flame spread and smoke development values of 25 or less

(All are subject to revision, re-examination)

D-Blaze® Fire Retardant or D-Blaze® FRT Wood complies with or has been granted the following:

- ASTM E84
- ASTM D3201
- ASTM D5516
- ASTM D5664
- Underwriters Laboratories Classified
- UL Class A (Class 1) with FR-S Rating CAN/ULC S102 & S102.2
- GREENGUARD Gold Certified
- National Fire Protection Association (NFPA 255)
- City of Los Angeles Research Report: RR24502 in accordance with ICC-ES ESR 2645
- New York City Building Code (MEA Numbers 406-87 and 407-87)
- National Building Code of Canada
- AWPA Standardized (P50, U1, UCFA) Interior Type A-High Temperature (HT) FRTW
- California Department of Forestry and Fire Protection CSFM BML Listings for D-Blaze Plywood and Lumber
- ICC-ES ESR-2645
- 50-year warranty

(All are subject to revision, re-examination)

Backer Bar

Provides superior connection shear and pullout strength for handrails, shelves and other wall fixtures

The Backer Bar was specifically designed to meet the demand for the attachment of multiple items and heavier items to interior partitions.

Today's building professionals require solutions to allow the attachment of such products and accessories to the interior partition walls. Traditionally, backing systems have been costly, time-consuming and not necessarily performing to the required code specified load requirements. Backer Bar is designed for use on non-structural and structural studs.

TYPICAL APPLICATIONS:

- Wall-Mounted Televisions
- Hospital Handrails
- Towel and Shower Bars
- Cabinets and Shelves

FEATURES AND BENEFITS:

- Installs quickly and easily
- Available in 12", 16" and 24" spacing
- For use on non-structural and structural studs

Canada Patent Pending – 2,811,362

USA Patent – 9,062,455

PRODUCT DIMENSIONS

Leg: 1-1/4"

Width: 5"

Lengths: For 12", 16" and 24" o.c. stud spacing

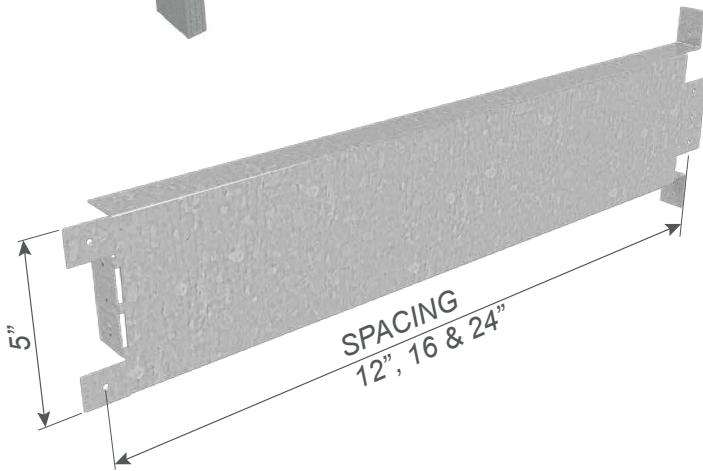
MATERIAL SPECIFICATIONS

Gauge: 20 gauge STR (33mils)

Design Thickness: 0.0346 inches

Coating: G90

Material: Grade 50ksi min. yield strength



Backer Bar (BB12, BB16, BB24)

| Product code | Thickness | | Size (in) | Packaging |
|--------------|---------------|-----------------------|-------------------|------------|
| | Mils (Gauge) | Design thickness (in) | | |
| BB12 | 33mils (20ga) | 0.0346 | 1-1/4" x 5" x 12" | |
| BB16 | 33mils (20ga) | 0.0346 | 1-1/4" x 5" x 16" | |
| BB24 | 33mils (20ga) | 0.0346 | 1-1/4" x 5" x 24" | Individual |

BlazeFrame® Shield

33mils, 43mils or 54mils fire shield system

ClarkDietrich's BlazeFrame Shield is specifically designed for use in conjunction with approved fireblocking materials per section 718 of the IBC. BlazeFrame Shield simply installs by twisting into stud flanges and screwing into stud webs. The one piece preformed assembly eliminates cutting, notching and attaching clips.

- Installs quickly and easily without clips
- Available for 16" and 24" stud spacing
- Three available widths
- Available in 33mils (20ga), 43mils (18ga) or 54mils (16ga)
- Pre-notched for use on structural studs (1-5/8" flange only)

PRODUCT DIMENSIONS

Horizontal leg: 1"

Connection Tabs: Top: 2", Bottom: 1-1/2"

Width: 3-5/8", 4" or 6"

Lengths: For 16" and 24" o.c. stud spacing

BlazeFrame® Shield

| Product code | Thickness | | Size (in) |
|--------------|---------------|-----------------------|---------------------|
| | Mils (Gauge) | Design thickness (in) | |
| FS316-33 | 33mils (20ga) | 0.0346 | 3-5/8" web 16" o.c. |
| FS316-43 | 43mils (18ga) | 0.0451 | 3-5/8" web 16" o.c. |
| FS316-54 | 54mils (16ga) | 0.0566 | 3-5/8" web 16" o.c. |
| FS324-33 | 33mils (20ga) | 0.0346 | 3-5/8" web 24" o.c. |
| FS324-43 | 43mils (18ga) | 0.0451 | 3-5/8" web 24" o.c. |
| FS324-54 | 54mils (16ga) | 0.0566 | 3-5/8" web 24" o.c. |
| FS416-33 | 33mils (20ga) | 0.0346 | 4" web 16" o.c. |
| FS416-43 | 43mils (18ga) | 0.0451 | 4" web 16" o.c. |
| FS416-54 | 54mils (16ga) | 0.0566 | 4" web 16" o.c. |
| FS424-33 | 33mils (20ga) | 0.0346 | 4" web 24" o.c. |
| FS424-43 | 43mils (18ga) | 0.0451 | 4" web 24" o.c. |
| FS424-54 | 54mils (16ga) | 0.0566 | 4" web 24" o.c. |
| FS616-33 | 33mils (20ga) | 0.0346 | 6" web 16" o.c. |
| FS616-43 | 43mils (18ga) | 0.0451 | 6" web 16" o.c. |
| FS616-54 | 54mils (16ga) | 0.0566 | 6" web 16" o.c. |
| FS624-33 | 33mils (20ga) | 0.0346 | 6" web 24" o.c. |
| FS624-43 | 43mils (18ga) | 0.0451 | 6" web 24" o.c. |
| FS624-54 | 54mils (16ga) | 0.0566 | 6" web 24" o.c. |

MATERIAL SPECIFICATIONS

Gauge: 20 gauge STR (33mils)

Design Thickness: 0.0346 inches

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

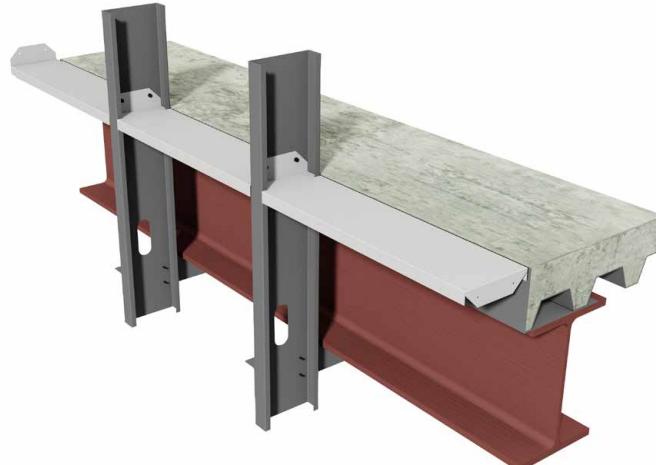
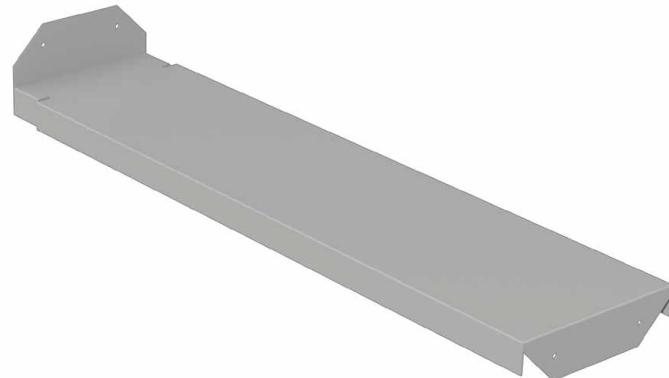
Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Coating: CP60

Yield Strength: 33ksi for 33mils & 43mils
50ksi for 54mils

ASTM: C955, A1003



Fire-retardant treated wood blocking for non-structural steel framing

2x6 fire-retardant treated wood blocking for non-structural steel framing with dado groove to latch on to flanges and span between wall partitions to provide attachment surface for wall mounted fixtures.

2x6 FR Blocking is fire-retardant, pressure-treated wood that is chemically treated to reduce flamespread and smoke development. Fire-retardant wood complies with national building codes, including the International Building Code (IBC) and the International Residential Code (IRC).

D-Blaze® is a registered trademark of Viance, LLC.

PRODUCT DIMENSIONS

Size: 1-1/2" x 5-1/2" x 15-3/4"

FEATURES AND BENEFITS:

- D-Blaze® Fire-Retardant Treatment
- Constructed from Southern Yellow Pine (SYP)
- Dado groove provides secure and flush mounting surface
- Pre-cut for 16" o.c. spacing
- Provides reinforcement to the structural integrity of the walls for stability of wall-mounted fixtures
- 50 year warranty



2x6 FR Blocking (FRB26-16)

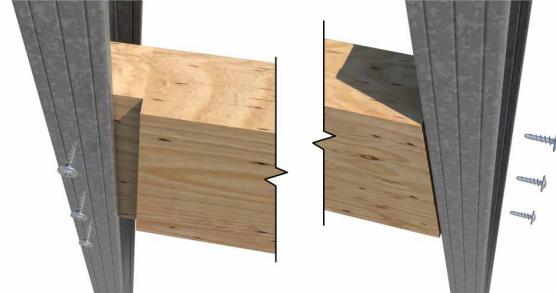
| Product code | Thickness | Height | Length | Pcs./Skid |
|--------------|-----------|--------|---------|-----------|
| FRB26-16 | 1-1/2" | 5-1/2" | 15-3/4" | 288 |

Material: Southern Yellow Pine (SYP) treated with D-Blaze® fire-retardant treatment

Product weight: 2.35 lbs. / piece

INSTALLATION

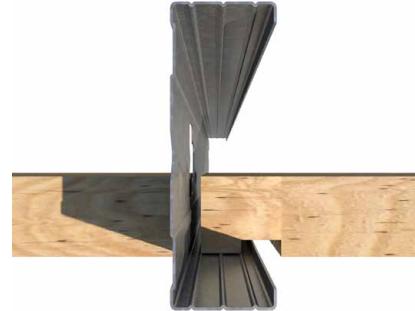
Secure wood blocking into place using stainless steel or hot-dip galvanized fasteners. On one side, insert fasteners through the stud flange and into the face of the blocking and for the other side insert fasteners through the stud web and into the butt end of the blocking.



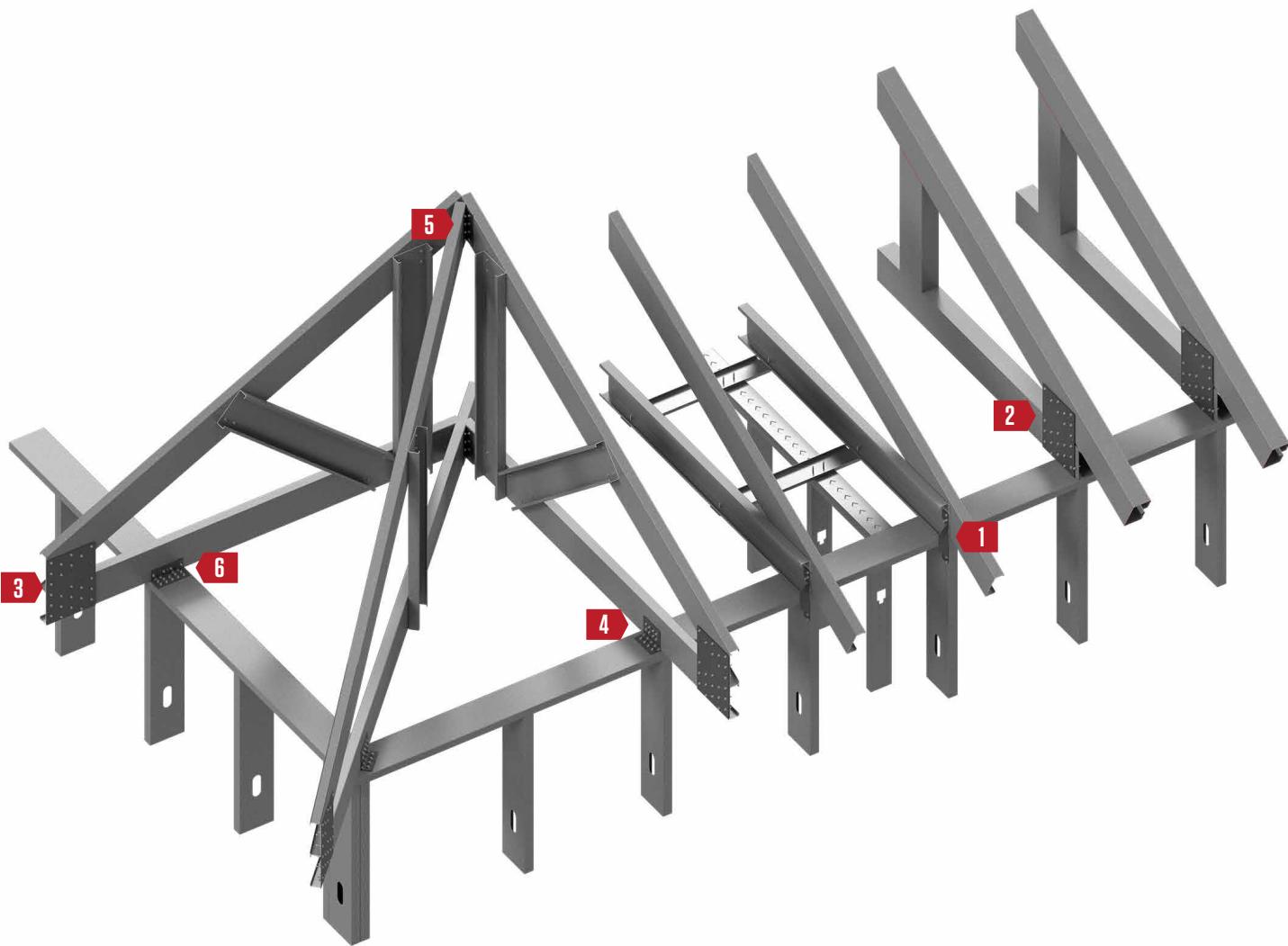
D-Blaze® Fire Retardant or D-Blaze® FRT Wood complies with or has been granted the following:

- ASTM E84
- ASTM D3201
- ASTM D5516
- ASTM D5664
- Underwriters Laboratories Classified
- UL Class A (Class 1) with FR-S Rating CAN/ULC S102 & S102.2
- UL GREENGUARD Gold Certified - UL 2818
- National Fire Protection Association (NFPA 255)
- City of Los Angeles Research Report: RR24502 in accordance with ICC-ES ESR 2645
- New York City Building Code (MEA Numbers 406-87 and 407-87)
- National Building Code of Canada
- AWPA Standardized (P50, U1, UCFA) Interior Type A-High Temperature (HT) FRTW
- California Department of Forestry and Fire Protection CSFM BML Listings for D-Blaze Lumber
- Class FRT lumber
- 50-year warranty

(All are subject to revision, re-examination)



Product Detail



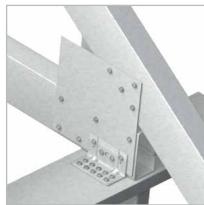
1 ClarkDietrich Seismic and Hurricane Clips

pages 164-165



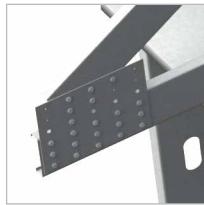
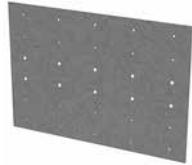
2 GP-Series™ Unpunched Gusset Plate

pages 166-167



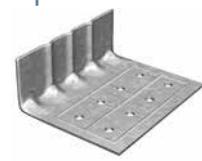
3 G-Series™ Punched Gusset Plate

pages 168-169



4 Uni-Clip End Clip

pages 74-75



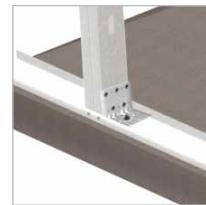
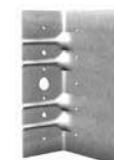
5 Skewable Angle

page 128-129



6 EasyClip D&T-Series™ Anchor Clips

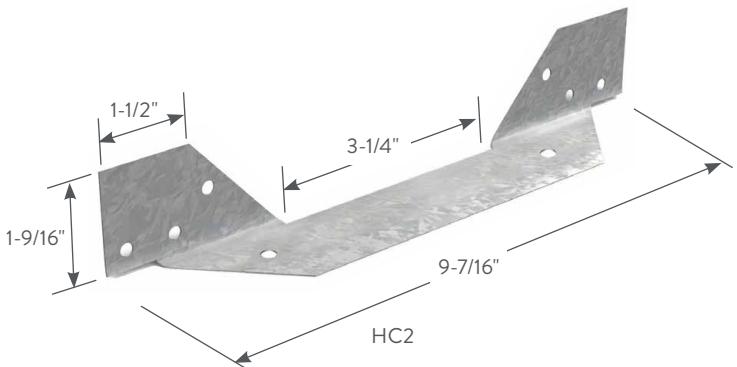
pages 94-95



Seismic and Hurricane Ties

Attach and secures trusses and rafters to the building structure.

ClarkDietrich seismic and hurricane ties are designed to provide wind and seismic resistance for trusses and rafters. Quick and efficient, these versatile connectors can also be used for general tie-down purposes, strong back attachments and as all-purpose ties where one member crosses another. The HC2 and HC2A seismic and hurricane ties are formed from a flat plate into an A-shaped section. The plate has a right-angle bend along its longitudinal axis to permit straddling a top plate. The HC2.5 and HC3 are twisted strap ties that are used to attach a rafter to the side of the top plate.



