StiffClip® TD

Uplift Connector

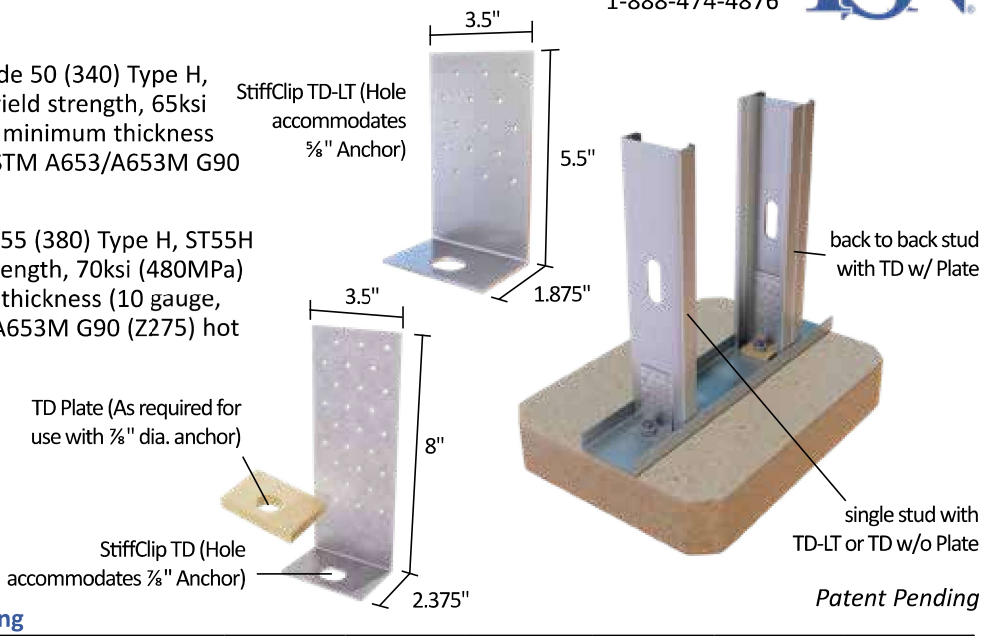
The Steel Network, Inc.
www.steelnetwork.com
1-888-474-4876

Material Composition

TD-LT: ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 118mil minimum thickness (10 gauge, 0.1242" design thickness) with ASTM A653/A653M G90 (Z275) hot dipped galvanized coating.

TD: ASTM A1003/A1003M Structural Grade 55 (380) Type H, ST55H (ST380H): 55ksi (380MPa) minimum yield strength, 70ksi (480MPa) minimum tensile strength, 118mil minimum thickness (10 gauge, 0.1242" design thickness) with ASTM A653/A653M G90 (Z275) hot dipped galvanized coating.

TD Plate: ASTM A36/A36M: 36ksi (250MPa) minimum yield strength, 58-80ksi (400-550MPa) minimum tensile strength, with ASTM B633 Type II Yellow Zinc Coating, Paint, Powder Coating, or E-Coating, or approved equivalent.



Patent Pending

StiffClip TD Allowable Loads for Steel Framing

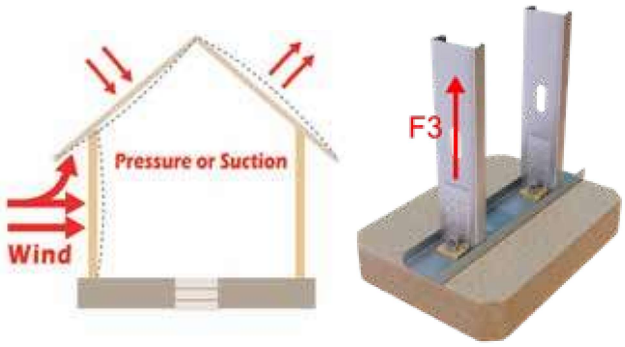
StiffClip® TD, Recommended Allowable Loads for Steel Framing (lbs): F3 Load Direction

	TD-LT			TD w/o Plate			TD w/ Plate		
Screw Patterns with #12 Screws	**4 Screws**	**6 Screws**	**8 Screws**	**6 Screws**	**8 Screws**	**12 Screws**	**12 Screws**	**18 Screws**	**27 Screws**
33mil (20ga), 33ksi Stud	752	1,128	1,504	1,128	1,504	2,256	2,256	3,384	5,076
33mil (20ga), 50ksi Stud	1,088	1,632	2,176	1,632	2,176	3,264	3,264	4,896	7,344
43mil (18ga), 33ksi Stud	1,120	1,680	2,240	1,680	2,240	3,360	3,360	5,040	7,560
43mil (18ga), 50ksi Stud	1,620	2,430	3,240	2,430	3,240	4,412	4,860	7,290	9,826
54mil (16ga), 33ksi Stud	1,576	2,364	3,152	2,364	3,152	4,412	4,728	7,092	9,826
54mil (16ga), 50ksi Stud	2,276	3,414	3,764	3,414	4,412	4,412	6,828	9,826	9,826
68mil (14ga), 50ksi Stud	2,868	3,764	3,764	4,302	4,412	4,412	8,604	9,826	9,826
97mil (12ga), 50ksi Stud	2,868	3,764	3,764	4,302	4,412	4,412	8,604	9,826	9,826
Maximum Allowable Clip Load	**3,764**			**4,412**			**9,826**		

