

StiffClip® LB

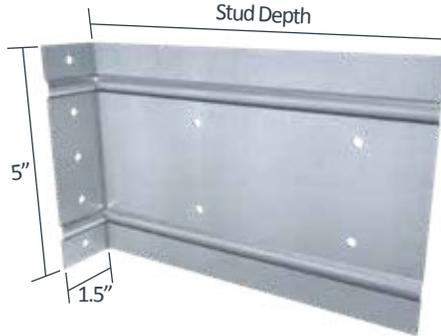
Spandrel Wall Bypass



Material Composition

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.

The attachment of StiffClip LB to the primary structure may be made with PAFs, screw/bolt anchors or weld and is dependent upon the base material (steel or concrete) and the design configuration.



StiffClip LB Allowable Loads

StiffClip® LB, Recommended Allowable Load (lbs):													
Screw Patterns with #12 Screws	F1 Load Direction												
	LB362			LB600			LB800 (Standard 2" Offset)			LB1000 (Standard 2" Offset) LB1200 (Standard 2" Offset)		LB1000 (4" Offset)	
	Pattern 1: 2 Screws	Pattern 2: 3 Screws	Pattern 3: 4 Screws	Pattern 1: 2 Screws	Pattern 2: 3 Screws	Pattern 3: 4 Screws	Pattern 1: 2 Screws	Pattern 2: 3 Screws	Pattern 3: 4 Screws	Pattern 9: 2 Screws	Pattern 10: 3 Screws	Pattern 11: 4 Screws	Pattern 12: 4 Screws
33mil (20ga), 33ksi Stud	376	190	190	95	190	190	95	190	190	95	190	190	190
33mil (20ga), 50ksi Stud	544	276	276	138	276	276	138	276	276	138	276	276	276
43mil (18ga), 33ksi Stud	560	248	248	124	248	248	124	248	248	124	248	248	248
43mil (18ga), 50ksi Stud	810	358	358	179	358	358	179	322	322	179	358	358	358
54mil (16ga), 33ksi Stud	788	312	312	156	312	312	156	312	312	156	312	312	312
54mil (16ga), 50ksi Stud	1,138	450	450	225	450	450	225	322	322	225	450	450	450
68mil (14ga), 50ksi Stud	1,434	568	568	284	568	568	284	322	322	284	532	532	532
97mil (12ga), 50ksi Stud	1,434	741	741	405	768	768	322	322	322	405	532	532	532
Maximum Allowable Clip Load	741			768			322			532		532	

StiffClip® LB, Recommended Allowable Load (lbs):						
Screw Patterns with #12 Screws	F2 Load Direction					
	LB362, LB600, and LB800			LB1000 (Standard 2" & 4" Offset) LB1200 (Standard 2" Offset)		
	Pattern 1: 2 Screws	Pattern 2: 3 Screws	Pattern 3: 4 Screws	Pattern 9: 2 Screws	Pattern 10: 3 Screws	Pattern 11: 4 Screws
33mil (20ga), 33ksi Stud	376	411	752	376	549	752
33mil (20ga), 50ksi Stud	544	594	1,088	544	794	1,062
43mil (18ga), 33ksi Stud	560	612	1,120	560	818	1,062
43mil (18ga), 50ksi Stud	810	885	1,620	810	1,062	1,062
54mil (16ga), 33ksi Stud	788	860	1,576	788	1,062	1,062
54mil (16ga), 50ksi Stud	1,138	1,243	1,954	1,062	1,062	1,062
68mil (14ga), 50ksi Stud	1,434	1,566	1,954	1,062	1,062	1,062
97mil (12ga), 50ksi Stud	1,434	1,566	1,954	1,062	1,062	1,062
Maximum Allowable Clip Load	1,954			1,062		