ALTERNATIVE PRODUCTS

EasyClip™ T-Series™ Tall Anchor Clip
EasyClip E-Series™ Support Clip

MATERIAL SPECIFICATIONS

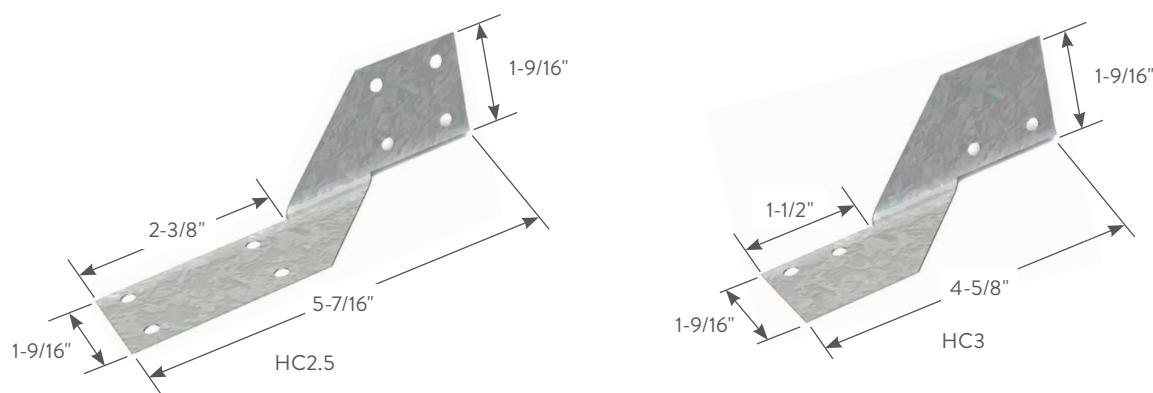
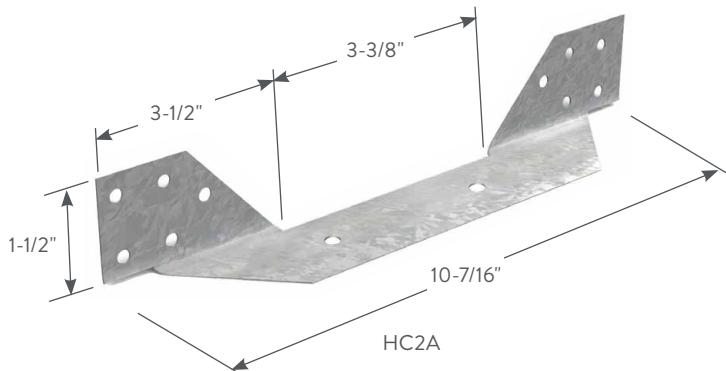
Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M



ClarkDietrich Seismic and Hurricane Ties

| Product code | Thickness | | Size (in) | Packaging Pcs./Carton |
|--------------|---------------|-----------------------|--------------------------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| HC2 | 43mils (18ga) | 0.0451 | 1-9/16 x 9-7/16 x 1-9/16 | 100 |
| HC2A | 43mils (18ga) | 0.0451 | 1-1/2 x 10-7/16 x 1-1/2 | 100 |
| HC2.5 | 43mils (18ga) | 0.0451 | 1-9/16 x 5-7/16 x 1-9/16 | 100 |
| HC3 | 43mils (18ga) | 0.0451 | 1-9/16 x 4-5/8 x 1-9/16 | 100 |

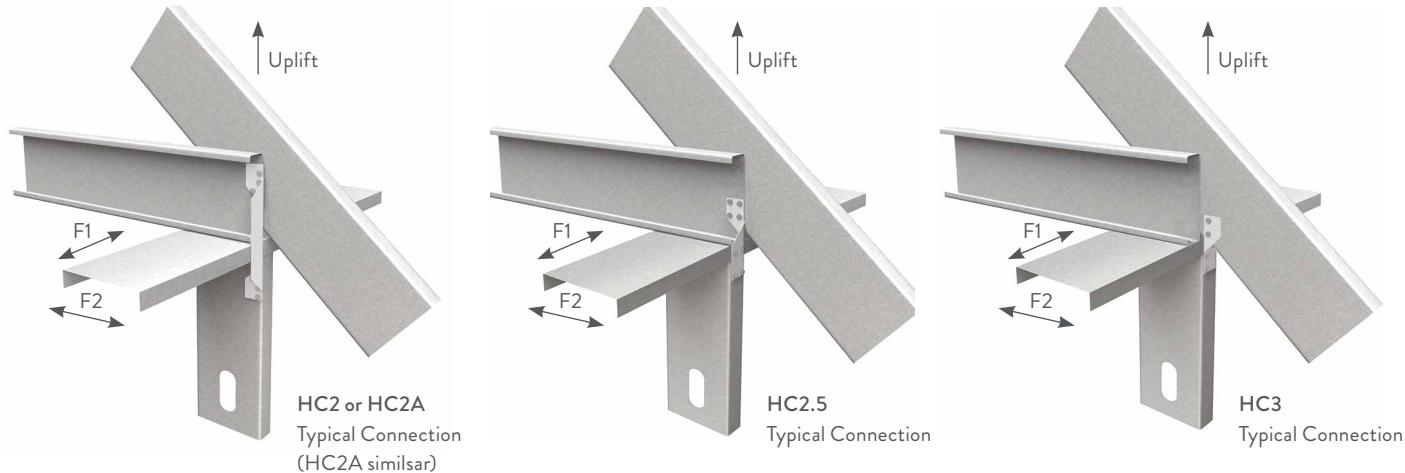
HC2 OR HC2A INSTALLATION

Place the tie so one end fits flush against the roof framing member and the other fits flush against the web of the wall stud. Attach the tie to the side of the rafter at the top and to the sides of the stud immediately below the top plate at the bottom. Fill all prepunched holes with a minimum of #10 self-drilling screws.

Reference section R 603.8.3.2 of the International Residential Code (IRC) or the engineer of records specification.

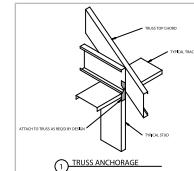
HC2.5 OR HC3 INSTALLATION

Place the tie so the top fits securely against the roof framing member and the bottom fits securely against the top plate and flange of the wall stud. Attach the tie to the rafter at the top and to the sides of the top plate and stud immediately below. Fill all prepunched holes with a minimum #10 self-drilling screws.



Typical Construction Details

Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.



ClarkDietrich Seismic and Hurricane Ties

| Product code | Fasteners | | | Stud thickness Mils (Gauge) | Yield Strength (ksi) | Max. Allowable Loads Lateral | | |
|--------------|--------------------|--------------|---------|--------------------------------|-------------------------|---------------------------------|-----|-----|
| | To rafters / truss | To top track | To stud | | | Uplift | F1 | F2 |
| HC2 | 3 – #10 | – | 3 – #10 | 33mils (20ga) | 33ksi | 405 | – | – |
| | | | | 43mils (18ga) | 33ksi | 445 | – | – |
| | | | | 54mils (16ga) | 50ksi | 465 | – | – |
| | 3 – #10 | 1 – #10 | 3 – #10 | 33mils (20ga) | 33ksi | 405 | 90 | 120 |
| | | | | 43mils (18ga) | 33ksi | 445 | 110 | 170 |
| | | | | 54mils (16ga) | 50ksi | 465 | 110 | 225 |
| HC2A | 3 – #10 | 1 – #10 | 3 – #10 | 33mils (20ga) | 33ksi | 405 | 90 | 120 |
| | | | | 43mils (18ga) | 33ksi | 445 | 110 | 170 |
| | | | | 54mils (16ga) | 50ksi | 465 | 110 | 225 |
| HC2.5 | 4 – #10 | – | 4 – #10 | 33mils (20ga) | 33ksi | 410 | 90 | 120 |
| | | | | 43mils (18ga) | 33ksi | 475 | 140 | 170 |
| | | | | 54mils (16ga) | 50ksi | 475 | 140 | 225 |
| HC3 | 2 – #10 | 2 – #10* | – | 33mils (20ga) | 33ksi | 340 | 80 | 80 |
| | | | | 43mils (18ga) | 33ksi | 465 | 110 | 140 |
| | | | | 54mils (16ga) | 50ksi | 475 | 110 | 195 |

Notes:

1 Loads have been increased for wind or earthquake loading.

* Fasteners to top track must also penetrate.

GP-Series™ Unpunched Gusset Plate

Use in conjunction with X-bracing in load-bearing shearwall assemblies to resist racking under wind and seismic loads.

Gusset plates and diagonal tension strapping components are used in combination to provide shearwall (racking restraint) for light-gauge, load-bearing framing under wind and seismic loads. Resisting uplift and shear forces, they are normally installed on both sides of the wall directly over the framing members.

CAUTION: Racking loads are first transferred to the roof or floor decking and then to the shearwalls (X-bracing). The X-bracing then relies on a proper anchorage to the foundation to resist uplift and shear forces. In order for the system to function properly, the load path from the roof or floor deck to the shearwalls to the foundation must be complete. This normally requires additional bracing, blocking, track and rim splices, drag struts, uplift anchors and heavy-duty foundations.

PRODUCT DIMENSIONS

6" x 6"

6" x 12"

12" x 12"

Custom sizes, shapes, and gauges available.

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

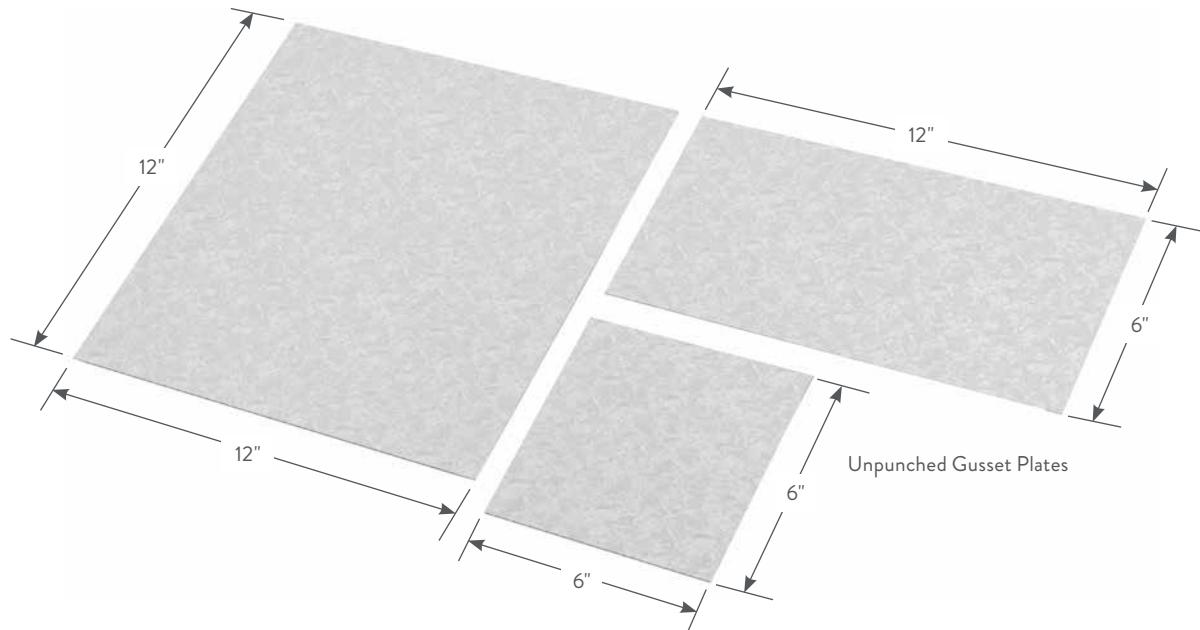
Coating: G90

Yield Strength: 50ksi

ASTM: A653/A653M

INSTALLATION

Straps are positioned diagonally from the bottom track to the top track. In order to resist load in each direction, an X-configuration should be used. At a minimum, double studs are positioned at ends of the X-brace to serve as compression studs. Straps are either attached directly to the compression studs or are attached via gusset plates. Compression studs must be anchored to the foundation, normally with uplift anchors. For multi-story construction, the uplift loads can be extremely high. It is recommended that the services of a qualified professional engineer be used to verify the applicability of the system selected.



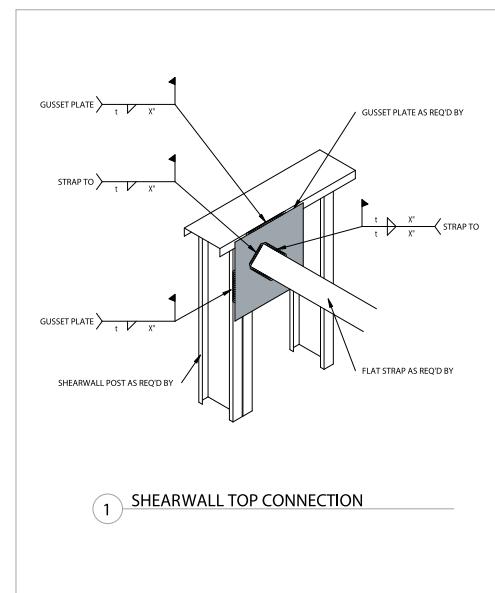
Unpunched Gusset Plates for ShearWall Bracing

| Product code | Thickness | | Plate size (in) | Packaging Pcs. |
|--------------|---------------|-----------------------|-----------------|----------------|
| | Mils (Gauge) | Design thickness (in) | | |
| GP | 54mils (16ga) | 0.0566 | 6 x 6 | 25 |
| | | | 6 x 12 | 25 |
| | | | 12 x 12 | 25 |
| | 97mils (12ga) | 0.1017 | 6 x 6 | 25 |
| | | | 6 x 12 | 25 |
| | | | 12 x 12 | 25 |

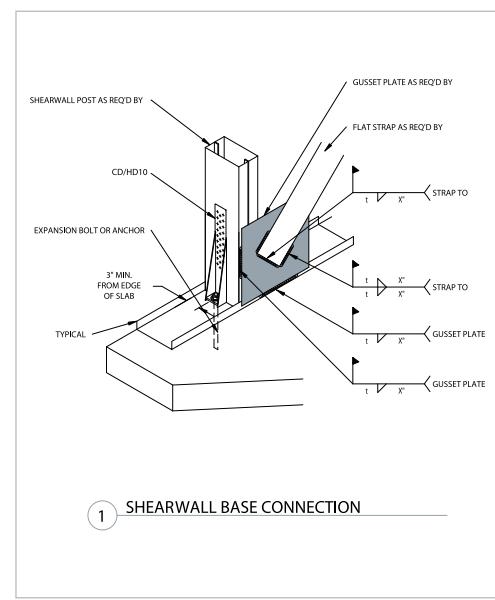


GP-Series unpunched gusset plates are also used to facilitate connections between chord members for in-plane framing.

TYPICAL CONSTRUCTION DETAILS



1 SHEARWALL TOP CONNECTION



1 SHEARWALL BASE CONNECTION

Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

G-Series™ Punched Gusset Plate

A multipurpose connector used for a variety of framing connections.

G-Series™ punched gusset plates come with multi-hole shapes for proper fastening to achieve desired performance. Used in a variety of framing connections—including roof framing, header framing and shearwall applications—the gusset plates eliminate angled cutting. Pre-punched for easier, faster attachments, the gusset plates adapt to multiple configurations and varying construction tolerances.

CAUTION: Racking loads are first transferred to the roof or floor decking and then to the shearwalls (X-bracing). The X-bracing then relies on a proper anchorage to the foundation to resist uplift and shear forces. In order for the system to function properly, the load path from the roof or floor deck to the shearwalls to the foundation must be complete. This normally requires additional bracing, blocking, track and rim splices, drag struts, uplift anchors and heavy-duty foundations.

PRODUCT DIMENSIONS

6" x 8-1/2"

MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Coating: G90

Yield Strength: 33ksi for 18 gauge

50ksi for 14 & 16 gauge

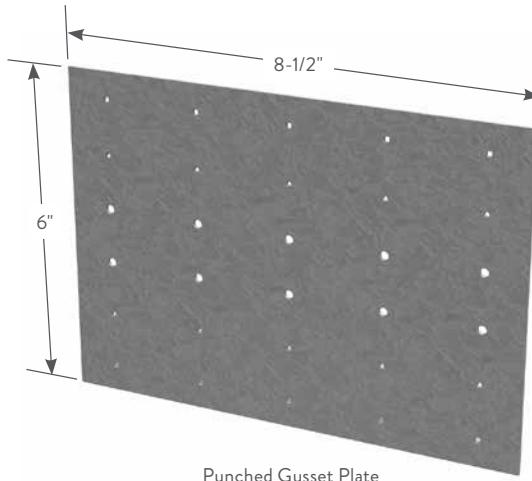
ASTM: A653/A653M

INSTALLATION

Straps are positioned diagonally from the bottom track to the top track. In order to resist load in each direction, an X-configuration should be used. At a minimum, double studs are positioned at ends of the X-brace to serve as compression studs. Straps are either attached directly to the compression studs or are attached via gusset plates. Compression studs must be anchored to the foundation, normally with ClarkDietrich holdowns. For multi-story construction, the uplift loads can be extremely high. It is recommended that the services of a qualified professional engineer be used to verify the applicability of the system selected.

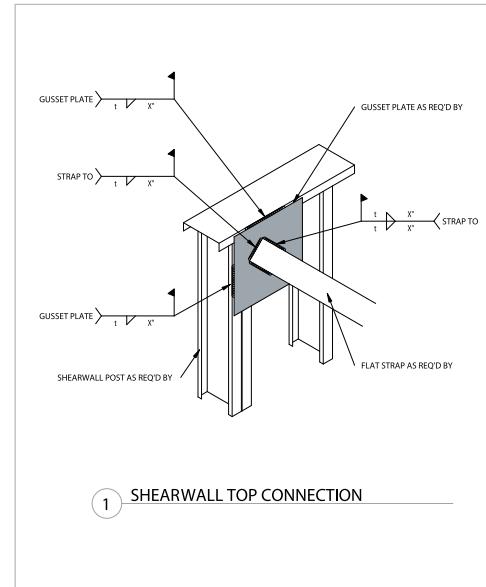
G-Series™ Punched Gusset Plates

| Product code | Thickness | | Size (in) | Packaging Pcs./Bucket |
|--------------|---------------|-----------------------|-----------|-----------------------|
| | Mils (Gauge) | Design thickness (in) | | |
| G436 | 43mils (18ga) | 0.0451 | 6 x 8-1/2 | 50 |
| G546 | 54mils (16ga) | 0.0566 | 6 x 8-1/2 | 50 |
| G686 | 68mils (14ga) | 0.0713 | 6 x 8-1/2 | 50 |

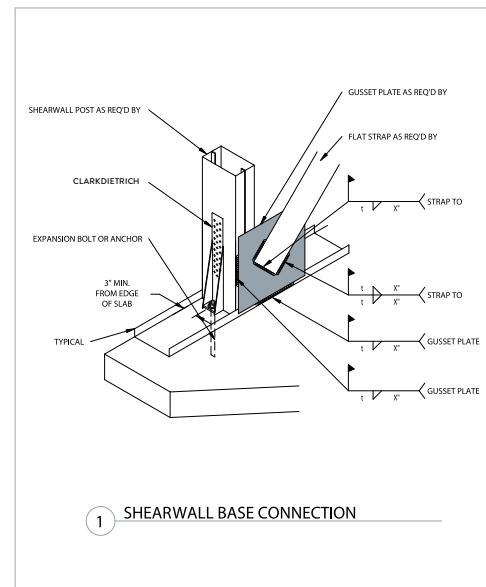




TYPICAL CONSTRUCTION DETAILS



1 SHEARWALL TOP CONNECTION



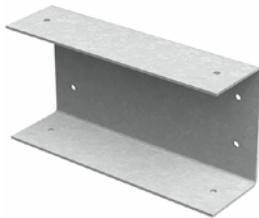
1 SHEARWALL BASE CONNECTION

Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

Product Detail

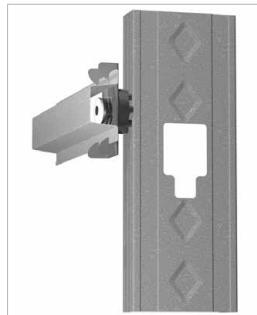
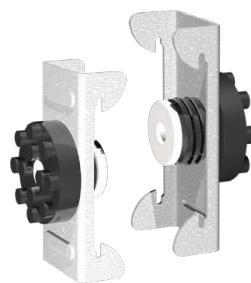
1 HDSC Header Bracket for RedHeader PRO™

pages 172-175



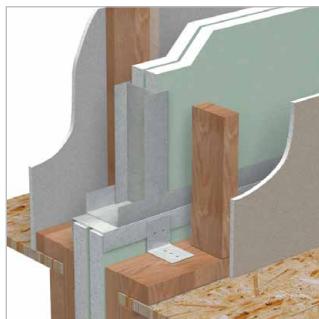
4 ClarkDietrich Sound Clip

page 178-183



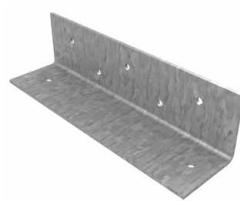
2 Aluminum Burn Clip

page 176



5 Header Cripple Stud Clip

page 184



3 Grommets for Stud Knockouts

page 177



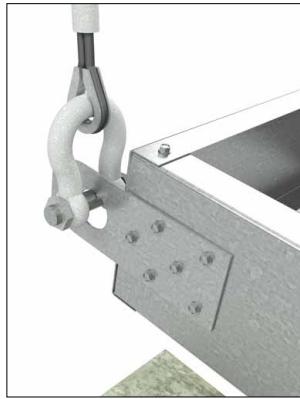
6 Metal Furring Channel Clip

page 185

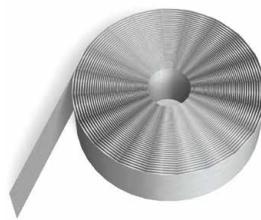


7 Panel Lift Clip

pages 186-187

**8 Commercial Strapping**

pages 188-189

**8 Box Header Clip**

pages 190-191



HDSC Header Bracket

For use with the RedHeader PRO™ and HDS® Rough Opening Systems.

