

SUBH Bridging Connectors

Simplified Design and Installation Through Innovation

Simpson Strong-Tie® SUBH and MSUBH wall stud bridging connectors for cold-formed steel (CFS) framing offer a compact profile that allows standard 1 5/8" studs to be sistered directly against adjacent studs. The LSUBH connector provides the same installation benefits of the SUBH/MSUBH connectors, and is suitable for many wind- and load-bearing situations where the load demand is light to moderate.

Many applications require only one screw, greatly reducing labor costs and increasing productivity.



This product is preferable to similar connectors because of a) easier installation, b) higher loads, c) lower installed cost, or a combination of these features.

Features:

- Tested to include stud-web strength and stiffness in the tabulated design values
- Design values ensure compliance with AISI S100 Sections D3.2.1 and D3.3 for axially and laterally loaded studs
- Flexible design solutions for web thicknesses of 33 mil (20 ga.) through 97 mil (12 ga.) and stud sizes from 3 5/8" to 8"
- MSUBH accommodates back-to-back built-up members ranging from 33 mil (20 ga.) to 54 mil (16 ga.)

Material: LSUBH3.25 – 33 mil (20 ga.); SUBH3.25 – 43 mil (18 ga.); MSUBH3.25 – 68 mil (14 ga.)

Finish: Galvanized (G90)

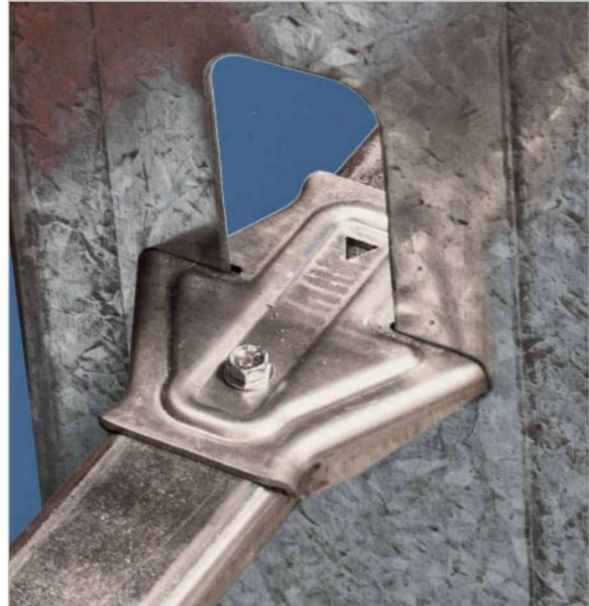
Installation:

- See pages 54 through 56.

Codes: See page 11 for Code Report Reference Key Chart.

Ordering Information:

LSUBH3.25 and SUBH3.25-R150 (Bucket of 150),
MSUBH3.25-R100 (Bucket of 100)



Compact Geometry

Facilitates efficient installation in industry-standard 1.5" web knockouts

Web Slots

Offers strong rotational resistance without the use of screws

Embossments

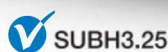
Enhance connector strength and stiffness

Contoured Flanges

Fits snug over industry-standard 1.5" wide u-channels

Dual Installation Options

For maximum design and application flexibility



(LSUBH3.25 and MSUBH3.25 Similar)
U.S. Patent 8,813,456

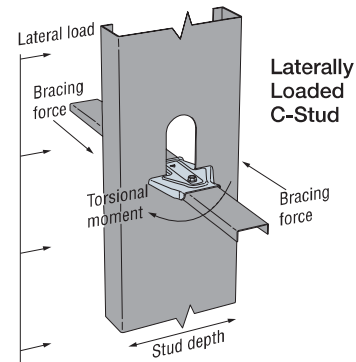
SUBH Bridging Connectors

How to Use Bridging Connector Allowable Load Table

The tabulated strength and stiffness values are for use with Sections D3.2.1 and D3.3 of the 2007 edition of AISI North American Specification for the Design of Cold-Formed Steel Structural Members (AISI S100-2007) as follows:

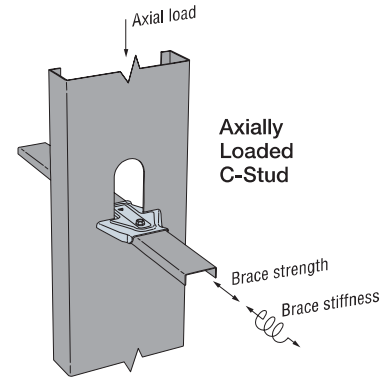
Bracing Design for Laterally Loaded C-Studs

- Step 1: Calculate required bracing force for each flange using equation D3.2.1-3
- Step 2: Multiply result by stud depth to obtain torsional moment
- Step 3: Select connector with tabulated allowable torsional moment that exceeds torsional moment from Step 2 for the stud depth and gauge required



Bracing Design for Axially Loaded C-Studs

- Step 1: Calculate required LRFD brace strength using equation D3.3-1
- Step 2: Divide result by 1.5 for ASD design¹
- Step 3: Calculate required brace stiffness using equation D3.3-2
- Step 4: Select connector with tabulated allowable brace strength that exceeds strength from Step 2 and tabulated brace stiffness that exceeds stiffness from Step 3 for the stud depth and gauge required



1. Page III-54 of the 2008 edition of the AISI Cold-Formed Steel Design Manual states that equation D3.3-1 is applicable to LRFD design, and recommends dividing the result by 1.5 for ASD design.

