

MasterClip® VLB

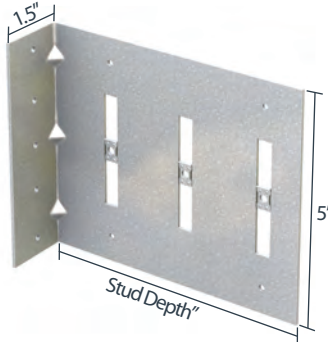
Bypass Slab

The Steel Network, Inc.
www.steelnetwork.com
1-888-474-4876



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.

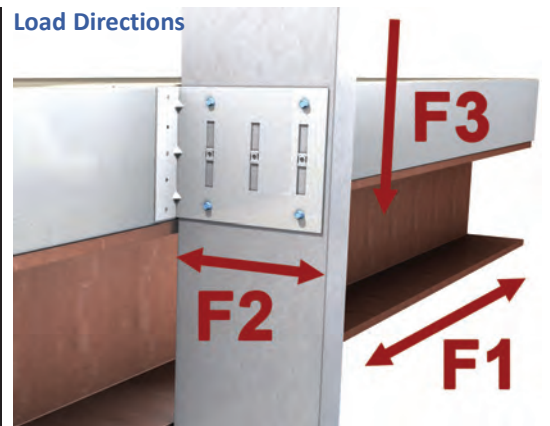


US Patents #8,181,419, #8,683,770 & #10,132,341

MasterClip VLB Allowable Loads

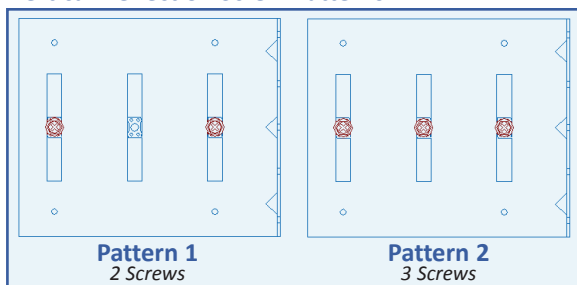
Rigid Connection: F1, F2, & F3 Load Directions										
Screw Patterns with #12 Screws	F1 Rigid Connection		F2 Rigid Connection			F3 Rigid Connection				
	VLB600	VLB800	VLB600	VLB600 & VLB800		VLB600			VLB800	
	3-4 Screws	3-4 Screws	2 Screws	3 Screws	4 Screws	2 Screws	3 Screws	4 Screws	3 Screws	4 Screws
33mil (20ga), 33ksi stud	191	182	377	565	754	251	377	503	332	441
33mil (20ga), 50ksi stud	275	182	544	817	1,089	362	544	727	479	637
43mil (18ga), 33ksi stud	248	182	561	841	1,122	373	561	749	494	656
43mil (18ga), 50ksi stud	359	182	810	1,215	1,620	539	810	1,082	713	948
54mil (16ga), 33ksi stud	312	182	789	1,183	1,577	524	789	1,053	694	923
54mil (16ga), 50ksi stud	450	182	1,139	1,709	1,811	757	1,139	1,521	1,002	1,269
68mil (14ga), 50ksi stud	536	182	1,610	1,811	1,811	1,071	1,610	1,792	1,269	1,269
97mil (12ga), 50ksi stud	536	182	1,698	1,811	1,811	1,129	1,698	1,792	1,269	1,269
Max Allowable Clip Load	536	182	1,811			1,792			1,269	

Vertical Deflection: F1 & F2 Load Directions				
Screw Patterns with #12 Screws	F1 - Deflection Connection		F2 - Deflection Connection	
	VLB600	VLB800	VLB600 & VLB800	
	2-3 Screws	2-3 Screws	2 Screws	3 Screws
33mil (20ga), 33ksi stud	95	95	377	565
33mil (20ga), 50ksi stud	138	107	544	817
43mil (18ga), 33ksi stud	124	107	561	841
43mil (18ga), 50ksi stud	179	107	810	1,215
54mil (16ga), 33ksi stud	156	107	789	1,183
54mil (16ga), 50ksi stud	225	107	1,139	1,567
68mil (14ga), 50ksi stud	227	107	1,567	1,567
97mil (12ga), 50ksi stud	227	107	1,567	1,567
Max Allowable Clip Load	227	107	1,567	

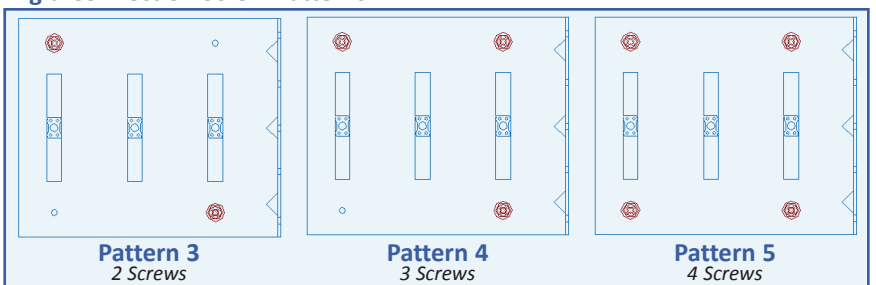


****Important notes for MasterClip VLB Allowable Load tables continued on next page.**

Vertical Deflection Screw Patterns



Rigid Connection Screw Patterns



Notes:

- Allowable load tables incorporate eccentric loading of fasteners. Values with a welded connection may increase.
- Fasten within ¾" of the angle heel (centerline of the 1½" leg) to minimize eccentric load transfer.
- Fasteners attaching clips to structure should be installed symmetrically around the center line of the clip. The allowable load of the clip may be reduced if fasteners are not installed symmetrically.
- Guide holes in the 1 ½" leg measure 0.141" in diameter.
- Total vertical deflection up to 2" (1" up and 1" down).
- Allowable loads have not been increased for wind, seismic, or other factors.
- MasterClip VLB resists horizontal and vertical loads when used as a rigid connector.
- 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 the 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 screw connection to the stud.
- Design loads consider loads on the clip and #12 screw fasteners to the stud web.
- (3) #12 screws are provided with each connector (based on number of integrated breakaway step bushings). Load requirements don't always require the use of all screws provided.
- Three slots are standard in 6" and higher web depths to accommodate construction tolerances. Use of a 3rd screw and bushing is dependent upon load requirements.

Nomenclature

MasterClip VLB is designated by type (VLB), followed by stud depth in inches multiplied by 100.

Example: 6" stud.

Designate: MasterClip® VLB600

Example Details

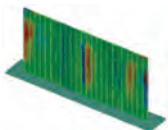
The attachment of MasterClip to the primary structure may be made with PAFs, screw/bolt anchors or welds and is dependent upon the base material (steel, concrete or CMU) and the design configuration.



MasterClip® VLB used for Vertical Deflection



MasterClip® VLB used as Rigid Connection



MasterClip VLB 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/Site/TechnicalData>