The HDSC Header Bracket is the perfect complement to the RedHeader PRO™ Framing system and HDS® Framing System. This simple, yet innovative header bracket turns curtain-wall header installation from a two-person job into a one-person job. This unique, pre-punched clip also eliminates surface head fastener buildup that can create finishing challenges. The HDSC is sized to be used with either 3" or 3-1/2" flanged member.

PRODUCT DIMENSIONS

| | |
|-----------------------|-----------------------|
| 3-1/2" x 3-1/16" x 2" | 3-1/2" x 3-9/16" x 2" |
| 3-7/8" x 3-1/16" x 2" | 3-7/8" x 3-9/16" x 2" |
| 5-7/8" x 3-1/16" x 2" | 5-7/8" x 3-9/16" x 2" |
| 7-7/8" x 3-1/16" x 2" | 7-7/8" x 3-9/16" x 2" |

MATERIAL SPECIFICATIONS

Gauge: 20 gauge (33mils)

Design Thickness: 0.0346 inches

Yield Strength: 33ksi

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

Yield Strength: 50ksi

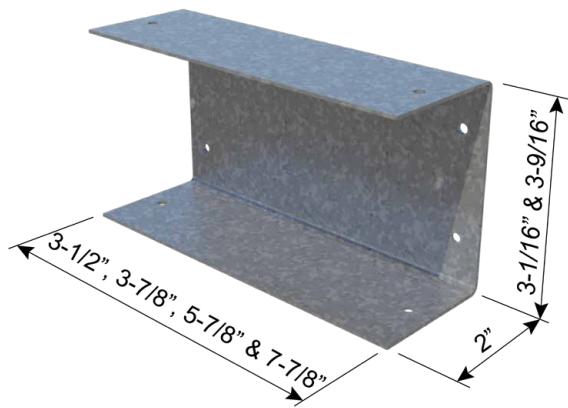
Gauge: 12 gauge (97mils)

Design Thickness: 0.1017 inches

Yield Strength: 50ksi

Coating: G90

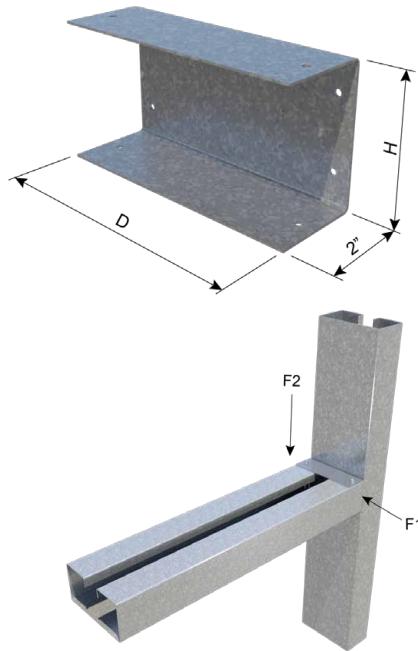
ASTM: A653/A653M, A1003/A1003M



HDSC 33mils (20ga) Header Brackets (3" & 3-1/2" Flange)

| Product Code | Bracket Specs | | Framing Member Specs | | Designed to Support |
|---------------|---------------|------------|----------------------|--------------------------|--|
| | Depth (D) | Height (H) | Thickness | Yield Strength, Fy (ksi) | |
| | | | Mils (Gauge) | | |
| 350HDSC300-33 | 3-1/2" | 3" | 33 (20) | 33 | 3-5/8" RedHeader or HDS with 3" Flange |
| 350HDSC350-33 | | 3-1/2" | | | 3-5/8" RedHeader with 3-1/2" Flange |
| 387HDSC300-33 | 3-7/8" | 3" | 33 (20) | 33 | 4" RedHeader or HDS with 3" Flange |
| 387HDSC350-33 | | 3-1/2" | | | 4" RedHeader with 3-1/2" Flange |
| 587HDSC300-33 | 5-7/8" | 3" | 33 (20) | 33 | 6" RedHeader or HDS with 3" Flange |
| 587HDSC350-33 | | 3-1/2" | | | 6" RedHeader with 3-1/2" Flange |
| 787HDSC300-33 | 7-7/8" | 3" | 33 (20) | 33 | 8" RedHeader or HDS with 3" Flange |
| 787HDSC350-33 | | 3-1/2" | | | 8" RedHeader with 3-1/2" Flange |

All material G90. Sold in pairs.



Allowable Loads (lbs) for 3" & 3-1/2" Flange Header Systems

| Product Code | Bracket Specs | | Framing Member Specs | | Fasteners | | Capacities (lbs) | | | | | |
|---------------|---------------|------------|----------------------|--------------------------|-----------|---------|-------------------|----------------|-----------------|--------------------|----------------|-----------------|
| | Depth (D) | Height (H) | Thickness | Yield Strength, Fy (ksi) | Jamb | Header | F1 Load (Lateral) | | | F2 Load (Vertical) | | |
| | | | Mils (Gauge) | | | | Nominal (lbs) | ASD Load (lbs) | LRFD Load (lbs) | Nominal (lbs) | ASD Load (lbs) | LRFD Load (lbs) |
| 350HDSC300-33 | 3-1/2" | 3" | 33 (20) | 33 | 4 x #10 | 4 x #10 | 1200 | 615 | 985 | 895 | 190 | 190 |
| | | | 43 (18) | 33 | | | 1435 | 735 | 1180 | 1555 | 245 | 245 |
| | | | 54 (16) | 50 | | | 2000 | 1025 | 1595 | 2540 | 300 | 300 |
| | | | 68 (14) | 50 | | | 2290 | 1060 | 1595 | 1435 | 425 | 425 |
| | | | 97 (12) | 50 | | | 2875 | 1060 | 1595 | 1750 | 450 | 450 |
| 350HDSC350-33 | 3-1/2" | 3-1/2" | 54 (16) | 50 | 4 x #10 | 4 x #10 | 2095 | 1060 | 1595 | 1020 | 380 | 380 |
| | | | 68 (14) | 50 | | | 2460 | 1060 | 1595 | 1280 | 395 | 395 |
| | | | 97 (12) | 50 | | | 2675 | 1060 | 1595 | 1765 | 460 | 460 |
| 387HDSC300-33 | 3-7/8" | 3" | 33 (20) | 33 | 4 x #10 | 4 x #10 | 1090 | 560 | 895 | 1110 | 220 | 220 |
| | | | 43 (18) | 33 | | | 1420 | 730 | 1165 | 1585 | 280 | 280 |
| | | | 54 (16) | 50 | | | 2085 | 1060 | 1595 | 2130 | 310 | 310 |
| | | | 68 (14) | 50 | | | 2290 | 1060 | 1595 | 1435 | 425 | 425 |
| | | | 97 (12) | 50 | | | 2875 | 1060 | 1595 | 1750 | 450 | 450 |
| 387HDSC350-33 | 3-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #10 | 4 x #10 | 2095 | 1060 | 1595 | 1020 | 380 | 380 |
| | | | 68 (14) | 50 | | | 2460 | 1060 | 1595 | 1280 | 395 | 395 |
| | | | 97 (12) | 50 | | | 2560 | 1060 | 1595 | 1935 | 455 | 455 |
| 587HDSC300-33 | 5-7/8" | 3" | 33 (20) | 33 | 4 x #10 | 4 x #10 | 1150 | 590 | 945 | 1050 | 205 | 205 |
| | | | 43 (18) | 33 | | | 1410 | 720 | 1155 | 1765 | 320 | 320 |
| | | | 54 (16) | 50 | | | 2085 | 1060 | 1595 | 2130 | 320 | 320 |
| | | | 68 (14) | 50 | | | 2290 | 1060 | 1595 | 1435 | 425 | 425 |
| | | | 97 (12) | 50 | | | 2875 | 1060 | 1595 | 1750 | 450 | 450 |
| 587HDSC350-33 | 5-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #10 | 4 x #10 | 2095 | 1060 | 1595 | 1020 | 380 | 380 |
| | | | 68 (14) | 50 | | | 2460 | 1060 | 1595 | 1280 | 395 | 395 |
| | | | 97 (12) | 50 | | | 2560 | 1060 | 1595 | 1935 | 455 | 455 |
| 787HDSC300-33 | 7-7/8" | 3" | 33 (20) | 33 | 4 x #10 | 4 x #10 | 1210 | 620 | 995 | 990 | 190 | 190 |
| | | | 43 (18) | 33 | | | 1540 | 790 | 1265 | 1630 | 270 | 270 |
| | | | 54 (16) | 50 | | | 2045 | 1050 | 1595 | 2130 | 310 | 310 |
| | | | 68 (14) | 50 | | | 2195 | 1060 | 1595 | 1395 | 385 | 385 |
| | | | 97 (12) | 50 | | | 2875 | 1060 | 1595 | 1750 | 450 | 450 |
| 787HDSC350-33 | 7-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #10 | 4 x #10 | 2030 | 1040 | 1595 | 1075 | 320 | 320 |
| | | | 68 (14) | 50 | | | 2460 | 1060 | 1595 | 1280 | 395 | 395 |
| | | | 97 (12) | 50 | | | 2450 | 1060 | 1595 | 2105 | 455 | 455 |

Notes:

- Listed Capacities were derived from calculations and structural tests in accordance with provisions of AISI S100 and ICC-ES AC261.
- The safety factor for ASD loads and resistance factor for LRFD loads are calculated in accordance with Chapter K.
- The capacity of a given HDSC connection is the minimum of the corresponding jamb and the header values. For example, for a 3-1/2" HDSC-33 bracket (3" Flange) used with a 54mils (16ga) 50 ksi jamb and a 97mils (12ga) 50 ksi header, the F2 allowable design load shall be the capacity corresponding to framing member with lesser thickness i.e. 16ga member. Thus, the ASD capacity is 300 lbs.
- #10-16 HWH Screws by ITW Buildex were used to attach Brackets to Jamb and Header. The screws shall have a minimum shear capacity of 1400 lbs and minimum tension capacity of 1158 lbs. Evidence shall be provided to the building official for approval that defines the fasteners meet the performance requirements of this report, ASTM C1513 and are for use with cold-formed steel.
- For simultaneous F1 and F2 loading, use the following interaction equation: $(F1/F1)^2 + (F2/F2)^2 \leq 1.0$ Where F1 and F2 are the applied loads and F1 and F2 are the appropriate allowable loads.
- It is the responsibility of the design professional to detail the project drawings for proper HDSC bracket installation.

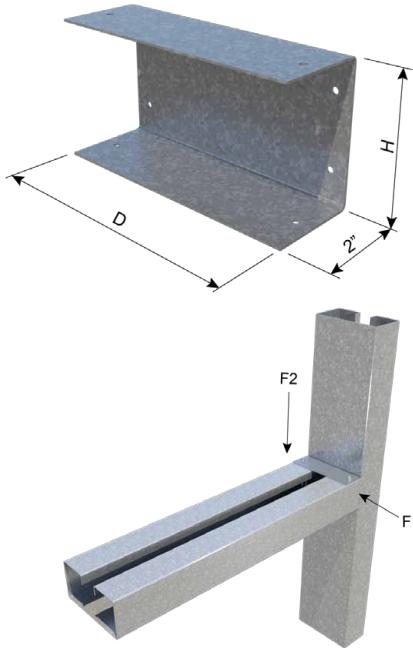
HDSC Header Bracket

CLIP  EXPRESS

HDSC 68mils (14ga) Header Brackets (3" & 3-1/2" Flange)

| Product Code | Bracket Specs | | Framing Member Specs | | Designed to Support |
|---------------|---------------|------------|----------------------|--------------------------|--|
| | Depth (D) | Height (H) | Thickness | Yield Strength, Fy (ksi) | |
| | | | Mils (Gauge) | | |
| 350HDSC300-68 | 3-1/2" | 3" | 68 (14) | 50 | 3-5/8" RedHeader or HDS with 3" Flange |
| 350HDSC350-68 | | 3-1/2" | | | 3-5/8" RedHeader with 3-1/2" Flange |
| 387HDSC300-68 | 3-7/8" | 3" | 68 (14) | 50 | 4" RedHeader or HDS with 3" Flange |
| 387HDSC350-68 | | 3-1/2" | | | 4" RedHeader with 3-1/2" Flange |
| 587HDSC300-68 | 5-7/8" | 3" | 68 (14) | 50 | 6" RedHeader or HDS with 3" Flange |
| 587HDSC350-68 | | 3-1/2" | | | 6" RedHeader with 3-1/2" Flange |
| 787HDSC300-68 | 7-7/8" | 3" | 68 (14) | 50 | 8" RedHeader or HDS with 3" Flange |
| 787HDSC350-68 | | 3-1/2" | | | 8" RedHeader with 3-1/2" Flange |

All material G90. Sold in pairs.



Allowable Loads (lbs) for 3" & 3-1/2" Flange Header Systems

| Product Code | Bracket Specs | | Framing Member Specs | | Fasteners | | Capacities (lbs) | | | | | |
|---------------|---------------|------------|----------------------|--------------------------|-----------|---------|-------------------|----------------|-----------------|--------------------|----------------|-----------------|
| | Depth (D) | Height (H) | Thickness | Yield Strength, Fy (ksi) | Jamb | Header | F1 Load (Lateral) | | | F2 Load (Vertical) | | |
| | | | Mils (Gauge) | | | | Nominal (lbs) | ASD Load (lbs) | LRFD Load (lbs) | Nominal (lbs) | ASD Load (lbs) | LRFD Load (lbs) |
| 350HDSC300-68 | 3-1/2" | 3" | 33 (20) | 33 | 4 x #10 | 4 x #10 | 1435 | 705 | 1060 | 880 | 300 | 480 |
| | | | 43 (18) | 33 | | | 2365 | 1050 | 1575 | 1130 | 390 | 620 |
| | | | 54 (16) | 50 | | | 3185 | 1095 | 1755 | 2380 | 820 | 940 |
| | | | 68 (14) | 50 | | | 3415 | 1175 | 1880 | 2920 | 1005 | 1385 |
| | | | 97 (12) | 50 | | | 3940 | 1355 | 2170 | 3645 | 1255 | 1875 |
| 350HDSC350-68 | 3-1/2" | 3-1/2" | 54 (16) | 50 | 4 x #10 | 4 x #10 | 2975 | 1025 | 1640 | 2150 | 740 | 1145 |
| | | | 68 (14) | 50 | | | 3375 | 1160 | 1855 | 2925 | 1005 | 1555 |
| | | | 97 (12) | 50 | | | 3810 | 1310 | 2100 | 3555 | 1225 | 1730 |
| 387HDSC300-68 | 3-7/8" | 3" | 33 (20) | 33 | 4 x #10 | 4 x #10 | 1405 | 705 | 1060 | 885 | 305 | 485 |
| | | | 43 (18) | 33 | | | 2210 | 1050 | 1575 | 1225 | 420 | 670 |
| | | | 54 (16) | 50 | | | 3185 | 1095 | 1755 | 2380 | 820 | 940 |
| | | | 68 (14) | 50 | | | 3475 | 1195 | 1910 | 3130 | 1075 | 1450 |
| | | | 97 (12) | 50 | | | 4000 | 1375 | 2200 | 3815 | 1310 | 1700 |
| 387HDSC350-68 | 3-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #10 | 4 x #10 | 3070 | 1055 | 1690 | 2300 | 790 | 1145 |
| | | | 68 (14) | 50 | | | 3395 | 1165 | 1870 | 3065 | 1055 | 1490 |
| | | | 97 (12) | 50 | | | 4365 | 1500 | 2400 | 3825 | 1315 | 1850 |
| 587HDSC300-68 | 5-7/8" | 3" | 33 (20) | 33 | 4 x #10 | 4 x #10 | 1370 | 700 | 1060 | 895 | 305 | 490 |
| | | | 43 (18) | 33 | | | 2055 | 1050 | 1575 | 1315 | 450 | 725 |
| | | | 54 (16) | 50 | | | 3265 | 1120 | 1795 | 2460 | 845 | 1045 |
| | | | 68 (14) | 50 | | | 3535 | 1215 | 1945 | 3345 | 1150 | 1515 |
| | | | 97 (12) | 50 | | | 4000 | 1375 | 2200 | 3815 | 1310 | 1700 |
| 587HDSC350-68 | 5-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #10 | 4 x #10 | 3070 | 1055 | 1690 | 2300 | 790 | 1145 |
| | | | 68 (14) | 50 | | | 3415 | 1175 | 1880 | 3210 | 1105 | 1430 |
| | | | 97 (12) | 50 | | | 4110 | 1415 | 2265 | 3955 | 1360 | 1820 |
| 787HDSC300-68 | 7-7/8" | 3" | 33 (20) | 33 | 4 x #10 | 4 x #10 | 1370 | 700 | 1060 | 895 | 305 | 490 |
| | | | 43 (18) | 33 | | | 2115 | 1050 | 1575 | 1245 | 425 | 670 |
| | | | 54 (16) | 50 | | | 3340 | 1150 | 1840 | 2535 | 870 | 1145 |
| | | | 68 (14) | 50 | | | 3440 | 1180 | 1895 | 3425 | 1180 | 1575 |
| | | | 97 (12) | 50 | | | 4060 | 1395 | 2235 | 3985 | 1370 | 1525 |
| 787HDSC350-68 | 7-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #10 | 4 x #10 | 3165 | 1090 | 1745 | 2455 | 845 | 1145 |
| | | | 68 (14) | 50 | | | 3420 | 1175 | 1880 | 3360 | 1155 | 1370 |
| | | | 97 (12) | 50 | | | 3860 | 1330 | 2125 | 4090 | 1405 | 1785 |

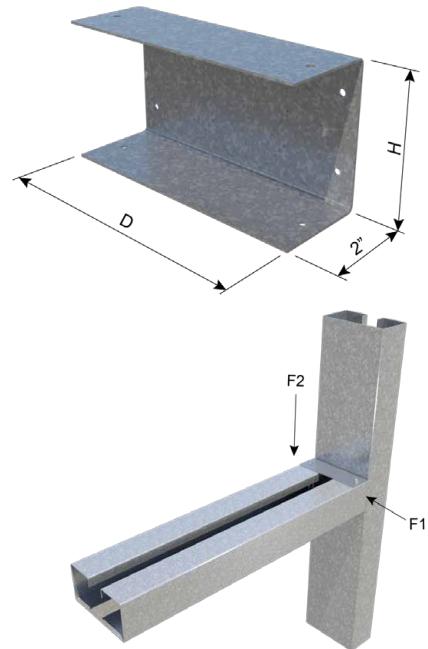
Notes:

- Listed Capacities were derived from calculations and structural tests in accordance with provisions of AISI S100 and ICC-ES AC261.
- The safety factor for ASD loads and resistance factor for LRFD loads are calculated in accordance with Chapter K.
- The capacity of a given HDSC connection is the minimum of the corresponding jamb and the header values. For example, for a 3-1/2" HDSC-68 bracket (3" Flange) used with a 54mils (16ga) 50 ksi jamb and a 97mils (12ga) 50 ksi header, the F2 allowable design load shall be the capacity corresponding to framing member with lesser thickness i.e, 16ga member. Thus, the ASD capacity is 820 lbs.
- #10-16 HWH Screws by ITW Bulidex were used to attach Brackets to Jamb and Header. The screws shall have a minimum shear capacity of 1400 lbs and minimum tension capacity of 1158 lbs. Evidence shall be provided to the building official for approval that defines the fasteners meet the performance requirements of this report, ASTM C1513 and are for use with cold-formed steel.
- For simultaneous F1 and F2 loading, use the following interaction equation: $(F1/F1)^2 + (F2/F2)^2 \leq 1.0$. Where F1 and F2 are the applied loads and F1 and F2 are the appropriate allowable loads.
- It is the responsibility of the design professional to detail the project drawings for proper HDSC bracket installation.