StiffClip® LB, Recommended Allowable Load (lbs):											
Screw Patterns with #12 Screws	F3 Load Direction										
	LB362			LB600			LB800 (Standard 2" Offset)				
	Pattern 1: 2 Screws	Pattern 2: 3 Screws	Pattern 3: 4 Screws	Pattern 1: 2 Screws	Pattern 2: 3 Screws	Pattern 3: 4 Screws	Pattern 1: 2 Screws	Pattern 2: 3 Screws	Pattern 3: 4 Screws	Pattern 4: 6 Screws	Pattern 5: 10 Screws
33mil (20ga), 33ksi Stud	235	340	468	216	301	431	186	248	399	534	793
33mil (20ga), 50ksi Stud	340	492	677	313	435	623	269	359	577	772	1,148
43mil (18ga), 33ksi Stud	350	507	697	322	448	641	277	370	594	795	1,182
43mil (18ga), 50ksi Stud	506	733	1,008	466	648	927	401	535	859	1,150	1,709
54mil (16ga), 33ksi Stud	493	713	981	453	630	902	390	520	835	1,119	1,663
54mil (16ga), 50ksi Stud	711	1,030	1,417	654	910	1,303	563	751	1,206	1,616	2,401
68mil (14ga), 50ksi Stud	896	1,298	1,785	825	1,147	1,642	710	946	1,520	2,036	3,026
97mil (12ga), 50ksi Stud	896	1,298	1,785	825	1,147	1,642	710	946	1,520	2,036	3,026
Maximum Allowable Clip Load	2,662			1,923			1,895		3,870		

**StiffClip LB Allowable Load tables and important notes continued on next page.

Nomenclature

StiffClip LB is available for various stud depths. To specify, multiply stud depth by 100.

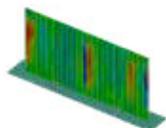
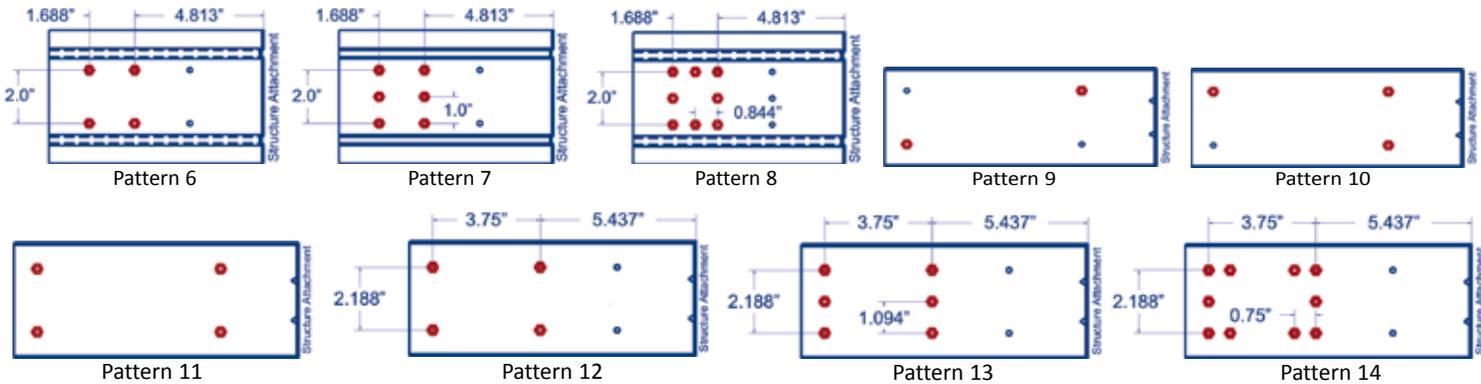
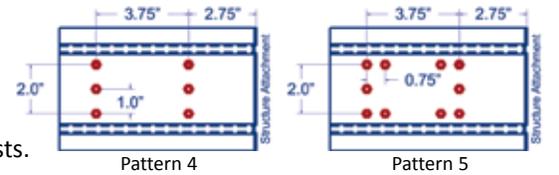
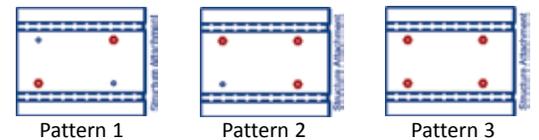
Example: 6" stud depth
Designate: StiffClip® LB600