SUBH Bridge Clip Connector – Strength and Stiffness

| Model No. | Stud Depth | Stud Thickness mils (ga.) | Laterally Loaded C-Stud | | Axially Loaded C-Stud | | | | Code Ref. |
|-----------------------|------------|------------------------------|---|-----|---|-----|--|-------|-----------|
| | | | Allowable Torsional Moment ¹ (in.-lbs.) | | Allowable Brace Strength ^{1,2} (lbs.) | | Brace Stiffness ³ (lbs./in.) | | |
| | | | Min | Max | Min | Max | Min | Max | |
| IN STOCK LSUBH3.25 | 3.625 | 33 (20) | 215 | 330 | 155 | 275 | 2300 | 2685 | 160 |
| | | 43 (18) | 230 | 370 | 175 | 310 | 5075 | 7585 | |
| | | 54 (16) | 225 | 370 | 195 | 345 | 5075 | 8100 | |
| SUBH3.25 | 3.625 | 33 (20) | 320 | 345 | 230 | 370 | 1450 | 1985 | IP1, L2 |
| | | 43 (18) | 355 | 430 | 255 | 420 | 2780 | 4035 | |
| | | 54 (16) | 420 | 455 | 290 | 475 | 2925 | 3975 | |
| MSUBH3.25 | 3.625 | 54 (16) | 550 | 800 | 435 | 630 | 3440 | 4015 | IP1, L2 |
| | | 68 (14) | 640 | 860 | 485 | 695 | 4040 | 6145 | |
| | | 97 (12) | 670 | 860 | 515 | 770 | 6860 | 14265 | |
| IN STOCK LSUBH3.25 | 6.00 | 33 (20) | 225 | 330 | 120 | 140 | 670 | 730 | 160 |
| | | 43 (18) | 250 | 395 | 155 | 285 | 1010 | 2075 | |
| | | 54 (16) | 265 | 395 | 180 | 330 | 1025 | 2565 | |
| SUBH3.25 | 6.00 | 33 (20) | 275 | 385 | 110 | 110 | 605 | 605 | IP1, L2 |
| | | 43 (18) | 295 | 525 | 230 | 250 | 1050 | 1205 | |
| | | 54 (16) | 350 | 550 | 275 | 415 | 1130 | 1700 | |
| MSUBH3.25 | 6.00 | 54 (16) | 565 | 895 | 385 | 430 | 1630 | 1695 | IP1, L2 |
| | | 68 (14) | 655 | 925 | 455 | 620 | 1860 | 2655 | |
| | | 97 (12) | 690 | 960 | 505 | 765 | 4070 | 4090 | |
| IN STOCK LSUBH3.25 | 8.00 | 43 (18) | 235 | 375 | 135 | 135 | 815 | 815 | 160 |
| | | 54 (16) | 250 | 375 | 180 | 260 | 1130 | 1130 | |
| | | 43 (18) | 255 | 570 | 190 | 190 | 505 | 535 | |
| SUBH3.25 | 8.00 | 54 (16) | 325 | 605 | 250 | 300 | 895 | 1025 | IP1, L2 |
| | | 54 (16) | 545 | 890 | 270 | 270 | 1025 | 1045 | |
| | | 68 (14) | 635 | 925 | 435 | 455 | 1400 | 1400 | |
| MSUBH3.25 | 8.00 | 97 (12) | 665 | 955 | 545 | 545 | 2465 | 2465 | IP1, L2 |

1. Allowable loads are for use when utilizing Allowable Stress Design methodology. For LRFD loads multiply the ASD tabulated values by 1.6.
2. Allowable brace strengths are based on ultimate test load divided by a safety factor. Serviceability limit is not considered, as brace stiffness requirements are given in section D3.3 of AISI S100-2007. Contact Simpson Strong-Tie if nominal brace strength is required.
3. Tabulated stiffness values apply to both ASD and LRFD designs.
4. Allowable loads consider bridging connection only. It is the responsibility of the Designer to verify the strength and serviceability of the framing members.
5. Min. fastener quantity and tabulated values – fill round hole (1 screw total); Max. fastener quantity and tabulated values – fill round and triangle holes (2 screws total).