HDSC 97mils (12ga) Header Brackets (3" & 3-1/2" Flange)

| Product Code | Bracket Specs | | Framing Member Specs | | Designed to Support |
|---------------|---------------|------------|----------------------|--------------------------|--|
| | Depth (D) | Height (H) | Thickness | Yield Strength, Fy (ksi) | |
| | | | Mils (Gauge) | | |
| 350HDSC300-97 | 3-1/2" | 3" | 97 (12) | 50 | 3-5/8" RedHeader or HDS with 3" Flange |
| 350HDSC350-97 | | 3-1/2" | | | 3-5/8" RedHeader with 3-1/2" Flange |
| 387HDSC300-97 | 3-7/8" | 3" | 97 (12) | 50 | 4" RedHeader or HDS with 3" Flange |
| 387HDSC350-97 | | 3-1/2" | | | 4" RedHeader with 3-1/2" Flange |
| 587HDSC300-97 | 5-7/8" | 3" | 97 (12) | 50 | 6" RedHeader or HDS with 3" Flange |
| 587HDSC350-97 | | 3-1/2" | | | 6" RedHeader with 3-1/2" Flange |
| 787HDSC300-97 | 7-7/8" | 3" | 97 (12) | 50 | 8" RedHeader or HDS with 3" Flange |
| 787HDSC350-97 | | 3-1/2" | | | 8" RedHeader with 3-1/2" Flange |

All material G90. Sold in pairs.



Allowable Loads (lbs) for 3" & 3-1/2" Flange Header Systems

| Product Code | Bracket Specs | | Framing Member Specs | | Fasteners | | Capacities (lbs) | | | | | |
|---------------|---------------|------------|----------------------|--------------------------|-----------|---------|-------------------|----------------|-----------------|--------------------|----------------|-----------------|
| | Depth (D) | Height (H) | Thickness | Yield Strength, Fy (ksi) | Jamb | Header | F1 Load (Lateral) | | | F2 Load (Vertical) | | |
| | | | Mils (Gauge) | | | | Nominal (lbs) | ASD Load (lbs) | LRFD Load (lbs) | Nominal (lbs) | ASD Load (lbs) | LRFD Load (lbs) |
| 350HDSC300-97 | 3-1/2" | 3" | 33 (20) | 33 | 4 x #12 | 4 x #12 | 1435 | 735 | 1130 | 880 | 300 | 495 |
| | | | 43 (18) | 33 | | | 2490 | 1120 | 1680 | 1375 | 470 | 865 |
| | | | 54 (16) | 50 | | | 4025 | 1385 | 2215 | 2195 | 755 | 1410 |
| | | | 68 (14) | 50 | | | 4340 | 1490 | 2390 | 3465 | 1190 | 2000 |
| | | | 97 (12) | 50 | | | 6075 | 2090 | 3345 | 5610 | 1930 | 2380 |
| 350HDSC350-97 | 3-1/2" | 3-1/2" | 54 (16) | 50 | 4 x #12 | 4 x #12 | 4080 | 1400 | 2245 | 2145 | 735 | 1545 |
| | | | 68 (14) | 50 | | | 4265 | 1465 | 2350 | 3575 | 1230 | 2090 |
| | | | 97 (12) | 50 | | | 6005 | 2065 | 3305 | 5385 | 1850 | 2405 |
| 387HDSC300-97 | 3-7/8" | 3" | 33 (20) | 33 | 4 x #12 | 4 x #12 | 1405 | 720 | 1130 | 885 | 305 | 550 |
| | | | 43 (18) | 33 | | | 2490 | 1120 | 1680 | 1375 | 470 | 865 |
| | | | 54 (16) | 50 | | | 4105 | 1410 | 2260 | 2405 | 825 | 1455 |
| | | | 68 (14) | 50 | | | 4105 | 1410 | 2260 | 3360 | 1155 | 1530 |
| | | | 97 (12) | 50 | | | 6000 | 2065 | 3305 | 5840 | 2010 | 2560 |
| 387HDSC350-97 | 3-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #12 | 4 x #12 | 3975 | 1365 | 2185 | 2230 | 765 | 1620 |
| | | | 68 (14) | 50 | | | 4195 | 1445 | 2310 | 3630 | 1250 | 2080 |
| | | | 97 (12) | 50 | | | 6185 | 2130 | 3405 | 5500 | 1890 | 2455 |
| 587HDSC300-97 | 5-7/8" | 3" | 33 (20) | 33 | 4 x #12 | 4 x #12 | 1370 | 700 | 1125 | 895 | 305 | 610 |
| | | | 43 (18) | 33 | | | 2345 | 1120 | 1680 | 1400 | 480 | 820 |
| | | | 54 (16) | 50 | | | 4340 | 1475 | 2390 | 2615 | 900 | 1500 |
| | | | 68 (14) | 50 | | | 4340 | 1490 | 2390 | 3465 | 1190 | 2000 |
| | | | 97 (12) | 50 | | | 5930 | 2040 | 3265 | 6065 | 2085 | 2740 |
| 587HDSC350-97 | 5-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #12 | 4 x #12 | 3870 | 1330 | 2130 | 2310 | 795 | 1690 |
| | | | 68 (14) | 50 | | | 4195 | 1445 | 2310 | 3630 | 1250 | 2080 |
| | | | 97 (12) | 50 | | | 6060 | 2085 | 3335 | 5840 | 2010 | 2400 |
| 787HDSC300-97 | 7-7/8" | 3" | 33 (20) | 33 | 4 x #12 | 4 x #12 | 1370 | 700 | 1125 | 895 | 305 | 610 |
| | | | 43 (18) | 33 | | | 2200 | 1120 | 1680 | 1420 | 485 | 770 |
| | | | 54 (16) | 50 | | | 4125 | 1420 | 2270 | 2945 | 1015 | 1485 |
| | | | 68 (14) | 50 | | | 4125 | 1420 | 2270 | 3685 | 1265 | 2070 |
| | | | 97 (12) | 50 | | | 5770 | 1985 | 3175 | 6085 | 2090 | 2710 |
| 787HDSC350-97 | 7-7/8" | 3-1/2" | 54 (16) | 50 | 4 x #12 | 4 x #12 | 4070 | 1400 | 2240 | 2625 | 905 | 1505 |
| | | | 68 (14) | 50 | | | 4125 | 1420 | 2270 | 3685 | 1265 | 2070 |
| | | | 97 (12) | 50 | | | 5935 | 2040 | 3265 | 6180 | 2125 | 2350 |

Notes:

- Listed Capacities were derived from calculations and structural tests in accordance with provisions of AISI S100 and ICC-ES AC261.
- The safety factor for ASD loads and resistance factor for LRFD loads are calculated in accordance with Chapter K.
- The capacity of a given HDSC connection is the minimum of the corresponding jamb and the header values. For example, for a 3-1/2" HDSC-97 bracket (3" Flange) used with a 54mils (16ga) 50 ksi jamb and a 97mils (12ga) 50 ksi header, the F2 allowable design load shall be the capacity corresponding to framing member with lesser thickness i.e, 16ga member. Thus, the ASD capacity is 755 lbs.
- #12-14 HWH Screws by ITW Bulidex were used to attach Brackets to Jamb and Header. The screws shall have a minimum shear capacity of 2000 lbs and minimum tension capacity of 2325 lbs. Evidence shall be provided to the building official for approval that defines the fasteners meet the performance requirements of this report, ASTM C1513 and are for use with cold-formed steel.
- For simultaneous F1 and F2 loading, use the following interaction equation: $(F1/F1)^2 + (F2/F2)^2 \leq 1.0$ Where F1 and F2 are the applied loads and F1 and F2 are the appropriate allowable loads.
- It is the responsibility of the design professional to detail the project drawings for proper HDSC bracket installation.

Aluminum Burn Clip

Melting away under intense heat, clips allow a fire-damaged structure to collapse while keeping the firewall barrier in place, protecting adjacent units.

ClarkDietrich aluminum burn clips are used as part of the H-stud area separation wall assembly and are designed to melt and break away when exposed to fire. The clips are used to hold the area separation wall assembly in place at the floor roof and truss line between adjacent units.

Should a fire break out in one unit, the aluminum burn clips on the fire-ridden side of the area separation wall will melt, allowing the wall structure for that side to collapse. Without pulling the area separation wall down, the burn clips on the non-fire side will remain intact, and hold the area separation wall in place as a barrier to contain the fire within the unit of origin.

PRODUCT DIMENSIONS

2" x 2" x 2-1/2"

2" x 2" x 3"

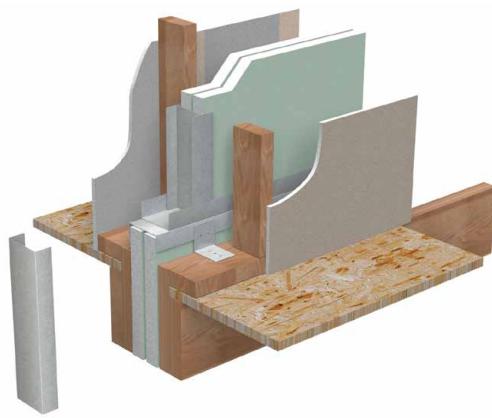
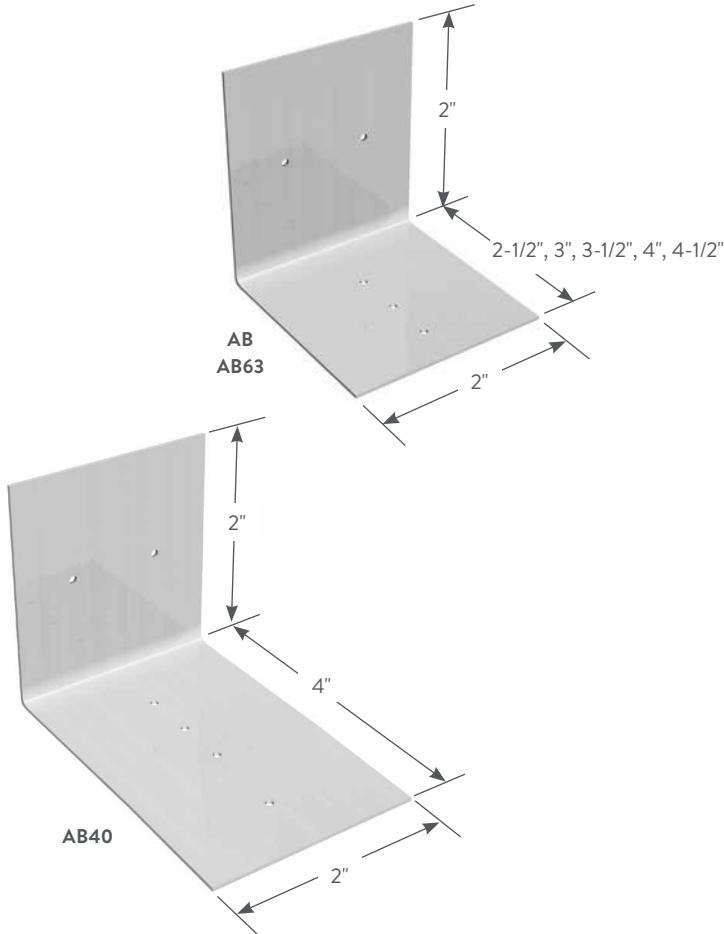
2" x 2" x 3-1/2"

2" x 2" x 4"

2" x 2" x 4-1/2"

INSTALLATION

Attach an aluminum burn clip to the completed area separation wall assembly. One clip should be located at each H-stud on both sides of the wall. Attach the aluminum burn clip to the H-stud with screws, not nails. Attach to the adjacent framing with Type-W or Type-S screws.



Aluminum Burn Clips (AB)

| Product code | Thickness (in) | Size (in) | Packaging Pcs./Bucket |
|--------------|----------------|---------------|-----------------------|
| AB | 0.050 | 2 x 2 x 2-1/2 | 500 |
| AB63 | 0.063 | 2 x 2 x 2-1/2 | 500 |
| AB30 | 0.063 | 2 x 2 x 3 | 250 |
| AB35 | 0.063 | 2 x 2 x 3-1/2 | 250 |
| AB40* | 0.063 | 2 x 2 x 4 | 250 |
| AB45 | 0.063 | 2 x 2 x 4-1/2 | 250 |

*AB40-For use with 3-hour Design Assembly based on GA file No. ASW 2600.

Grommet for Stud Knockouts

Protect and isolate electrical wiring and plumbing from contacting metal.

Grommets snap easily into stud knockouts and are used to protect electrical wiring and plumbing lines from contacting metal. They also help to prevent and eliminate pipe rattle. Grommets are commonly used in residential construction when metal conduit is not required by building code.

INSTALLATION

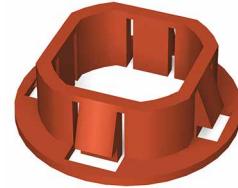
Install grommets in all stud knockouts where wiring and plumbing lines will be inserted. Use the snap-in bushing grommet for 1-5/8" and 2-1/2" wall studs and the standard grommet for all wall studs 3-1/2" and wider.

Install the snap-in bushing by pressing the bushing into the stud knockout. Make sure to engage the bushing lips to secure into place.

Install the standard grommet by first opening the grommet as illustrated above. Insert one side of the grommet through the knockout. Snap the grommet together so it engages with the metal sandwiched between the two plastic sides.



2-Piece Grommet



Snap-In Bushing



Grommet for 3-1/2" and Wider Studs

Grommet (GROM)

| Product code | Size (in) | Description | Pcs./Carton |
|--------------|-----------|-----------------------------|-------------|
| GROM | 3/4 | For 1-5/8" and 2-1/2" studs | 100 |
| | 1-1/2 | For 3-1/2" and wider studs | 100 |

ClarkDietrich Sound Clip™

Sound isolation and dampening clip.

The ClarkDietrich Sound Clip™ is used in conjunction with 18mils (25ga) 7/8" deep drywall furring channel. It is used to fasten gypsum wallboard in various wall and floor-ceiling applications, while simultaneously providing acoustical separation. This significantly reduces the amount of airborne sound filtering from room to room. The ClarkDietrich Sound Clip adds notable STC points to most assemblies while reducing sound transfer.

- Ideal for use in multi-familysy dwelling, hotels, theaters and hospitals
- Used in conjunction with 7/8" 25 ga Furring Channel with a total standoff from stud of 1-5/8"
- UL fire rated for most common assemblies
- Complies to UL 263 test standards.
- Max. spacing 48" o.c. (laterally) x 24" o.c. (vertically)
- Maximum acoustical design load is 36 lbs.
- Sound testing for Type X & Type C Boards

PRODUCT DIMENSIONS

3" x 1-1/4" (Clip only)

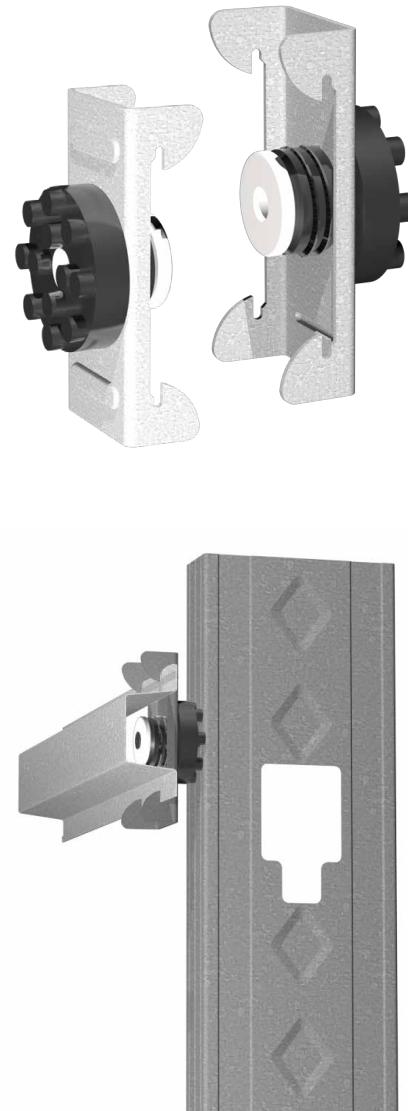
MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Yield Strength: 33ksi

Coating: CP60



ClarkDietrich Sound Clip (CDSC)

| Product code | Mils (Gauge) | Size (in) | Pcs./Bucket |
|--------------|---------------|-----------|-------------|
| CDSC | 43mils (18ga) | 3 x 1-1/4 | 100 |

SOUND AND UL DESIGN:

- Complies to UL 263 test standards. See full list of UL® design assemblies in UL R19331.
- Wall Sound Assemblies are certified by Western Electro-Acoustical Laboratories.
- Floor Sound Assemblies are certified by Intertek Building & Construction (B&C).
- NVLAP Accredited for ASTM E90 & E413, ISO Certified

