

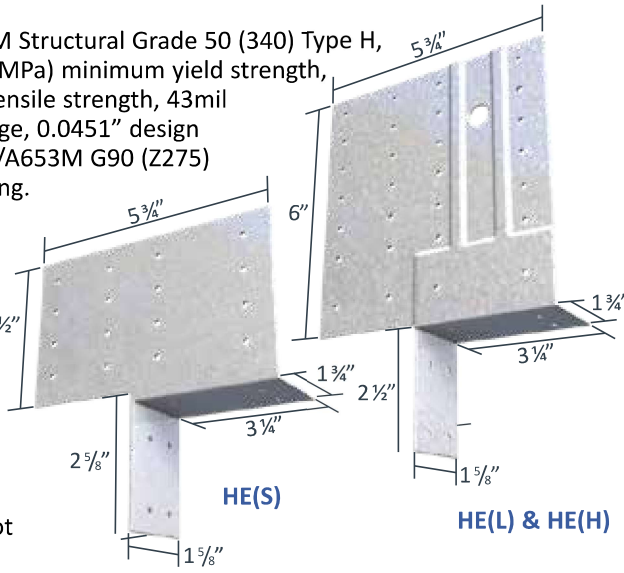
StiffClip® HE

Header Connector

Material Composition

HE(L): ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 43mil minimum thickness (18 gauge, 0.0451" design thickness) with ASTM A653/A653M G90 (Z275) hot dipped galvanized coating.

HE(H) & HE(S): ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 68mil minimum thickness (14 gauge, 0.0713" design thickness) with ASTM A653/A653M G90 (Z275) hot dipped galvanized coating.



US Patent #7,634,889

StiffClip HE Allowable Loads for a Single Clip: Screw Fasteners

StiffClip® HE(L), HE(H) & HE(S): F2 Load Direction (lbs)						
Screw Patterns with #10 Screws	HE(L)			HE(H) & HE(S)		
	4 screws	6 screws	8 screws	4 screws	6 screws	8 screws
33mil (20ga), 33ksi Stud	199	299	399	199	299	399
33mil (20ga), 50ksi Stud	287	431	574	287	431	574
43mil (18ga), 33ksi Stud	296	444	592	296	444	592
43mil (18ga), 50ksi Stud	428	627	627	428	642	856
54mil (16ga), 33ksi Stud	429	627	627	417	625	833
54mil (16ga), 50ksi Stud	564	627	627	601	902	1,088
68mil (14ga), 50ksi Stud	564	627	627	617	925	1,088
97mil (12ga), 50ksi Stud	564	627	627	617	925	1,088
Max Allowable Clip Load	627			1,088		

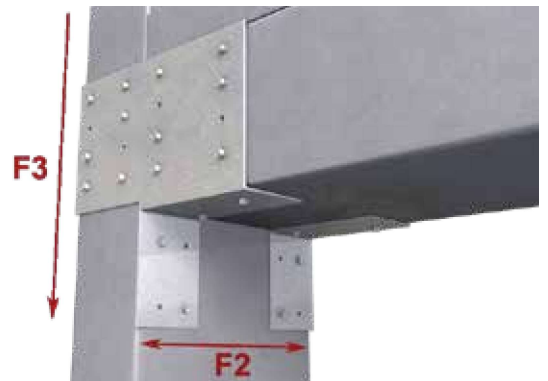
StiffClip® HE(L): F3 Load Direction (lbs)						
Screw Patterns with #10 Screws	HE(L)					
	8 screws	12 screws	16 screws	20 screws	24 screws	28 screws
33mil (20ga), 33ksi stud	536	708	873	1,090	1,239	1,340
33mil (20ga), 50ksi stud	773	1,020	1,257	1,571	1,785	1,930
43mil (18ga), 33ksi stud	797	1,052	1,297	1,620	1,841	1,991
43mil (18ga), 50ksi stud	1,151	1,520	1,873	2,341	2,660	2,877
54mil (16ga), 33ksi stud	1,154	1,524	1,878	2,347	2,667	2,884
54mil (16ga), 50ksi stud	1,518	2,004	2,470	3,066	3,066	3,066
68mil (14ga), 50ksi stud	1,518	2,004	2,470	3,066	3,066	3,066
97mil (12ga), 50ksi stud	1,518	2,004	2,470	3,066	3,066	3,066
Max Allowable Clip Load	3,066					

StiffClip® HE(H) & HE(S): F3 Load Direction (lbs)									
Screw Patterns with #10 Screws	HE(H)						HE(S)		
	8 Screws	12 Screws	16 Screws	20 Screws	28 Screws	24 Screws	8 Screws	12 Screws	16 Screws
33mil (20ga), 33ksi Stud	536	708	873	1,090	1,239	1,340	382	501	611
33mil (20ga), 50ksi Stud	773	1,020	1,257	1,571	1,785	1,930	551	722	880
43mil (18ga), 33ksi Stud	797	1,052	1,297	1,620	1,841	1,991	568	744	907
43mil (18ga), 50ksi Stud	1,151	1,520	1,873	2,341	2,660	2,877	821	1,075	1,311
54mil (16ga), 33ksi Stud	1,121	1,480	1,824	2,279	2,590	2,801	799	1,047	1,277
54mil (16ga), 50ksi Stud	1,618	2,136	2,633	3,289	3,738	4,042	1,153	1,511	1,842
68mil (14ga), 50ksi Stud	1,660	2,192	2,702	3,376	3,836	4,148	1,184	1,551	1,891
97mil (12ga), 50ksi Stud	1,660	2,192	2,702	3,376	3,836	4,148	1,184	1,551	1,891
Max Allowable Clip Load	5,545						2,968		