StiffClip® LB, Recommended Allowable Load (lbs):												
Screw Patterns with #12 Screws	F3 Load Direction											
	LB800 (4" Offset)			LB1000 (Standard 2" Offset)			LB1000 (4" Offset)			LB1200 (STANDARD 2" OFFSET)		
	Pattern 6: 4 Screws	Pattern 7: 6 Screws	Pattern 8: 8 Screws	Pattern 1: 2 Screws	Pattern 2: 3 Screws	Pattern 3: 4 Screws	Pattern 12: 4 Screws	Pattern 13: 6 Screws	Pattern 14: 10 Screws	Pattern 9: 2 Screws	Pattern 10: 3 Screws	Pattern 11: 4 Screws
33mil (20ga), 33ksi Stud	259	331	417	216	301	431	290	410	602	211	291	421
33mil (20ga), 50ksi Stud	375	479	604	313	435	623	419	593	870	305	422	609
43mil (18ga), 33ksi Stud	386	493	622	322	448	641	431	610	896	314	434	627
43mil (18ga), 50ksi Stud	559	713	899	466	648	927	624	883	1,192	454	628	907
54mil (16ga), 33ksi Stud	544	693	875	453	630	902	607	859	1,192	441	611	883
54mil (16ga), 50ksi Stud	785	1,001	1,263	654	910	1,303	876	1,192	1,192	637	882	1,275
68mil (14ga), 50ksi Stud	989	1,262	1,561	825	1,147	1,642	1,104	1,192	1,192	803	1,111	1,606
97mil (12ga), 50ksi Stud	989	1,262	1,561	825	1,147	1,642	1,104	1,192	1,192	803	1,111	1,606
Maximum Allowable Clip Load	1,561			1,923			1,192			1,902		

Load Table Notes:

1. Design loads are for attachment of StiffClip LB to stud only. Load tables reflect in plane of wall loads (F1), horizontal loads (F2) and vertical loads (F3).
2. Design loads consider loads on the clip and #12 screw fasteners to the stud web.
3. Loads listed reflect force in a single direction. When multiple loads react on the connection, it is the responsibility of the designer to check the interaction of forces.
4. Torsional effects are considered on screw group for F3 allowable loads. It is assumed that half of the torsional moment is taken by the connection to the structure and half is taken by the connection to the stud.
5. Attachment to structure engineered by others.
6. Allowable loads have not been increased for wind, seismic, or other factors.
7. Allowable load tables incorporate eccentric loading of fasteners. Values with a welded connection may increase.
8. Fasten within 3/4" from the angle heel (centerline of the 1-1/2" leg) to minimize eccentric load transfer.
9. Strengthening ribs are present in 3-5/8", 6", and 8" clip sizes. 10" and 12" clip sizes contain 1/2" return lips on the top and bottom of the leg attaching to the stud for increased stiffness.
10. For LRFD strengths contact TSN technical services.

Load Direction



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

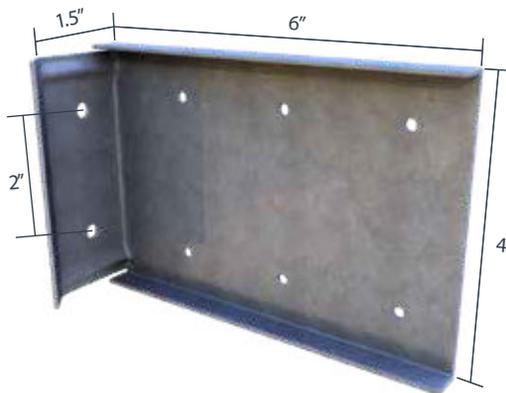
** For more information or to review a copy of this report, please visit our website at <http://www.steelnetwork.com/light-steel-framing-design-resources>

StiffClip® LB-HD

Spandrel Wall Bypass for Seismic Conditions

Material Composition

ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340 MPa) minimum yield strength, 65ksi minimum tensile strength, 68mil minimum thickness (14 gauge, 0.0713" design thickness) with ASTM A653/653M G90 (Z275) hot dipped galvanized coating.