CDSC STC SOUND ASSEMBLIES ON METAL STUD FRAMING

| Fire Rating | UL Assembly | Wall Framing | Stud Spacing | Wall Board (Side1/Side2) | Insulation | STC Rating | OITC Rating | Test Report |
|-------------|-------------|---|--------------|-------------------------------------|-------------------|------------|-------------|--------------------|
| | | 3-5/8" ProSTUD 20 33mils | 24" o.c. | (1) layer / (1) layer 5/8" Type C | R-19 | 60 | | TL18-291 |
| | | 3-5/8" ProSTUD 20 33mils | 24" o.c. | (1) layer / (2) layers 5/8" Type C | R-19 | 62 | | TL18-292 |
| | | 3-5/8" ProSTUD 20 33mils | 24" o.c. | (2) layers / (2) layers 5/8" Type C | R-19 | 63 | | TL18-293 |
| | | 3-5/8" ProSTUD 25 15mils | 16" o.c. | (1) layer / (1) layer 5/8" Type X | R-11 | 56 | | TL18-199 |
| | | 3-5/8" ProSTUD 25 15mils | 16" o.c. | (1) layer / (2) layers 5/8" Type X | R-11 | 60 | | TL18-197 |
| | | 3-5/8" ProSTUD 25 15mils | 16" o.c. | (2) layers / (2) layers 5/8" Type X | R-11 | 62 | | TL18-194 |
| 2 Hr | U411 | 2-1/2" ProSTUD 25 15mils | 24" o.c. | (2) layers / (2) layers 5/8" Type X | R-13 | 62 | 48 | L3173.08-113-11-R0 |
| 3/4 Hr | U423 | 3-1/2" Structural Stud 33mils | 24" o.c. | (1) layer / (1) layer 1/2" Type C | R-19 | 53 | 37 | L3173.10-113-11-R0 |
| 1 Hr | U423 | 3-1/2" Structural Stud 33mils | 24" o.c. | (1) layer / (1) layer 1/2" Type X | R-19 | 55 | 38 | L3173.12-113-11-R0 |
| 1-1/2 Hr | U423 | 3-1/2" Structural Stud 33mils | 24" o.c. | (2) layers / (2) layers 1/2" Type C | R-19 | 62 | 48 | L3173.11-113-11-R0 |
| 2 Hr | U423 | 3-1/2" Structural Stud 33mils | 24" o.c. | (2) layers / (2) layers 5/8" Type X | R-19 | 63 | 50 | L3173.13-113-11-R0 |
| 1 Hr | U465 | 3-5/8" ProSTUD 20 18mils | 24" o.c. | (1) layer / (1) layer 5/8" Type X | None | 45 | 29 | L3173.03-113-11-R0 |
| 1 Hr | U465 | 3-5/8" ProSTUD 20 18mils | 24" o.c. | (1) layer / (1) layer 5/8" Type X | Mineral Wool | 53 | 36 | L3173.04-113-11-R0 |
| 1 Hr | U465 | 3-5/8" ProSTUD 20 18mils | 24" o.c. | (1) layer / (1) layer 5/8" Type X | R-13 | 53 | 37 | L3173.05-113-11-R0 |
| 1 Hr | U493 | (2) 2-1/2" ProSTUD 25 15 mils - ChaseWall | 24" o.c. | (1) layer / (1) layer 5/8" Type X | R-13 Both Sides | 60 | 44 | L3173.06-113-11-R0 |
| 2 Hr | U493 | (2) 2-1/2" ProSTUD 25 15 mils - ChaseWall | 24" o.c. | (2) layers / (2) layers 5/8" Type X | R-13 Both Sides | 67 | 53 | L3173.07-113-11-R0 |
| 1 Hr | V438 | 2-1/2" ProSTUD 25 15 mils | 24" o.c. | (1) layer / (1) layer 1/2" Type C | R-13 | 49 | 34 | L3173.09-113-11-R0 |
| 2 Hr | V438 | 1-5/8" ProSTUD 25 15 mils | 24" o.c. | (2) layers / (2) layers 1/2" Type C | 2-3/4" Fiberglass | 59 | 42 | L3173.14-113-11-R0 |
| 3 Hr | V438 | 1-5/8" ProSTUD 25 15 mils | 24" o.c. | (3) layers / (3) layers 1/2" Type C | 2-3/4" Fiberglass | 63 | 49 | L3173.15-113-11-R0 |
| 4 Hr | V438 | 1-5/8" ProSTUD 25 15 mils | 24" o.c. | (4) layers / (4) layers 1/2" Type C | 2-3/4" Fiberglass | 66 | 53 | L3173.16-113-11-R0 |

Wall Tests: The test was performed in accordance with ASTM E 90-09 (2016), Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and ASTM E2235-04 (2012), Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods.

Floor/Ceiling Tests: Available from ClarkDietrich Technical Services.

ClarkDietrich Sound Clip™

CDSC STC SOUND ASSEMBLIES ON 2x4 WOOD STUDS

| Fire Rating | UL Assembly | Wall Framing | Stud Spacing | Wall Board (Side1/Side2) | Insulation | STC Rating | OITC Rating | Test Report |
|-------------|-------------|-----------------------------|-----------------------|---|------------|------------|-------------|--------------------|
| | | 2x4 Wood Studs | 16" o.c. | (1) layer / (1) layer 5/8" Type X | R-19 | 53 | | TL18-201 |
| | | 2x4 Wood Studs | 16" o.c. | (1) layer / (1) layer 5/8" Type C | R-19 | 60 | | TL18-288 |
| | | 2x4 Wood Studs | 16" o.c. | (1) layer / (2) layers 5/8" Type X | R-19 | 57 | | TL18-204 |
| | | 2x4 Wood Studs | 16" o.c. | (1) layer / (2) layers 5/8" Type C | R-19 | 61 | | TL18-289 |
| | | 2x4 Wood Studs | 16" o.c. | (2) layers / (2) layers 5/8" Type X | R-19 | 61 | | TL18-205 |
| | | 2x4 Wood Studs | 16" o.c. | (2) layers / (2) layers 5/8" Type C | R-19 | 62 | | TL18-290 |
| 2 Hr | U301 | 2x4 Wood Studs | 16" o.c. | (2) layers / (2) layers 5/8" Type X | R-13 | 60 | 47 | L3173.01-113-11-R0 |
| 1 Hr | U309 | 2x4 Wood Studs | 24" o.c. | (1) layer / (1) layer 5/8" Type X | R-19 | 53 | 37 | L3173.17-113-11-R0 |
| 1 Hr | U311 | 2x4 Wood Studs | 24" o.c. | (1) layer / (1) layer 5/8" Type C | R-19 | 55 | 39 | L3173.18-113-11-R0 |
| 1 Hr | U340 | 2x4 Wood Studs - Chase Wall | 12" o.c. Staggered | (1) layer / (1) layer 5/8" Type X | R-19 | 57 | 43 | L3173.21-113-11-R0 |
| 1 Hr | U341 | 2x4 Wood Studs - Chase Wall | 24" o.c. | (1) layer / (1) layer 5/8" Type X | R-19 | 60 | 45 | L3173.20-113-11-R0 |
| 1 Hr | U344 | 2x4 Wood Studs | 24" o.c. | (1) layer 5/8" Type X / (1) layer 5/8" Plywood + 5/8" Type X | R-19 | 57 | 41 | L3173.19-113-11-R0 |
| 1 Hr | U356 | 2x4 Wood Studs | 16" o.c. | 7/16" Plywood / (1) layer 5/8" Type X | R-13 | 51 | 34 | L3173.02-113-11-R0 |

Wall Tests: The test was performed in accordance with ASTM E 90-09 (2016), Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and ASTM E2235-04 (2012), Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods.

Floor/Ceiling Tests: Available from ClarkDietrich Technical Services.

**10" TradeReady® STEEL JOISTS W/LEVELROCK
(UL DESIGN NO. G551)**

| Material Description | STC | IIC | Test Report |
|--|-----|-----|-------------|
| Carpet w/ Pad | 55 | 80 | J4775.02 |
| Ceramic w/ NobleSeal® | 57 | 50 | J4775.06 |
| Shaw Engineered Wood | 54 | 50 | J4775.03 |
| Shaw Como Vinyl 12mm | 55 | 48 | J4775.04 |
| Shaw Expo Vinyl 6mm | 54 | 47 | J4775.05 |
| Baseline System UL Design No. G551 Ceiling: (1) layer 5/8" Type C | 54 | 43 | J4775.01 |
| + (1) Gypsum C-Core Layer with: Shaw Expo Vinyl 6mm on top of the floor UL Design No. G551 | 58 | 51 | J4775.07 |

**16" WOOD OPEN WEB TRUSS (OWT) W/LEVELROCK
(UL DESIGN NO. UL-M510)**

With (1) layer 5/8" Type C on the bottom of the joist + (2) layers 5/8" Type C attached to hat channel.

| Material Description | STC | IIC | Test Report |
|---|-----|-----|-------------|
| Carpet w/ Pad | 58 | 75 | J4778.02 |
| Ceramic w/ NobleSeal® | 57 | 51 | J4778.06 |
| Shaw Engineered Wood | 58 | 50 | J4778.03 |
| Shaw Como Vinyl 12mm | 58 | 49 | J4778.04 |
| Shaw Expo Vinyl 6mm | 58 | 50 | J4778.05 |
| Baseline System (Nothing on top of LevelRock) UL Design No. UL-M510 Ceiling: (1) layer 5/8" Type C + (2) layers 5/8" Type C | 58 | 50 | J4778.01 |

8" CONCRETE SLAB W/ (1) LAYER GYPSUM CEILING

With (1) layer 5/8" Type X attached to hat channel.

| Material Description | STC / Test Report | IIC / Test Report |
|--|--------------------|--------------------|
| Carpet Tiles | 62 RAL-TL21-030 | 61 RAL-IN21-009 |
| Vinyl Planks 7mm | 63 RAL-TL21-031 | 61 RAL-IN21-010 |
| Baseline System (Nothing on top of 8" Concrete) Ceiling: R-6.7 unfaced fiberglass insulation + (1) layer 5/8" Type X | 62 RAL-TL21-032 | 60 RAL-IN21-011 |

**16" WOOD OPEN WEB TRUSS (OWT) W/LEVELROCK
(UL DESIGN NO. UL-L521)**

With (1) layer 5/8" Type C attached to hat channel.

| Material Description | STC | IIC | Test Report |
|---|-----|-----|-------------|
| Carpet w/ Pad | 59 | 79 | J4777.02 |
| Ceramic w/ NobleSeal® | 59 | 53 | J4777.06 |
| Shaw Engineered Wood | 58 | 53 | J4777.03 |
| Shaw Como Vinyl 12mm | 58 | 51 | J4777.04 |
| Shaw Expo Vinyl 6mm | 58 | 51 | J4777.05 |
| Baseline System (Nothing on top of LevelRock) UL Design No. UL-L521 Ceiling: (1) layer 5/8" Type C | 58 | 50 | J4777.01 |

**12" WOOD TRUSS JOINT (TJI) W/LEVELROCK
(UL DESIGN NO. UL-L518)**

With (2) layers 1/2" Type C attached to hat channel.

| Material Description | STC | IIC | Test Report |
|--|-----|-----|-------------|
| Carpet w/ Pad | 62 | 84 | J4776.03 |
| Ceramic w/ NobleSeal® | 63 | 56 | J4776.07 |
| Shaw Engineered Wood | 62 | 56 | J4776.04 |
| Shaw Como Vinyl 12mm | 62 | 54 | J4776.05 |
| Shaw Expo Vinyl 6mm | 61 | 53 | J4776.06 |
| Baseline System (Nothing on top of LevelRock) UL Design No. UL-L518 Ceiling: (2) layers 1/2" Type C | 62 | 50 | J4776.02 |

8" CONCRETE SLAB W/ (1) LAYER GYPSUM CEILING

With (2) layers 5/8" Type X attached to hat channel.

| Material Description | STC / Test Report | IIC / Test Report |
|---|--------------------|--------------------|
| Carpet Tiles | 63 RAL-TL21-029 | 61 RAL-IN21-008 |
| Vinyl Planks 7mm | 63 RAL-TL21-020 | 64 RAL-IN21-003 |
| Baseline System (Nothing on top of 8" Concrete) Ceiling: R-6.7 unfaced fiberglass insulation + (2) layers 5/8" Type X | 63 RAL-TL21-027 | 64 RAL-IN21-006 |

Wall Tests: The test was performed in accordance with ASTM E 90-09 (2016), Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and ASTM E2235-04 (2012), Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods.

Floor/Ceiling Tests: Available from ClarkDietrich Technical Services.

ClarkDietrich Sound Clip™ Installation Guide

FURRING CHANNEL:

7/8" 25-gauge hemmed furring channel (7/8" fur, 1-1/4" top & 2-23/32" bottom)

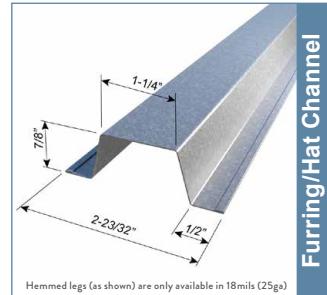
- When splicing, drywall furring channel should have 6 inch overlap in mid span (between two clips) secure with 18ga tie wire, or two 7/16" framing screws. If using in a fire-rated UL application; use only tie wire and no screws.

CLARKDIETRICH SOUND CLIP:

3" x 1-1/4" (clip only) maximum spacing 48" o.c. and maximum design load is 36 lbs.

FASTENERS:

- CDSC to Wood: 64mm (2-1/2") # 8 minimum size coarse thread screw. (Recommended #12 or #10 x 2-1/2" hex head)
- CDSC to Steel: 38 mm (1-1/2") # 8 minimum size fine thread screw. (Recommended #12 or #10 x 1-5/8" hex head)
- CDSC to Concrete or CMU: 1/4" drop-in anchor, 1/4" drive spike, 3/16" x tapcon, shoot in pin with washer, or product with equal load capabilities (Minimum 120 lbs Ultimate, Sheer and Pullout). Length of fastener determined by the concrete type, strength, and fastener minimum embed requirements.
- DO NOT attach CDSC to framing members with nails; use only approved screws.



Furring/Hat Channel



Sound Clip

WALLS: ONE AND TWO LAYERS OF 5/8" GYPSUM BOARD

- ClarkDietrich Sound Clip (CDSC) shall be 48" maximum o.c. (horizontal).
- Fasten the CDSC to the substrate with a fastener approved for a minimum pull-out and shear of 120lbs.
- Locate the first row of CDSC within 3-6 inches from the floor and within 3-6 inches from the top track, making sure the clip is attached to the studs and not the track.
- Snap in the drywall furring channel into the CDSC clips (horizontal for walls).
- Place 1/4" (minimum) shim on floor to fully support the gypsum board.
- Install the gypsum board from the bottom up leaving a 1/4" minimum gap around the perimeter of the wall.
- ONLY remove the shims after ALL the gypsum board is completely screwed to ALL the drywall furring channels. Make sure every screw (floor-to-ceiling and wall-to-wall) is installed as required by the assembly design, in every layer of gypsum board before removing the shims at the floor. The shims are critical to ensure best results.
- Caulk around the entire perimeter of the gypsum board. Use fire and smoke rated acoustical sealant where required.

CEILINGS: ONE AND TWO LAYERS OF 5/8" GYPSUM BOARD

- CDSC shall be 48" maximum o.c.
- Fasten the CDSC to the substrate with a fastener approved for a minimum pull-out and shear of 120lbs.
- Locate the first row CDSC clips within 8" of the wall at each end of a run.
- Snap in the drywall furring channel into the CDSC clips. Channel max spacing at 24" o.c.
- Install the gypsum board from leaving a 1/4" min. gap around the perimeter of the ceiling.
- Caulk around the entire perimeter of the gypsum board. Use fire and smoke rated acoustical sealant where required.

GENERAL INFORMATION:

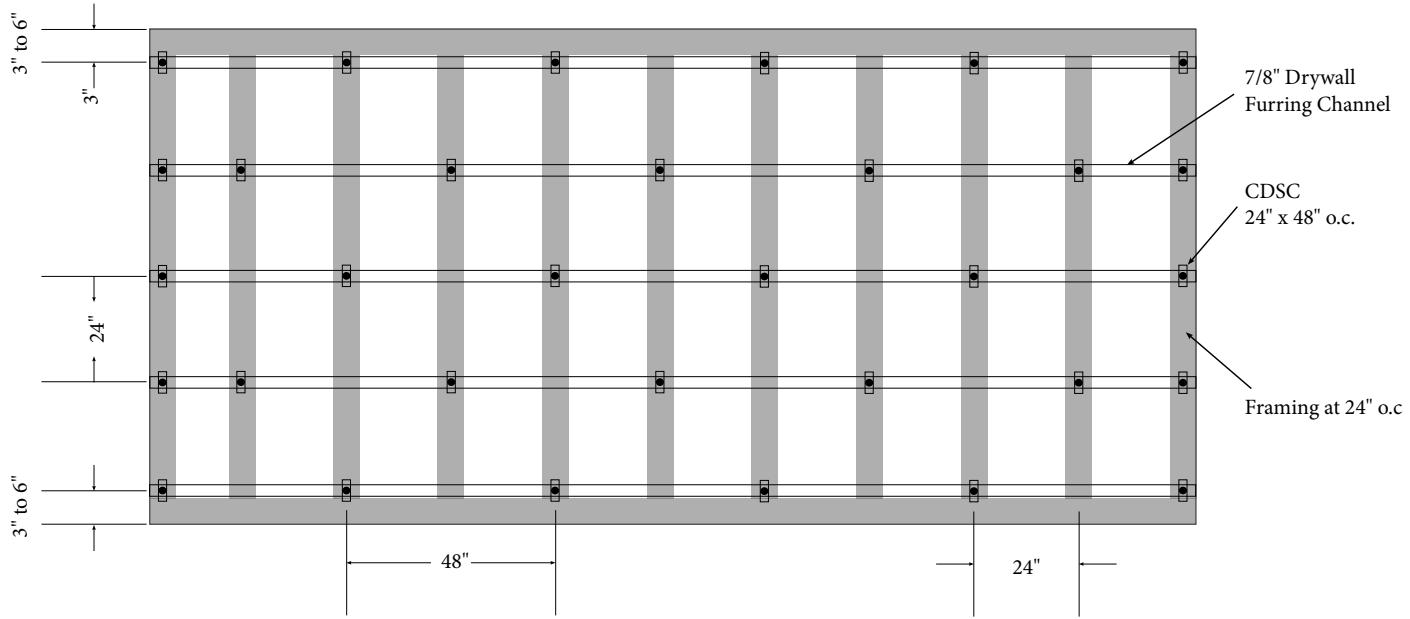
- Refer to www.UL.com, or www.clarkdietrich.com for complete installation details on all fire resistive assembly designs.
- ClarkDietrich Sound Clips, furring channel and gypsum board shall not carry heavy loads such as cabinets or bookshelves.
- Seal all potential air leaks with non-hardening acoustical caulking to achieve best noise control results. Use fire rated sealant where required.

FIRE TEST INFORMATION:

Visit clarkdietrich.com for the latest fire testing approvals and updates.

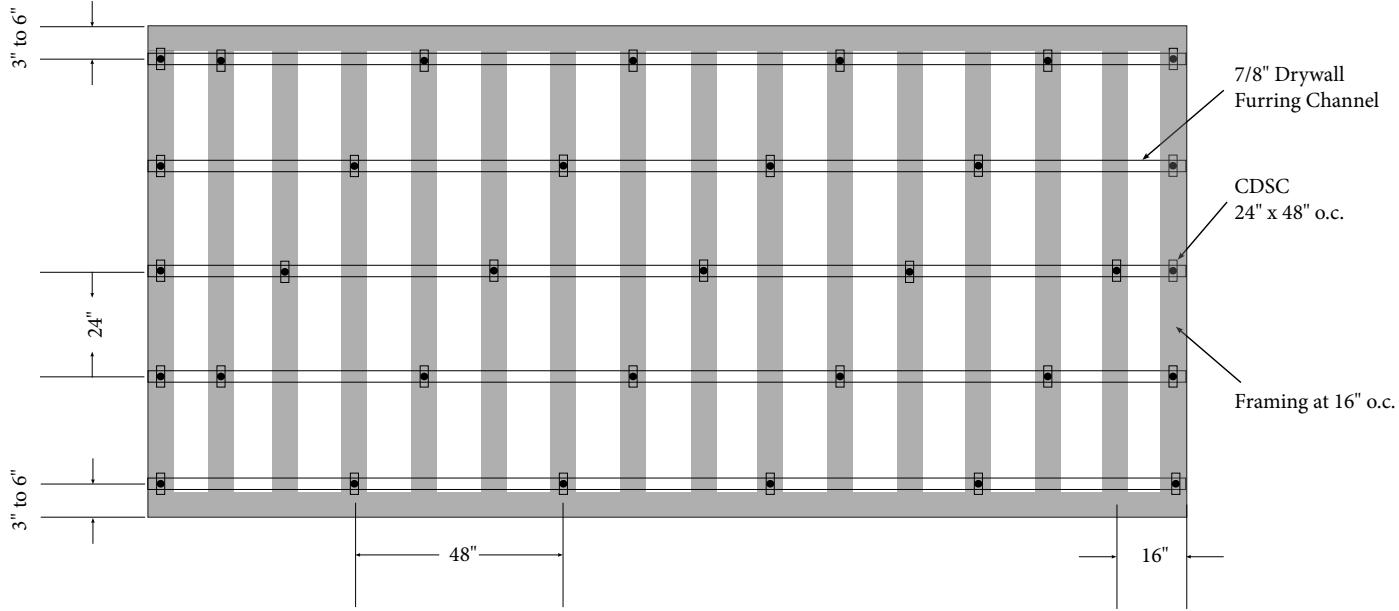
**WALL AND CEILING INSTALLATION GUIDE
FOR WOOD OR STEEL FRAMING WITH FURRING ON 24" CENTERS**

Wall or Ceiling framing at 24" o.c.,
CDSC at 48" o.c., furring at 24" o.c., 1 or 2 layers of 5/8" gypsum board



NOTE: DRAWING NOT TO SCALE

Wall or Ceiling framing at 16" o.c.,
CDSC at 48" o.c., furring at 24" o.c., 1 or 2 layers of 5/8" gypsum board



NOTE: DRAWING NOT TO SCALE

Header Cripple Stud Clip

Eliminates the header track material and is a economical alternative.

