

MasterClip™ VLB

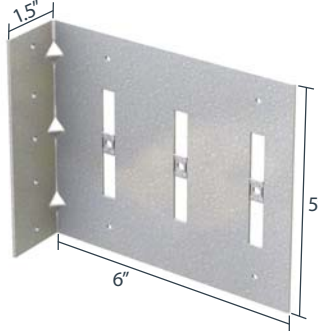
Bypass Slab



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 MasterClip™ to the primary structure may be made with a PAF, screw/bolt anchors or weld and is dependent upon the base material (steel or concrete) and the design configuration.

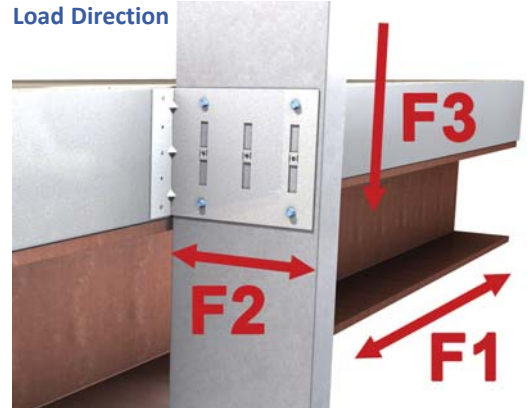


US Patents #8,181,419, #8,683,770 & Pending

MasterClip VLB Allowable Loads

MasterClip™ VLB, Recommended Allowable Load (lbs), For VERTICAL DEFLECTION: F1 & F2

Stud Thickness Mils (ga)	Yield Strength (ksi)	F1 Load Direction		F2 Load Direction	
		w/2-3 #12 Screws		w/3 #12 Screws	
		Patterns 1 & 2	Pattern 1	Pattern 1	Pattern 2
33 (20)	33	95	377	565	
33 (20)	50	138	544	817	
43 (18)	33	124	561	841	
43 (18)	50	179	810	1,215	
54 (16)	33	156	789	1,183	
54 (16)	50	225	1,139	1,567	
68 (14)	50	227	1,567	1,567	
97 (12)	50	227	1,567	1,567	
Maximum Allowable Clip Load		227	1,567		

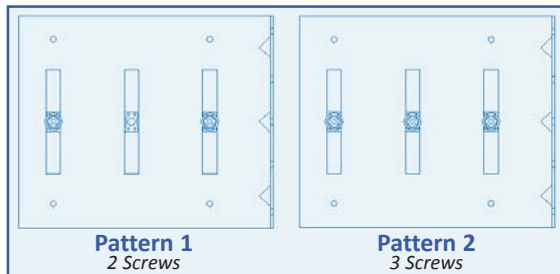


MasterClip™ VLB, Recommended Allowable Load (lbs), For RIGID CONNECTION: F1, F2 & F3

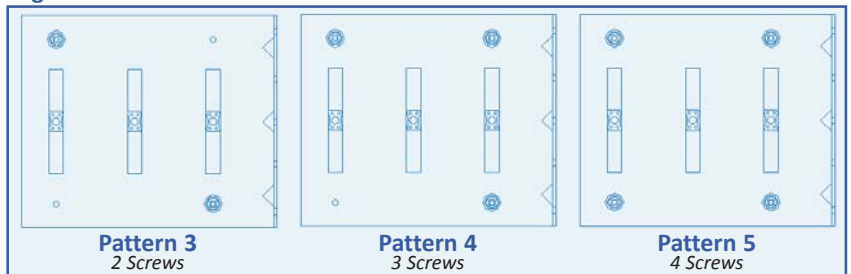
Stud Thickness Mils (ga)	Yield Strength (ksi)	F1 Load Direction				F2 Load Direction		F3 Load Direction			
		w/3-4 #12 Screws		w/2 #12 Screws		w/3 #12 Screws		w/4 #12 Screws			
		Patterns 4 & 5	Pattern 3	Pattern 4	Pattern 5	Pattern 3	Pattern 4	Pattern 5	Pattern 3	Pattern 4	Pattern 5
33 (20)	33	191	376	565	752	251	377	503			
33 (20)	50	275	544	817	1,089	362	544	727			
43 (18)	33	248	560	841	1,120	373	561	749			
43 (18)	50	359	810	1,215	1,620	539	810	1,082			
54 (16)	33	312	788	1,183	1,576	524	789	1,053			
54 (16)	50	450	1,138	1,709	1,954	757	1,139	1,521			
68 (14)	50	536	1,610	1,954	1,954	1,071	1,610	1,792			
97 (12)	50	536	1,698	1,954	1,954	1,129	1,698	1,792			
Maximum Allowable Clip Load		536	1,954			1,792					

****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 welded connection may increase.
- Fasten within $\frac{3}{4}$ " from the angle heel (centerline of the $1\frac{1}{2}$ " leg) to minimize eccentric load transfer.
- Fasteners attaching clip 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 $1\frac{1}{2}$ " leg measure 0.141" in diameter.
- Total vertical deflection of 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 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.
- Design loads consider loads on the clip and #12 screw fasteners to the stud web.
- (3) #12 screws are provided with each connector to be used for either vertical deflection connector or rigid connector step bushing. Load requirements don't always justify 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 configuration.

Nomenclature

MasterClip VLB is currently available in one size for use with 6" stud depths and is designated *MasterClip™ VLB600*.

Example: 6" stud.

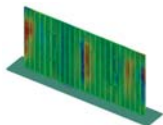
Designate: *MasterClip™ VLB600*

Example Details

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>