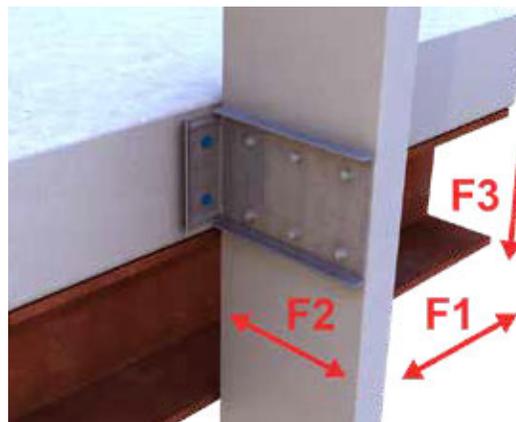
StiffClip LB-HD Allowable Loads

StiffClip® LB-HD, Recommended Allowable Load (lbs): F1, F2 & F3									
Screw Patterns with #12 Screws	F1 Load Direction			F2 Load Direction			F3 Load Direction		
	LB600-HD			LB600-HD			LB600-HD		
	3 Screws	4 Screws	6 Screws	3 Screws	4 Screws	6 Screws	3 Screws	4 Screws	6 Screws
33mil (20ga), 33ksi Stud	190	190	190	522	752	1,128	317	449	598
33mil (20ga), 50ksi Stud	276	276	276	755	1,088	1,130	459	650	865
43mil (18ga), 33ksi Stud	248	248	248	777	1,120	1,130	472	669	891
43mil (18ga), 50ksi Stud	358	358	358	1,124	1,130	1,130	683	967	1,289
54mil (16ga), 33ksi Stud	312	312	312	1,094	1,130	1,130	664	941	1,254
54mil (16ga), 50ksi Stud	450	450	450	1,130	1,130	1,130	959	1,359	1,810
68mil (14ga), 50ksi Stud	568	568	568	1,130	1,130	1,130	1,209	1,712	1,966
97mil (12ga), 50ksi Stud	810	810	810	1,130	1,130	1,130	1,209	1,712	1,966
Maximum Allowable Clip Load	857			1,130			1,966		

Load Table Notes:

- Design loads are for attachment of StiffClip LB-HD to stud only. Load tables reflect in plane of wall loads (F1), horizontal loads (F2) and vertical loads (F3).
- Design loads consider loads on the clip and #12 screw fasteners to the stud web.
- Loads listed reflect force in a single direction. When multiple loads react on the connection, it is the responsibility of the designer to check the interaction of forces.
- Torsional effects are considered on screw group for F3 allowable loads. It is assumed that half of the torsional moment is taken by the connection to the structure and half is taken by the connection to the stud.
- Attachment to structure engineered by others.
- Allowable loads have not been increased for wind, seismic, or other factors.
- Guideholes for stud connection are 0.172" diameter for #12 screws. Guideholes for structure connection are 3/8" diameter for (2) 1/4" diameter anchors.
- Fasten within 3/4" from the angle heel (centerline of the 1-1/2" leg) to minimize eccentric load transfer.
- For LRFD strengths contact TSN technical services.

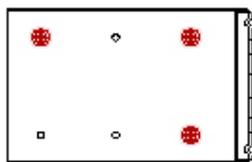
Load Direction



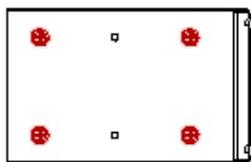
Nomenclature

StiffClip LB-HD is designed to be used with 6" studs and is designated *StiffClip® LB600-HD*

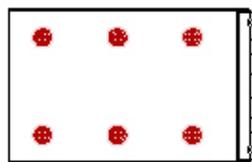
Screw Patterns



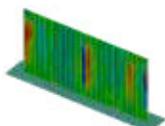
3 Screw Pattern



4 Screw Pattern



6 Screw Pattern



StiffClip LB-HD Series
Blast and Seismic Design Data
www.steelnetwork.com

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