Header Cripple Stud Clips are used with RedHeader PRO™ and HDS® Framing System and remove the need for a header track. The L-shaped clips install on the back side of the cripple stud, therefore shorter length clips do not need to be ordered. These labor time-savers include prepunched holes for quicker screw attachments, and are punched for RedHeader PRO and HDS connections.

PRODUCT DIMENSIONS

1-1/2" x 1-1/2" x 3-3/8"

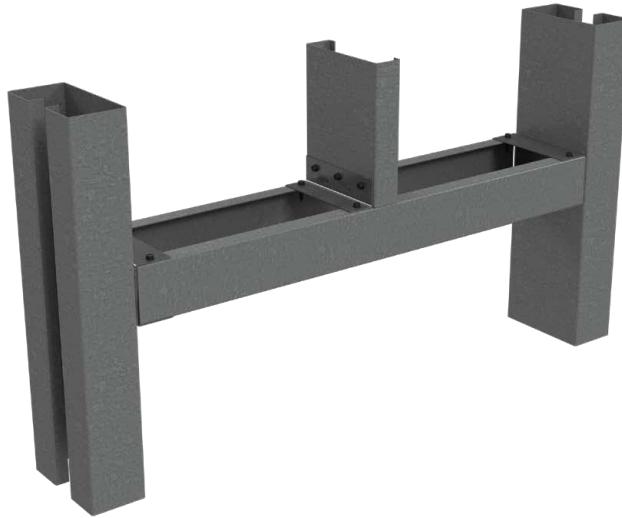
1-1/2" x 1-1/2" x 3-3/4"

1-1/2" x 1-1/2" x 5-3/4"

1-1/2" x 1-1/2" x 7-3/4"

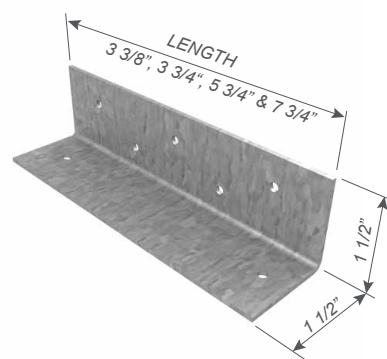
INSTALLATION

Header Cripple Stud Clips are attached to the cold-formed steel (CFS) framing members using #10 minimum self-drilling screws driven through the clip holes into the steel framing. It is the responsibility of the design engineer to detail the attachment of clips and verify their capacity meets the application. Place the first two screws in each leg in the outermost screw holes. The next screws (if needed) are placed moving from the outermost holes toward the center, symmetrically.



Header Cripple Stud Clip

| Product code | Mils (Gauge) | Design Thickness | Size (in) | For Header Size | Pcs./Bucket |
|--------------|---------------|------------------|-------------------------|-----------------|-------------|
| RCSC3-54 | 54mils (16ga) | 0.0566" | 1-1/2" x 1-1/2" x 3-3/8 | 3-5/8" web | 400 |
| RCSC4-54 | | | 1-1/2" x 1-1/2" x 3-3/4 | 4" web | 200 |
| RCSC6-54 | | | 1-1/2" x 1-1/2" x 5-3/4 | 6" web | 100 |
| RCSC8-54 | | | 1-1/2" x 1-1/2" x 7-3/4 | 8" web | 100 |
| RCSC3-68 | 68mils (14ga) | 0.0713" | 1-1/2" x 1-1/2" x 3-3/8 | 3-5/8" web | 200 |
| RCSC4-68 | | | 1-1/2" x 1-1/2" x 3-3/4 | 4" web | 200 |
| RCSC6-68 | | | 1-1/2" x 1-1/2" x 5-3/4 | 6" web | 100 |
| RCSC8-68 | | | 1-1/2" x 1-1/2" x 7-3/4 | 8" web | 100 |



Metal Furring Channel Clip

Quickly facilitates the attachment of metal furring channel to 1-1/2" U-channel in ceiling assemblies.

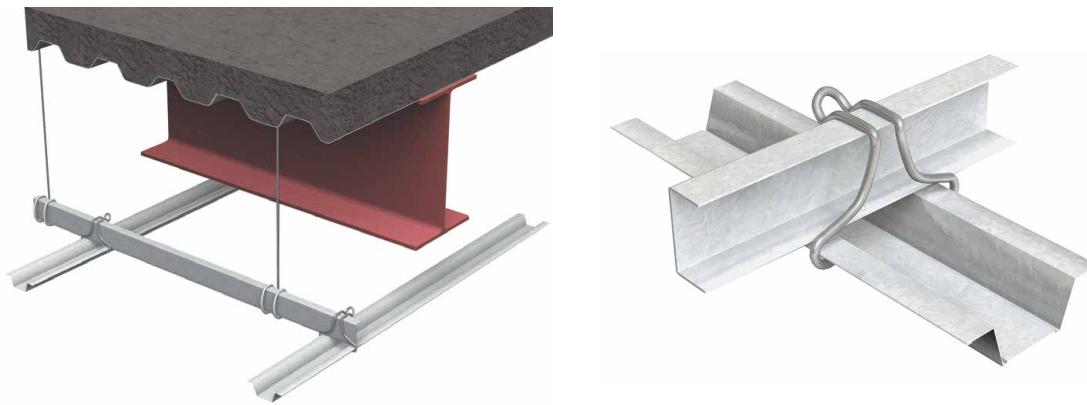
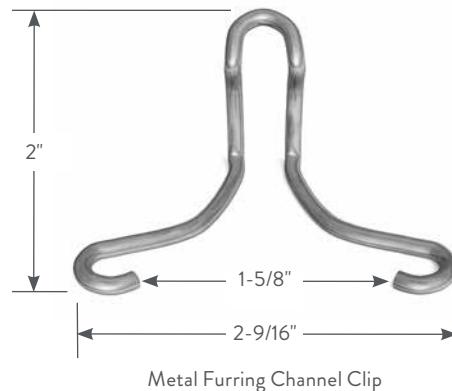
ClarkDietrich metal furring channel clips are made of galvanized wire and used to attach metal furring channels to 1-1/2" U-channels in ceiling gridwork. Clips must be installed on alternating sides of the 1-1/2" channels. Use tie wire when clips cannot be alternated. Clips should only be used when single-layer gypsum or single-layer veneer plaster base is used.

MATERIAL SPECIFICATIONS

MFCCs, made of corrosion-resistant galvanized wire, are used in attaching metal channels to 1-1/2" cold-rolled channel ceiling grillwork. For use with gypsum panels or with single-layer veneer gypsum plaster base. See illustrations.

INSTALLATION

MFCCs must be attached on alternate sides of the 1-1/2" U-channels. Use tie wire when clips cannot be alternated.



Metal Furring Channel Clip (MFCC)

| Product code | Pcs./Carton |
|--------------|-------------|
| MFCC | 500 |

Panel Lift Clip

Provides lifting points for prefabricated panels.

The Panel Lift Clip is load rated and is used to safely lift wall panels at assembly warehouses or on job-sites. The clip comes pre-punched for screw attachment to the panel as well as a larger hole for the clamp. The rounded design of the top of the panel clip allows for the clamp to slide freely without getting stuck on the corners. The Panel Lift Clip comes in 12ga and is offered in two sizes, 8" and 12".

PRODUCT DIMENSIONS

PLC8-97: 3" wide x 8" long plate

PLC12-97: 3" wide x 12" long plate

MATERIAL SPECIFICATIONS

Material: ASTM A 1003 Structural Grade 50

Gauge: 12 gauge (97mils)

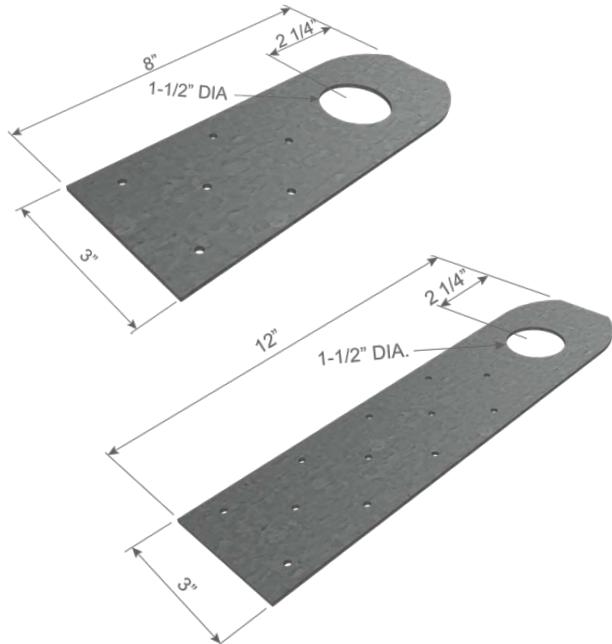
Design Thickness: 0.1017 inches

ASTM: A1003, A653

Galvanized coating meets or exceeds requirements of ASTM A653.

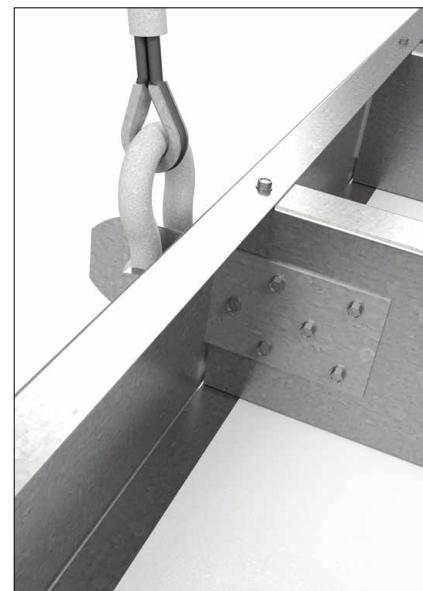
INSTALLATION

Install the Panel Lift Clips to each side and intermediate points of the panel. For intermediate clip installation, cut a groove large enough to insert the clip through the top track. Quantity, location and anchoring of clips to panel as designed by EOR. Panel Lift Clip is for single use only, and cannot be reused or reattached.



Panel Lift Clip (PLC)

| Product code | Overall Length | Pcs./Bucket |
|--------------|----------------|-------------|
| PLC8-97 | 8" | 100 |
| PLC12-97 | 12" | 50 |



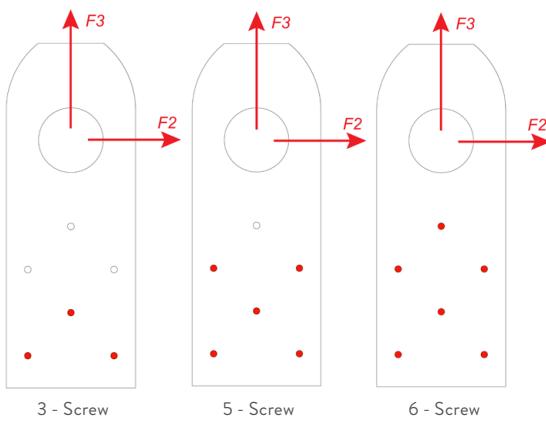
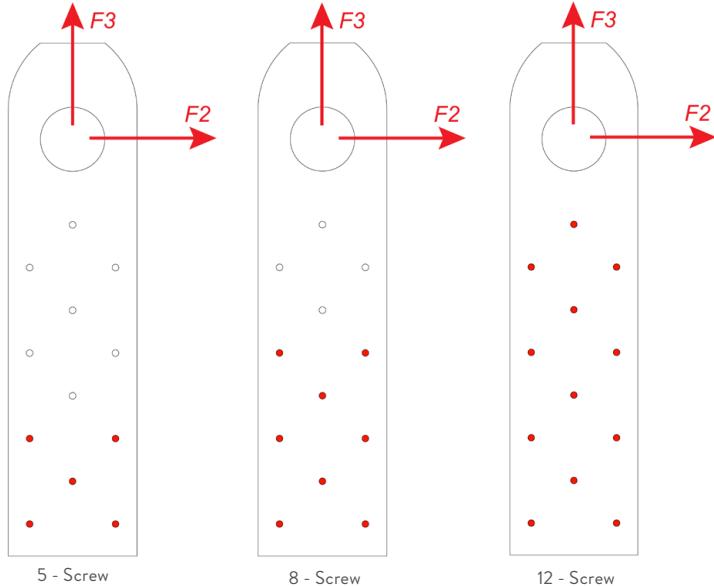
Panel Lift Clip (PLC8, PLC12)**Allowable Loads - Connection to Steel Framing, per Clip (lbs)**

| Product code | Stud thickness | | F3 (Panel Lifted from a Vertical Orientation) | | | F2 (Panel Lifted from a Horizontal Orientation) | | |
|--------------|----------------|----------|---|----------------|----------------|---|----------------|----------------|
| | Mils (Gauge) | Fy (ksi) | 97mils (12ga) PLC | | | 97mils (12ga) PLC | | |
| | | | w/3 #10 screws | w/5 #10 screws | w/6 #10 screws | w/3 #10 screws | w/5 #10 screws | w/6 #10 screws |
| PLC8-97 | 33mils (20ga) | 33 | 530 | 884 | 1060 | 89 | 205 | 260 |
| | 33mils (20ga) | 50 | 766 | 1276 | 1532 | 129 | 297 | 375 |
| | 43mils (18ga) | 33 | 789 | 1315 | 1578 | 133 | 306 | 387 |
| | 43mils (18ga) | 50 | 1140 | 1900 | 2279 | 192 | 442 | 559 |
| | 54mils (16ga) | 33 | 1109 | 1849 | 2219 | 187 | 430 | 544 |
| | 54mils (16ga) | 50 | 1602 | 2671 | 2775 | 270 | 621 | 786 |
| | 68mils (14ga) | 50 | 1644 | 2740 | 2775 | 277 | 637 | 806 |
| | 97mils (12ga) | 50 | 1644 | 2740 | 2775 | 277 | 637 | 806 |

| Product code | Stud thickness | | F3 (Panel Lifted from a Vertical Orientation) | | | F2 (Panel Lifted from a Horizontal Orientation) | | |
|--------------|----------------|----------|---|----------------|-----------------|---|----------------|-----------------|
| | Mils (Gauge) | Fy (ksi) | 97mils (12ga) PLC | | | 97mils (12ga) PLC | | |
| | | | w/5 #10 screws | w/8 #10 screws | w/12 #10 screws | w/5 #10 screws | w/8 #10 screws | w/12 #10 screws |
| PLC12-97 | 33mils (20ga) | 33 | 884 | 1414 | 2121 | 113 | 231 | 491 |
| | 33mils (20ga) | 50 | 1276 | 2042 | 2775 | 163 | 333 | 710 |
| | 43mils (18ga) | 33 | 1315 | 2104 | 2775 | 168 | 343 | 731 |
| | 43mils (18ga) | 50 | 1900 | 2775 | 2775 | 243 | 496 | 1056 |
| | 54mils (16ga) | 33 | 1849 | 2775 | 2775 | 237 | 483 | 1028 |
| | 54mils (16ga) | 50 | 2671 | 2775 | 2775 | 342 | 697 | 1085 |
| | 68mils (14ga) | 50 | 2740 | 2775 | 2775 | 351 | 715 | 1085 |
| | 97mils (12ga) | 50 | 2740 | 2775 | 2775 | 351 | 715 | 1085 |

Notes:

- 1 Attachment to steel framing using #10 screws with a minimum shear capacity of 1644 lbs.
- 2 The use of load distribution spreader bar is assumed for multiple lift points.
- 3 Panel Lift Clip is for single use only, and cannot be reused or reattached.

PLC8-97**PLC12-97**

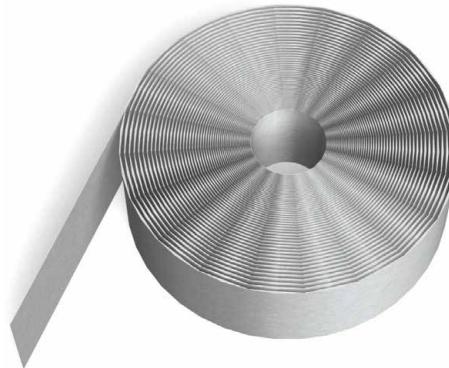
Commercial Strapping

Multipurpose pre-punched commercial coil stock used for bracing, bridging or tension strapping.

Coil Strapping is made in a variety of widths, each with a unique layout of pre-punched holes for a variety of fastening options to meet different application requirements.

PRODUCT DIMENSIONS

1" x 250'
1-1/2" x 200'
2" x 150'
2-1/2" x 150'
3" x 100'



MATERIAL SPECIFICATIONS

Material: 50ksi, G60
Gauge: 20 gauge (33mils)
Design Thickness: 0.0346 inches
ASTM: A1003, A653

Material: 50ksi, G90 (Z275) hot-dipped galvanized
Gauge: 18 gauge (43mils)
Design Thickness: 0.0451 inches
ASTM: A1003, A653

TYPICAL APPLICATIONS:

- Horizontal strap lateral bracing for wall studs
- Strap bridging for bottom of floor joists
- Tension strapping for shear wall x-bracing



FEATURES AND BENEFITS:

- Packaged for easy grab and go on jobsite
- Various LF lengths to aid in quicker installation
- Pre-punched holes to speed up installation and improve overall installation costs (see EOR for all connections)
- Tension Load Values available



Commercial Strapping (CS)

| Product code | Thickness | Width | Coil length |
|--------------|---------------|----------|-------------|
| CS1-250-33 | 33mils (20ga) | 1 inch | 250 ft |
| CS1-250-43 | 43mils (18ga) | 1 inch | 250 ft |
| CS1.5-200-33 | 33mils (20ga) | 1.5 inch | 200 ft |
| CS1.5-200-43 | 43mils (18ga) | 1.5 inch | 200 ft |
| CS2-150-33 | 33mils (20ga) | 2 inch | 150 ft |
| CS2-150-43 | 43mils (18ga) | 2 inch | 150 ft |
| CS2.5-150-33 | 33mils (20ga) | 2.5 inch | 150 ft |
| CS2.5-100-43 | 43mils (18ga) | 2.5 inch | 100 ft |
| CS3-100-33 | 33mils (20ga) | 3 inch | 100 ft |
| CS3-100-43 | 43mils (18ga) | 3 inch | 100 ft |

INSTALLATION

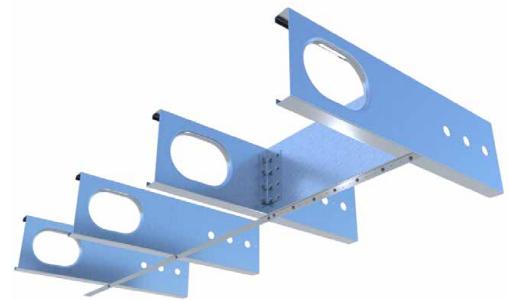
Horizontal strap lateral bracing for wall studs

Lateral bracing consists of a field-cut stud or track for solid blocking and steel strap bracing on both flanges of the studs. Solid blocking is placed at each end of the wall, adjacent to wall openings and 8' o.c. maximum. The blocking is attached to each adjacent stud via EasyClip™ E- or S- Series™ clips, or when a track is used, the flanges are cut, the web bent and a minimum 4" overlap is used to secure the track block to the studs. Strap bracing, 2" wide and 20ga (33 mils) minimum, is fastened to each solid block and stud flange.