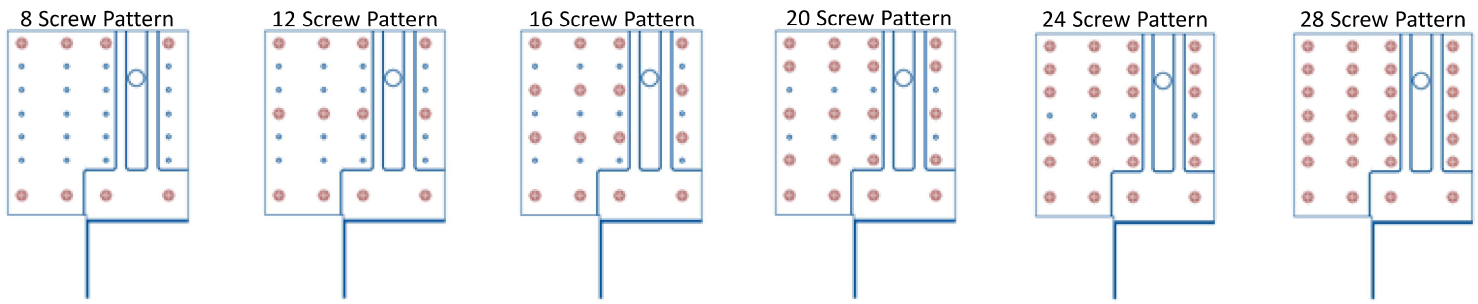
Load Table Notes:

1. Torsional effects are considered on screw group for F2 & F3 allowable loads. It is assumed that half of the torsional moment is taken by the connection on one side and half is taken by the connection on the other side of the clip.
2. Attachment to stud is made with screws symmetrically placed. All guide holes may not require fasteners. Fastener amount determined by designer.
3. Allowable loads have not been increased for wind, seismic, or other factors.
4. The minimum combination of steel thickness and yield strength must be used when determining the maximum design load.
5. Design loads listed consider both loads on the clip and the #10 screws fastened to the jamb and header members.
6. Refer to screw patterns on the following page.
7. For LRFD strengths contact TSN technical services.

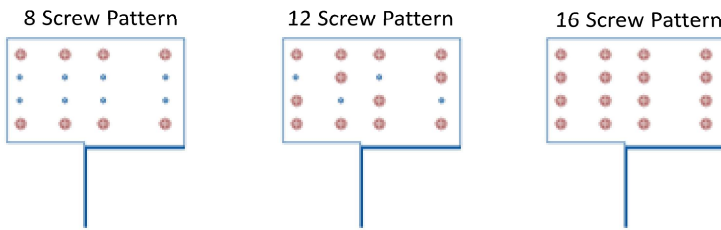
Load Direction



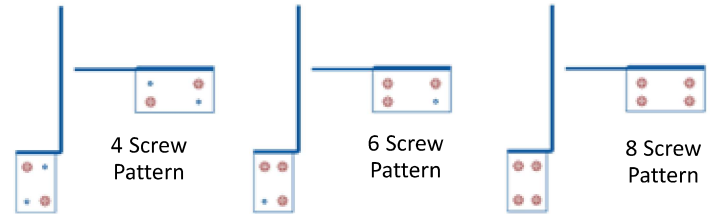
Screw Patterns for HE(L) & HE(H) F3 Load Tables



Screw Patterns for HE(S) F3 Load Tables



Screw Patterns for F2 Load Tables



Allowable Loads: Welded Connection

StiffClip® HE(H): F3 Load Direction - Welded	
HE(H)	
54mil (16ga), 50ksi Stud (And Thicker)	4,177

Notes:

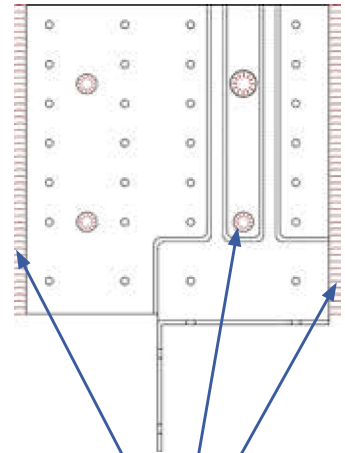
1. The standard StiffClip HE(H) clip does not include all four large holes in the web of the clip. Special orders for these clips can be made by request.
2. Allowable F3 welded values do not apply for the 43mil (18ga) StiffClip (HE(L)).
3. StiffClip HE(H) allowable F3 welded values are applicable to clips with welds around the perimeter of the single 1/2" diameter hole, three 3/8" diameter holes, and along each side of the clip. Weld size is not to exceed double the material thickness of the header or jamb, or 1/8". Care should be taken to not burn through the material.

Nomenclature

StiffClip HE is available in two thicknesses. The StiffClip HE(L) is 43mil (18ga), and the StiffClip HE(H) & HE(S) are both 68mil (14ga).

* Clips are packaged as pairs. Four StiffClip HE clips are used at each opening: two left-hand and two right-hand clips attach the complete header to the jamb.

Weld Diagram



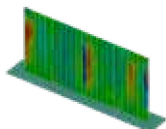
1/8" weld around three 3/8" diameter holes, one 1/2" diameter hole, with 1/8" welds along each side.



HE(S)



HE(L) & HE(H)



StiffClip HE Series
Blast and Seismic Design Data
www.steelnetwork.com

** For more information or to review a copy of this report, please visit our website at <http://www.steelnetwork.com/light-steel-framing-design-resources>