Strap bridging for bottom of floor joists

Spacing of bridging must be calculated based on the required strength. In general, bridging is installed at a maximum of 8' o.c. spacing perpendicular to the joists. For example, an 18' joist span would require two bridging runs at 6' o.c. spacing. Where the sub-floor or decking does not provide lateral support, strap must also be installed on the top flange of the joist. Install immediately after joists are erected and before construction loads are applied. Solid blocking is field cut from track or joist sections.



Tension strapping for shear wall x-bracing

Straps are either attached directly to the compression studs or are attached via Gusset Plates. Compression studs must be anchored to the foundation, normally with ClarkDietrich Holdowns. For multi-story construction, the uplift loads are extremely high. It is not uncommon to require 20,000 to 40,000 pounds of uplift force at these connections. Since ClarkDietrich Holdowns are not designed to resist this magnitude of force, it is recommended that embedded plates be installed prior to pouring the concrete foundation. A heavy steel assembly is then welded to the embedded plate and to the compression studs.



Caution: Racking loads are first transferred to the roof or floor decking and then to the shearwalls (X-bracing). The X-bracing then relies on a proper foundation to resist uplift and shear forces. In order for the system to function properly, the load path from the roof or floor deck to the shearwalls to the foundation must be complete. This normally requires additional bracing, blocking, track and rim splices, drag struts, uplift anchors and heavy-duty foundations.

Box Header Clip

Pre-punched clip for box header framing.

The Box Header Clip (BHC) is designed to eliminate field cutting metal track into sections. The BHC clip is pre-punched to promote a quick and accurate installation. It is available in a variety of sizes and thicknesses to accommodate different application requirements.

MATERIAL SPECIFICATIONS

Gauge: 18 gauge (43mils)

Design Thickness: 0.0451 inches

Gauge: 16 gauge (54mils)

Design Thickness: 0.0566 inches

Gauge: 14 gauge (68mils)

Design Thickness: 0.0713 inches

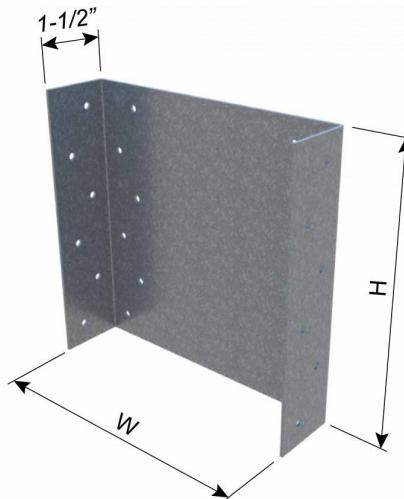
Material: 50ksi, G90 (Z275) hot-dipped galvanized

ASTM: A1003, A653

INSTALLATION

Refer to load tables for appropriate box header clip.

All pre-punched holes must be filled by placing #10-16 screws to achieve noted capacities.



Box Header Clip (BHC)

| Product code | Width (W) | Height (H) |
|--------------|-----------|------------|
| 362BHC2 | 3-5/8" | 2" |
| 362BHC4 | | 4" |
| 362BHC6 | | 6" |
| 362BHC8 | | 8" |
| 362BHC10 | | 10" |
| 600BHC2 | 6" | 2" |
| 600BHC4 | | 4" |
| 600BHC6 | | 6" |
| 600BHC8 | | 8" |
| 600BHC10 | | 10" |
| 800BHC2 | 8" | 2" |
| 800BHC4 | | 4" |
| 800BHC6 | | 6" |
| 800BHC8 | | 8" |
| 800BHC10 | | 10" |



Box Header Clip (BHC)

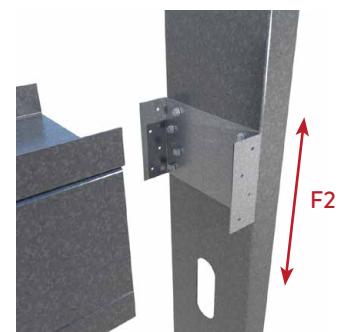
| Product code | Head gauge (ga) | F2 (lbs.) | | | | |
|--------------|-----------------|------------|-----|-----|-----|-----|
| | | Jamb Gauge | | | | |
| | | 20 | 18 | 16 | 14 | 12 |
| XXXBHC2-43 | 20 | 353 | 353 | 353 | 353 | 353 |
| | 18 | 353 | 526 | 526 | 526 | 526 |
| | 16 | 353 | 526 | 839 | 839 | 839 |
| | 14 | 353 | 526 | 839 | 839 | 839 |
| | 12 | 353 | 526 | 839 | 839 | 839 |
| XXXBHC2-54 | 20 | 353 | 353 | 353 | 353 | 353 |
| | 18 | 353 | 526 | 526 | 526 | 526 |
| | 16 | 353 | 526 | 933 | 933 | 933 |
| | 14 | 353 | 526 | 933 | 933 | 933 |
| | 12 | 353 | 526 | 933 | 933 | 933 |
| XXXBHC2-68 | 20 | 353 | 353 | 353 | 353 | 353 |
| | 18 | 353 | 526 | 526 | 526 | 526 |
| | 16 | 353 | 526 | 933 | 933 | 933 |
| | 14 | 353 | 526 | 933 | 933 | 933 |
| | 12 | 353 | 526 | 933 | 933 | 933 |

| Product code | Head gauge (ga) | F2 (lbs.) | | | | |
|--------------|-----------------|------------|------|------|------|------|
| | | Jamb Gauge | | | | |
| | | 20 | 18 | 16 | 14 | 12 |
| XXXBHC4-43 | 20 | 990 | 990 | 990 | 990 | 990 |
| | 18 | 990 | 1473 | 1473 | 1473 | 1473 |
| | 16 | 990 | 1473 | 2076 | 2076 | 2076 |
| | 14 | 990 | 1473 | 2076 | 2076 | 2076 |
| | 12 | 990 | 1473 | 2076 | 2076 | 2076 |
| XXXBHC4-54 | 20 | 990 | 990 | 990 | 990 | 990 |
| | 18 | 990 | 1473 | 1473 | 1473 | 1473 |
| | 16 | 990 | 1473 | 2613 | 2613 | 2613 |
| | 14 | 990 | 1473 | 2613 | 2613 | 2613 |
| | 12 | 990 | 1473 | 2613 | 2613 | 2613 |
| XXXBHC4-68 | 20 | 990 | 990 | 990 | 990 | 990 |
| | 18 | 990 | 1473 | 1473 | 1473 | 1473 |
| | 16 | 990 | 1473 | 2613 | 2613 | 2613 |
| | 14 | 990 | 1473 | 2613 | 2613 | 2613 |
| | 12 | 990 | 1473 | 2613 | 2613 | 2613 |

| Product code | Head gauge (ga) | F2 (lbs.) | | | | |
|--------------|-----------------|------------|------|------|------|------|
| | | Jamb Gauge | | | | |
| | | 20 | 18 | 16 | 14 | 12 |
| XXXBHC6-43 | 20 | 1717 | 1717 | 1717 | 1717 | 1717 |
| | 18 | 1717 | 2555 | 2555 | 2555 | 2555 |
| | 16 | 1717 | 2555 | 3206 | 3206 | 3206 |
| | 14 | 1717 | 2555 | 3206 | 3206 | 3206 |
| | 12 | 1717 | 2555 | 3206 | 3206 | 3206 |
| XXXBHC6-54 | 20 | 1717 | 1717 | 1717 | 1717 | 1717 |
| | 18 | 1717 | 2555 | 2555 | 2555 | 2555 |
| | 16 | 1717 | 2555 | 4533 | 4533 | 4533 |
| | 14 | 1717 | 2555 | 4533 | 4533 | 4533 |
| | 12 | 1717 | 2555 | 4533 | 4533 | 4533 |
| XXXBHC6-68 | 20 | 1717 | 1717 | 1717 | 1717 | 1717 |
| | 18 | 1717 | 2555 | 2555 | 2555 | 2555 |
| | 16 | 1717 | 2555 | 4533 | 4533 | 4533 |
| | 14 | 1717 | 2555 | 4533 | 4533 | 4533 |
| | 12 | 1717 | 2555 | 4533 | 4533 | 4533 |

| Product code | Head gauge (ga) | F2 (lbs.) | | | | |
|--------------|-----------------|------------|------|------|------|------|
| | | Jamb Gauge | | | | |
| | | 20 | 18 | 16 | 14 | 12 |
| XXXBHC8-43 | 20 | 2465 | 2465 | 2465 | 2465 | 2465 |
| | 18 | 2465 | 3668 | 3668 | 3668 | 3668 |
| | 16 | 2465 | 3668 | 4274 | 4274 | 4274 |
| | 14 | 2465 | 3668 | 4274 | 4274 | 4274 |
| | 12 | 2465 | 3668 | 4274 | 4274 | 4274 |
| XXXBHC8-54 | 20 | 2465 | 2465 | 2465 | 2465 | 2465 |
| | 18 | 2465 | 3668 | 3668 | 3668 | 3668 |
| | 16 | 2465 | 3668 | 6509 | 6509 | 6509 |
| | 14 | 2465 | 3668 | 6509 | 6509 | 6509 |
| | 12 | 2465 | 3668 | 6509 | 6509 | 6509 |
| XXXBHC8-68 | 20 | 2465 | 2465 | 2465 | 2465 | 2465 |
| | 18 | 2465 | 3668 | 3668 | 3668 | 3668 |
| | 16 | 2465 | 3668 | 6509 | 6509 | 6509 |
| | 14 | 2465 | 3668 | 6509 | 6509 | 6509 |
| | 12 | 2465 | 3668 | 6509 | 6509 | 6509 |

| Product code | Head gauge (ga) | F2 (lbs.) | | | | |
|--------------|-----------------|------------|------|------|------|------|
| | | Jamb Gauge | | | | |
| | | 20 | 18 | 16 | 14 | 12 |
| XXXBHC10-43 | 20 | 2914 | 2914 | 2914 | 2914 | 2914 |
| | 18 | 2914 | 4336 | 4336 | 4336 | 4336 |
| | 16 | 2914 | 4336 | 5343 | 5343 | 5343 |
| | 14 | 2914 | 4336 | 5343 | 5343 | 5343 |
| | 12 | 2914 | 4336 | 5343 | 5343 | 5343 |
| XXXBHC10-54 | 20 | 2914 | 2914 | 2914 | 2914 | 2914 |
| | 18 | 2914 | 4336 | 4336 | 4336 | 4336 |
| | 16 | 2914 | 4336 | 7694 | 7694 | 7694 |
| | 14 | 2914 | 4336 | 7694 | 7694 | 7694 |
| | 12 | 2914 | 4336 | 7694 | 7694 | 7694 |
| XXXBHC10-68 | 20 | 2914 | 2914 | 2914 | 2914 | 2914 |
| | 18 | 2914 | 4336 | 4336 | 4336 | 4336 |
| | 16 | 2914 | 4336 | 7694 | 7694 | 7694 |
| | 14 | 2914 | 4336 | 7694 | 7694 | 7694 |
| | 12 | 2914 | 4336 | 7694 | 7694 | 7694 |



Notes:

- 1 Listed capacities are based on AISI S100-16 (2020) w/S2-20, North American Specification for Cold-Formed Steel Structural Members, AISI D114-21, Cold-Formed Steel Clip Angle Design Guide, and AISI Research Report RP18-4.
- 2 Capacities are based on #10-16 screws with an ultimate shear capacity of at least 1400 lbs.
- 3 Capacities are based on #10-16 screws through all of the pre-punched holes in the connector to each side of the box header and #10-16 screws through all of the pre-punched holes in the connector to the jamb.
- 4 Capacities are based on 20ga. and 18ga. 33ksi material and 16ga. and heavier 50ksi material.
- 5 "XXX" = 362 for a 3-5/8" wall, 600 for a 6" wall, and 800 for an 8" wall.

MEP Gusset Plate

Restores structural integrity of steel framing with field modified openings.

The MEP Gusset Plate is designed to provide strength and stiffness to framing members that are modified or field cut at the job site with oversized cutouts on the web of the member. The two-piece design allows the plate to be attached after MEP components have been installed.

- For use with 15mil to 97mil framing members.
- Not for use when flange is cut out.

PRODUCT DIMENSIONS

MEP3 = 3-1/2" x 8" assembled

MEP6 = 5-3/4" x 8" assembled



A
B
MEP3



A
B
MEP6

MATERIAL SPECIFICATIONS

Gauge: 16 gauge (54mil)

Design Thickness: 0.0566 inches

Material: 50ksi, G90 (Z275) hot-dipped galvanized

INSTALLATION

Installing the ClarkDietrich MEP Gusset Plate in accordance with the following guidelines will return the stud member to its original flexural strength, shear strength, and stiffness.

- The dimensions of the field cut hole shall be no greater than 3" wide by 3" tall for 6" framing members and 2" wide by 3" tall for 3-5/8" members.
- Field cut holes shall be made with a plasma cutter or saw. Torch-cut holes are not permitted.
- The steel around the hole shall not be damaged or distorted.
- A total of (12) #10-16 screws shall be used at each hole repair location as shown in the figure.
- This product cannot be used when framing member's flange is notched.
- Minimum stud web hole spacing shall be maintained for compliance with AISI S100, S220 & S240 standards.
- The axial capacity and web crippling capacity of the stud member shall be considered separately. It is the responsibility of the design professional to verify that the capacity meets the requirements of the intended application.



MEP Gusset Plate (MEP)

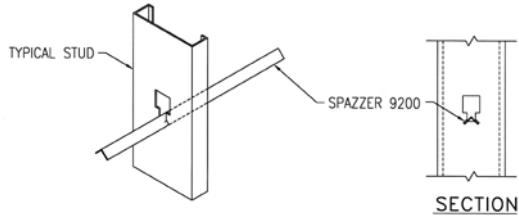
| Product code | Dimensions (assembled) | Packaging |
|--------------|------------------------|---------------|
| MEP3 | 3-1/2" x 8" | 25 Sets (A&B) |
| MEP6 | 5-3/4" x 8" | 25 Sets (A&B) |

Product Detail

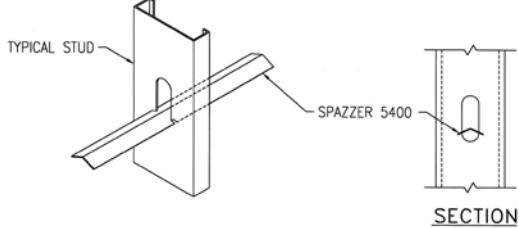
Visit our CAD Library at clarkdietrich.com to view or download construction details in .dwg, .dxf, and .pdf formats.

BRIDGING DETAILS

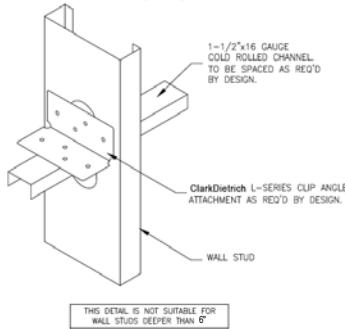
Spazzer® 9200 Bridging



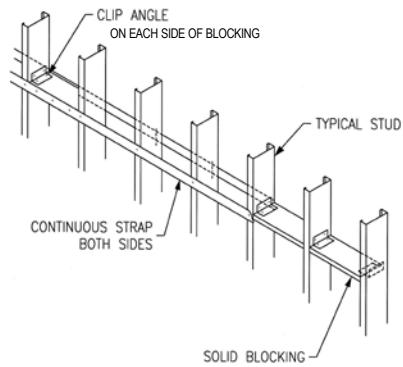
Spazzer 5400 Bridging



U-Channel Bridging Connection

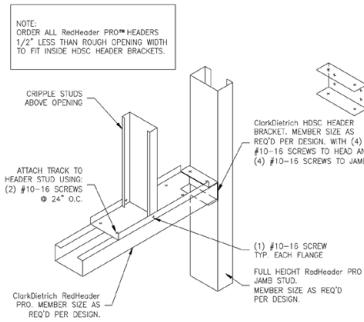


Block and Strap Bridging

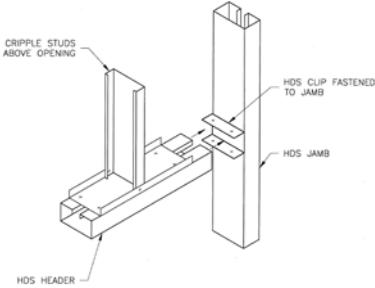


HEADER DETAILS

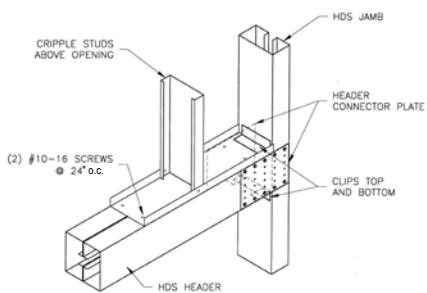
Curtain Wall RedHeader PRO™ Header & Jamb



Curtain Wall HDS® Header & Jamb

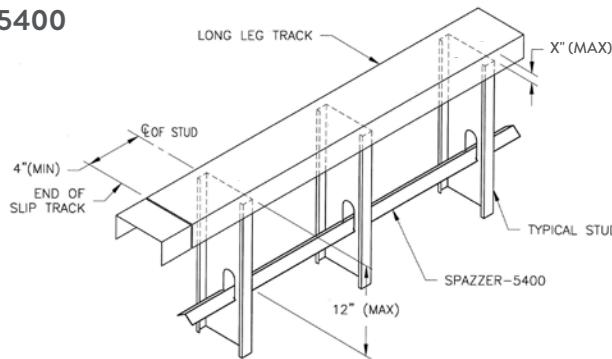


Load-Bearing HDS Header & Jamb

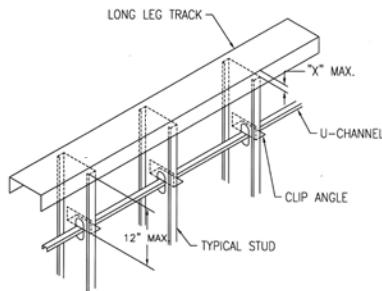


HEAD-OF-WALL DEFLECTION DETAILS

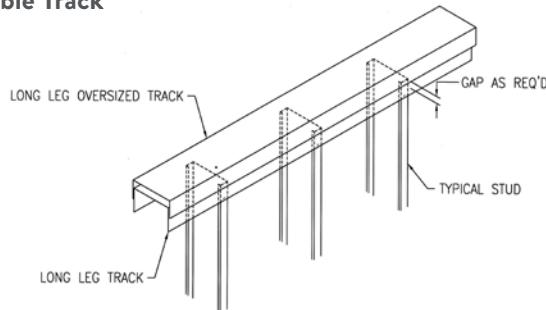
Long Leg Track with Spazzer 5400



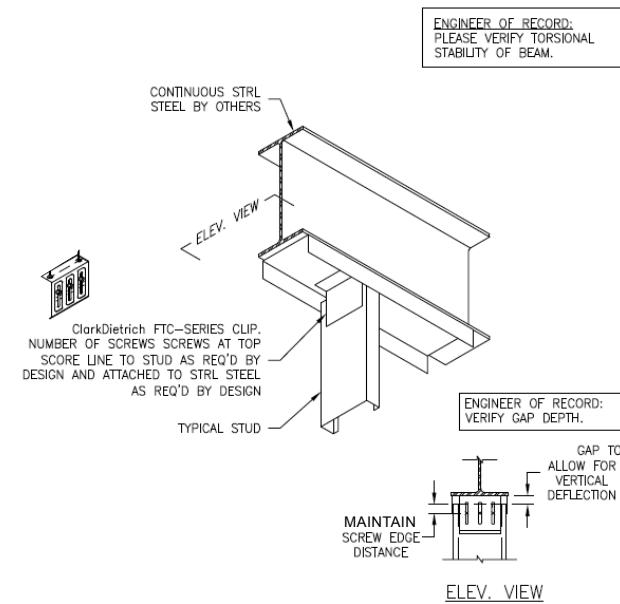
Long Leg Track with U-Channel



Double Track™



Long Leg Track with Fast Top™ Clip



Details shown in this brochure are for example only. The engineer of record on the project is responsible for the design of the connection to the structure. Additional connection details can be found at clarkdietrich.com.

PRODUCT NAME INDEX

| | |
|---|---|
| 2x6 FR Blocking | 160-161 |
| 5400 Spazzer® Spacer Bar | 149-153 |
| 9200 Spazzer Spacer Bar | 148 |
| A | |
| Aluminum Burn Clip..... | 176 |
| A-Series™ End Clip..... | 92-93 |
| Anchor Clip D-Series™ | 94-95 |
| ASTM | 199 |
| B | |
| Backer Bar | 158 |
| BlazeFrame® Shield | 159 |
| Box Header Clip | 190-191 |
| Bridging, Bracing and Backing | 138-161 |
| Bridging Details | 194 |
| Bridging Termination Clip | 144-145 |
| Bridle Hanger | 122-123 |
| C | |
| CC33 3/8" Channel Clip | 142-143 |
| ClarkDietrich Holdown | 100-103 |
| ClarkDietrich Moment Clip | 108-109 |
| ClarkDietrich Seismic & Hurricane Clips | 164-165 |
| ClarkDietrich Skewable Angle | 128-129 |
| ClarkDietrich Sound Clip | 178-183 |
| Clip Angle U-Series™ | 89 |
| Clip Angle X-Series™ | 146-147 |
| Clip Express™ Display Program | 198 |
| Code Approvals | 199 |
| Commercial Strapping | 188-189 |
| Custom Clips | 2-3 |
| D | |
| D-Blaze® | 156-157 |
| D-Series™ Anchor Clip | 94-95 |
| Danback® Flexible Wood Backing Plate | 156-157 |
| Deflection Connections | 12-43 |
| Drift Connections | 44-71 |
| Drift FastClip™ Slide Clip | 46-49 |
| Drift Head-of-Wall | 50-53 |
| Drift Rail and Clip | 54-71 |
| Drift Headed Rail and Clip | 54-71 |
| E | |
| E-Series™ Support Clip | 136-137 |
| EasyClip™ A-Series™ End Clip | 92-93 |
| EasyClip D-Series™ Anchor Clip | 94-95 |
| EasyClip E-Series™ Support Clip | 136-137 |
| EasyClip S-Series™ Support Clip | 90-91 |
| EasyClip T-Series™ Tall Anchor Clip | 94-95 |
| EasyClip U-Series™ Clip Angle | 89 |
| EasyClip X-Series™ Clip Angle | 146-147 |
| EasyClip QuickTwist™ Web Stiffener | 134-135 |
| End Clip A-Series | 92-93 |
| Engineering Services | 11 |
| Extended FastClip™ Slide Clip | 17-19 |
| Extended LE-Series™ Support Clip | 88 |
| Extended Uni-Clip™ | 76-77 |
| Extended Uni-Clip™ w/Anchor Holes | 78-79 |
| F | |
| Fast Strut™ | 40-41 |
| Fast Top™ Clip | 28-30 |
| FastBack™ Backing System | 155 |
| FastBridge™ Clip | 96-97, 140-141 |
| FastClip™ Slide Clip | 14-16 |
| FastClip™ Slide Clip w/Anchor Holes | 20-21 |
| Fastening Options | 4-6 |
| Field Skewable TradeReady® Splice Plate | 130-131 |
| Fixed Universal Slip Clip | 42-43, 118-119 |
| FlamePRO® Fire Retardant | 156-157 |
| Flat Tail™ Slide Clip | 31-39 |
| G | |
| Floor Framing Connections | 120-137 |
| FR Blocking | 160-161 |
| Furring Clip | 185 |
| H | |
| G-Series™ Punched Gusset Plate | 168-169 |
| Gauge | 10 |
| General Notes | 7 |
| GP-Series™ Unpunched Gusset Plate | 166-167 |
| Green Building | 197 |
| Grommets | 177 |
| Gusset Plate for Shearwall Bracing | 166-167 |
| Gusset Plates | 166-169 |
| I | |
| J | |
| K | |
| ksi | 10 |
| L | |
| L-Series™ Support Clip | 86-87 |
| LA-Series™ Support Clip | 86-87 |
| LE-Series™ Support Clip | 88 |
| LS-Series™ Support Clip | 86-87 |
| LEED® | 199 |
| Load Tables | 9 |
| Locations | 199 |
| M | |
| Material Certification | 197 |
| MEP Gusset Plate | 192 |
| Metal Furring Channel Clip | 185 |
| Metal Thickness | 10 |
| Metric Specifications | 10 |
| Moment Clip | 108-109 |
| N | |
| O | |
| P | |
| Packaging | 10 |
| Panel Lift Clip | 186-187 |
| Performance Standards | 197 |
| Pony Wall Heavy | 110-113 |
| Pony Wall Lite | 114-117 |
| Powder-Actuated Fasteners | 5 |
| Product Detail | 194-195 |
| Product Information | 10 |
| Product Labeling | 10 |
| Product Warranty | 198 |
| Proprietary Deflection Screw | 4, 14, 17, 20, 28, 31, 40, 43, 46-47, 48-49, 55 |
| Protective Coatings | 10 |
| Q | |
| QuickTwist™ Web Stiffener | 134-135 |
| R | |
| Rafter Connections | 130-131, 164-165, 166-167 |
| Recycled Content | 197 |
| Rigid Connections | 72-119 |
| Roof and Truss Connections | 162-169 |
| S | |
| S-Series™ Support Clip | 90-91 |
| Safety Warning | 7 |
| Sales | 199 |
| Screw Connections | 4 |
| Seismic Clip | 164-165 |
| Shop Drawings | 194-195 |
| Skewable Angle | 128-129 |
| Sound Clip | 178-183 |
| Spazzer® 5400 Spacer Bar | 149-153 |
| Spazzer® 9200 Spacer Bar | 148 |
| Spazzer® Bar Fly Clip | 154 |
| Spazzer® Bar Guard™ | 149 |
| Spazzer® Snap-In Grommet | 149 |
| Special Order Connections | 2-3 |
| Specialty Clips, Accessories | 170-193 |
| Specification Options | 10 |
| Splice Plate | 130-131 |
| Standards and Specifications | 10 |
| Steel Thickness | 10 |
| Support Clip E-Series™ | 136-137 |
| Support Clip L-Series™ | 86-87 |
| Support Clip S-Series™ | 90-91 |
| SwiftClip™ L-Series™ Support Clip | 86-87 |
| T | |
| T-Series™ Tall Anchor Clip | 94-95 |
| Tall Anchor Clip T-Series | 94-95 |
| Technical Assistance | 11, 199 |
| Technical Services | 11 |
| Trademarks | 198 |
| TradeReady Floor Joist Blocking | 132 |
| TradeReady® Splice Plate | 130-131 |
| TradeReady Structural Bridging | 133 |
| Truss Holdowns | 130-131, 164-165, 166-169 |
| Typical Construction Details | 194-195 |
| U | |
| U-Series™ Clip Angle | 89 |
| Understanding Load Tables | 9 |
| Uni-Clip™ End Clip | 74-75 |
| Universal Bypass Clip | 22-27, 80-85 |
| Universal Joist Hanger | 124-126 |
| V | |
| W | |
| Warranty | 198 |
| Web Stiffener | 134-135 |
| Weld Types | 6 |
| Welded Connections | 6 |
| X | |
| X-Series™ Clip Angle | 146-147 |
| Y | |
| Yield Strength | 10 |
| Z | |

PRODUCT CODE INDEX

| | |
|------------|----------------|
| A | |
| A543 | 92-93 |
| A546 | 92-93 |
| A683 | 92-93 |
| A686 | 92-93 |
| A973 | 92-93 |
| A976 | 92-93 |
| AB | 176 |
| AB30 | 176 |
| AB35 | 176 |
| AB40 | 176 |
| AB45 | 176 |
| AB63 | 176 |
| B | |
| BB12 | 158 |
| BB16 | 158 |
| BB24 | 158 |
| BHC | 190-191 |
| BTC | 144-145 |
| C | |
| CC33 | 142-143 |
| CD8-B | 100-103 |
| CD10-B | 100-103 |
| CD15-B | 100-103 |
| CD8-S | 100-103 |
| CD10-S | 100-103 |
| CD15-S | 100-103 |
| CDBV | 122-123 |
| CDMB | 122-123 |
| CDSC | 178-183 |
| CS | 188-189 |
| D | |
| D16C | 156-157 |
| D16F | 156-157 |
| D24C | 156-157 |
| D24F | 156-157 |
| D683 | 94-95 |
| D685 | 94-95 |
| D973 | 94-95 |
| D975 | 94-95 |
| D-FCSC | 46-49 |
| DHW | 50-53 |
| DHR | 54-71 |
| DRC | 54-71 |
| E | |
| E541 | 136-137 |
| E543 | 136-137 |
| E545 | 136-137 |
| E547 | 136-137 |
| E549 | 136-137 |
| E681 | 136-137 |
| E683 | 136-137 |
| E685 | 136-137 |
| E687 | 136-137 |
| E689 | 136-137 |
| E971 | 136-137 |
| E973 | 136-137 |
| E975 | 136-137 |
| E977 | 136-137 |
| E979 | 136-137 |
| F | |
| FB33 | 96-97, 140-141 |
| FB43 | 96-97, 140-141 |
| FB68 | 96-97, 140-141 |
| FBBC | 155 |
| FBW | 155 |
| G | |
| G436 | 168-169 |
| G546 | 168-169 |
| G686 | 168-169 |
| GP | 166-167 |
| GROM 3/4 | 177 |
| GROM 1-1/2 | 177 |
| H | |
| H436 | 98-99 |
| H546 | 98-99 |
| H686 | 98-99 |
| HC2 | 164-165 |
| HC2A | 164-165 |
| HC2.5 | 164-165 |
| HC3 | 164-165 |
| HDP | 104-107 |
| HDSC 3-1/2 | 172-175 |
| HDSC 3-7/8 | 172-175 |
| HDSC 5-7/8 | 172-175 |
| HDSC 7-7/8 | 172-175 |
| I | |
| — | |
| J | |
| JB | 132 |
| K | |
| — | |
| L | |
| LA543 | 86-87 |
| LA545 | 86-87 |
| LA547 | 86-87 |
| LA683 | 86-87 |
| LA685 | 86-87 |
| LA687 | 86-87 |
| LA973 | 86-87 |
| LA975 | 86-87 |
| LA977 | 86-87 |
| LE543 | 86-87 |
| LE545 | 86-87 |
| LE547 | 86-87 |
| LE549 | 86-87 |
| LE683 | 86-87 |
| LE685 | 86-87 |
| M | |
| MC103P | 108-109 |
| MC105P | 108-109 |
| MC107P | 108-109 |
| MC683P | 108-109 |
| MC685P | 108-109 |
| MC687P | 108-109 |
| MC973P | 108-109 |
| MC975P | 108-109 |
| MC977P | 108-109 |
| MEP3 | 192 |
| MEP6 | 192 |
| MFCC | 185 |
| N | |
| — | |
| O | |
| — | |
| P | |
| PLC8 | 186-187 |
| PLC12 | 186-187 |
| PW | 110-113 |
| Q | |
| QTWS | 134-135 |
| R | |
| RCSC | 184 |
| S | |
| S541 | 90-91 |
| S543 | 90-91 |
| S545 | 90-91 |
| S547 | 90-91 |
| S549 | 90-91 |
| S681 | 90-91 |
| S683 | 90-91 |
| S685 | 90-91 |
| S687 | 90-91 |
| S689 | 90-91 |
| T | |
| T683 | 94-95 |
| T685 | 94-95 |
| T973 | 94-95 |
| T975 | 94-95 |
| TDSB | 133 |
| TDSP | 130-131 |
| U | |
| U543 | 89 |
| U545 | 89 |
| U547 | 89 |
| U549 | 89 |
| U683 | 89 |
| U685 | 89 |
| U687 | 89 |
| U689 | 89 |
| U973 | 89 |
| U975 | 89 |
| U977 | 89 |
| U979 | 89 |
| UBC | 22-27, 80-85 |
| UCEC | 74-75 |
| UJH | 124-126 |
| UXRC6 | 76-77 |
| UXRC6-HD | 78-79 |
| UXRC8 | 76-77 |
| UXRC10 | 76-77 |
| UXRC12 | 76-77 |
| V | |
| — | |
| W | |
| — | |
| X | |
| X543 | 146-147 |
| X545 | 146-147 |
| X547 | 146-147 |
| X549 | 146-147 |
| X683 | 146-147 |
| X685 | 146-147 |
| X687 | 146-147 |
| X689 | 146-147 |
| X973 | 146-147 |
| X975 | 146-147 |
| X977 | 146-147 |
| X979 | 146-147 |
| Y | |
| — | |
| Z | |
| — | |

Clip ExpressSM Display Program



CLARKDIETRICH CLIP EXPRESSSM PRODUCT DISPLAYS

ClarkDietrich is committed to providing the product data, application details and hands-on tools necessary to help our customers select the best part for a specific design challenge.

For those dealers willing to commit resources to a stocking program for ClarkDietrich clip products, we offer the opportunity for the co-op development of Clip Express Product Displays. These displays provide dealers and contractors with the opportunity to visualize how many of our products can be used in a variety of applications. For more information, please contact the Clip Express sales team:

Clip Express—866.638.1908

Trademarks and Warranty

PATENTS

U.S. Patent Nos. 6,021,618; 6,688,069; D814,905; D822,455 are owned by ClarkDietrich

U.S. Patent No. 7,882,676 is owned by Jeffrey Thomas Ellis

U.S. Patent No. 6,705,056 is owned by Kathy Tollenar

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LEED[®] is a registered trademark of the U.S. Green Building Council

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WARRANTY

Our products are manufactured in accordance with company standards and/or industry standards, as applicable. All ClarkDietrich Building Systems products are covered by our standard warranty which is contained in our Standard Terms and Conditions of Sale and which will be provided upon request. Generally, we warrant our products will be free from defects in material and workmanship at the time of shipment, subject to the limitations stated in the warranty. Unless specifically agreed in writing by us with respect to specific orders, we do not make any warranty of merchantability or fitness for a particular purpose. The buyer is responsible to assure that buyer orders the appropriate product for any applicable code or specification requirements.

NOTICE: Our liability is expressly limited to replacement of defective products. We shall not be liable for incidental and consequential damages, nor for any loss caused by misuse or misapplication of our products. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from the date it was or reasonably should have been discovered.

Clip ExpressSM CODE APPROVALS AND PERFORMANCE STANDARDS

ClarkDietrich Clip Express products meet or exceed these applicable performance standards.

ClarkDietrich Clip & Connector Standards

AISI S100-16 (2020) w/S2-20 - North American Specification for the Design of Cold-Formed Steel Structural Members

AISI S240-20 - North American Standard for Cold-Formed Steel Structural Framing

ClarkDietrich Nonstructural Framing comply with:

2021 International Building Code

Intertek CCRR-0208 - FastClipTM / Universal Bypass Clip

SFIA (Steel Framing Industry Association) Connector Code Compliance Certification Program

LEED[®] Services

BUILD GREEN with ClarkDietrich

ClarkDietrich is an active member of the U.S. Green Building Council and is committed to supplying quality products that are environmentally responsible. We are continually working to develop greener building products and sustainable business practices. ClarkDietrich steel framing helps contribute points toward LEED[®] certification. For more details contact Technical Services at 888-437-3244 or visit www.clarkdietrich.com/LEED.

SustainabilityPro

Quickly access the product-specific information and certifications needed to calculate contributions to LEED[®] and other green building certification and rating systems - all in one platform. Find out more at www.clarkdietrich.com/LEED.

ClarkDietrich has prepared this literature with the utmost diligence and care for accuracy and conformance to standards.

ClarkDietrich intends this information to be accurate, informative, and helpful as a selection guide for choosing ClarkDietrich products. However, this information is only to be used for guidance and is not intended to replace the design, drawings, specifications, and decisions of a professional architect or engineer.

ClarkDietrich or its affiliates shall not be responsible for incidental or consequential damages, directly or indirectly sustained, nor for loss caused by application of our products for other than their intended uses. Our liability is limited to replacement of defective products. Claims shall be deemed waived unless they are made to us in writing within thirty (30) days of the date a problem was or reasonably should have been discovered.

ClarkDietrich reserves the right to modify or change any information contained in this literature without notification.

ClarkDietrich is a proud member of the Steel Framing Industry Association (SFIA). Check the updated list of Certified Production Facilities at Intertek's website at www.intertek.com.

AIA
Continuing
Education
Provider

SFIA
STEEL FRAMING INDUSTRY ASSOCIATION

CSI¹
CORPORATE
GOLD

ASHI
INTERNATIONAL
ORGANIZATIONAL
MEMBER

AWCI
ASSOCIATION OF THE
WALL AND CEILING
INDUSTRY

CFSEI

Steel Framing Alliance[®]
Steel The Better Builder.

USGBC
MEMBER

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is a trademark owned by the
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LOCATIONS

ClarkDietrich Manufacturing and Sales Locations:

CALIFORNIA Riverside
P 951.360.3500

CALIFORNIA Sacramento
P 951.360.3500

CONNECTICUT Bristol
P 866.921.0023

FLORIDA Dade City
P 352.518.4400

FLORIDA, Miami
P 305.477.6464

GEORGIA McDonough
P 678.304.5500

ILLINOIS Rochelle
P 800.659.0745

MARYLAND Baltimore
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MISSOURI O'Fallon
P 636.300.1411

OHIO Warren-East
P 330.372.5564

OHIO Vienna
P 330.372.4014

OKLAHOMA Oklahoma City
P 405.896.2563

TEXAS Dallas
P 214.350.1716

TEXAS Pasadena
P 281.383.1617

CLIP EXPRESSSM P 866.638.1908
Dallas McDonough
Warren Sacramento

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Toll-Free Phone: 877.832.3206

Toll-Free Fax: 877.832.3208

Technical Services: 888.437.3244

Email: engineering@clarkdietrich.com

CENTRAL Merrillville, IN
NORTHEAST Bristol, CT

SOUTHEAST McDonough, GA
WEST Carlsbad, CA

Online Revision
4/8/24: Pgs. 110-113 Pony Wall
5/6/24: Pg. 192 MEP Gusset Plate
9/11/24: Pgs. 114-117 Pony Wall Lite
10/31/04: Pgs. 134-135 QTWS
11/18/24: Pg. 154 Spazzer® Bar Fly Clip
1/6/25: Pg. 188 Commercial Strapping
1/31/25: Pg. 110 Pony Wall Heavy
2/18/25: Pgs. 50-53 DHW
3/28/25: Pg. 109 Moment Clip

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