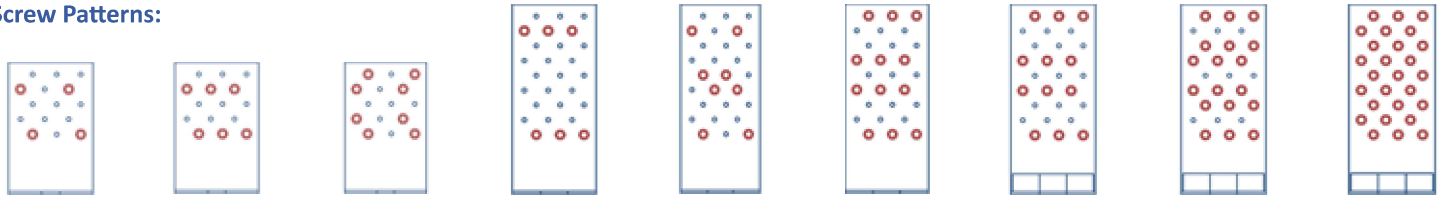
Table Notes:

1. Design loads are for attachment of StiffClip TD to stud only. Load tables reflect vertical loads (F3).
2. Design loads consider loads on the clip and #12 screw fasteners to the stud web for steel framing.
3. Attachment to structure engineered by others.
4. Allowable loads have not been increased for wind, seismic, or other factors.
5. Fasten within 1-1/4" from the heel angle using the existing anchor hole.
6. Guide holes are in place for fastener installation efficiency. The number of fasteners are determined by the designer.
7. Attachment to stud is made with up to 27 #12 screws, symmetrically place.
8. For LRFD strengths contact TSN technical services.

Load Directions:



Screw Patterns:



TD-LT Plate *4 Screws* | **TD-LT Plate** *6 Screws* | **TD-LT Plate** *8 Screws* | **TD w/o Plate** *6 Screws* | **TD w/o Plate** *8 Screws* | **TD w/o Plate** *12 Screws* | **TD w/ Plate** *12 Screws* | **TD w/ Plate** *18 Screws* | **TD w/ Plate** *27 Screws*

StiffClip TD Allowable Loads

StiffClip® TD-LT, Recommended Allowable Loads for Wood Framing (lbs): F3						
Screw/Nail Patterns	Douglas Fir / Southern Yellow Pine			Spruce Pine-Fir / Hem-Fir		
	8 Fasteners	12 Fasteners	18 Fasteners	8 Fasteners	12 Fasteners	18 Fasteners
10d Nails	1,830	2,746	3,764	1,472	2,208	3,312
16d Nails	2,125	3,187	3,764	1,715	2,573	3,764
#12 Wood Screw	2,227	3,764	3,764	1,792	2,688	3,764
Maximum Allowable Clip Load	**3,764**			**3,764**		

StiffClip® TD w/o Plate, Recommended Allowable Loads for Wood Framing (lbs): F3						
Screw/Nail Patterns	Douglas Fir / Southern Yellow Pine			Spruce Pine-Fir / Hem-Fir		
	8 Fasteners	12 Fasteners	18 Fasteners	8 Fasteners	12 Fasteners	18 Fasteners
10d Nails	1,830	2,746	4,118	1,472	2,208	3,312
16d Nails	2,125	3,187	4,412	1,715	2,573	3,859
#12 Wood Screw	2,227	3,341	4,412	1,792	2,688	4,032
Maximum Allowable Clip Load	**4,412**			**4,412**		

StiffClip® TD w/ Plate, Recommended Allowable Loads for Wood Framing (lbs): F3						
Screw/Nail Patterns	Douglas Fir / Southern Yellow Pine			Spruce Pine-Fir / Hem-Fir		
	8 Fasteners	12 Fasteners	18 Fasteners	8 Fasteners	12 Fasteners	18 Fasteners
10d Nails	2,746	4,118	6,178	2,208	3,312	4,968
16d Nails	3,187	4,781	7,171	2,573	3,859	5,789
#12 Wood Screw	3,341	5,011	7,517	2,688	4,032	6,048
Maximum Allowable Clip Load	**9,826**			**9,826**		

Table Notes:

1. Design loads are for attachment of StiffClip TD to stud only. Load tables reflect vertical loads (F3).
2. Design loads consider loads on the clip and listed fasteners to the stud web for wood framing.
3. Attachment to structure engineered by others.
4. Allowable shear for nails and screws is increased 60% for wind and seismic loads in wood framing.
5. Fasten within 1-1/4" from the heel angle using the existing anchor hole.
6. Guide holes are in place for fastener installation efficiency. The number of fasteners are determined by the designer.
7. Attachment to stud is made with up to 27 #12 screws, symmetrically place.
8. For wood with moisture content > 19%, consult The Steel Network, Inc. for reduction in values.
9. For LRFD strengths contact TSN technical services.

Nomenclature

StiffClip TD-LT is available in one size without the use of the 'TD Plate'. Contact TSN about installation with alternate anchor sizes.

StiffClip TD is available in one size and can be used with or without a ¾" plate on top of the 2 ⅜" leg. Anchor hole accommodates ⅞" diameter anchor.

Example: 6" stud, ⅝" dia. anchor to concrete, holddown without plate
Designate: StiffClip® TD-LT

Example: 8" stud, ⅞" dia. anchor to concrete, holddown with plate
Designate: StiffClip® TD w/ Plate

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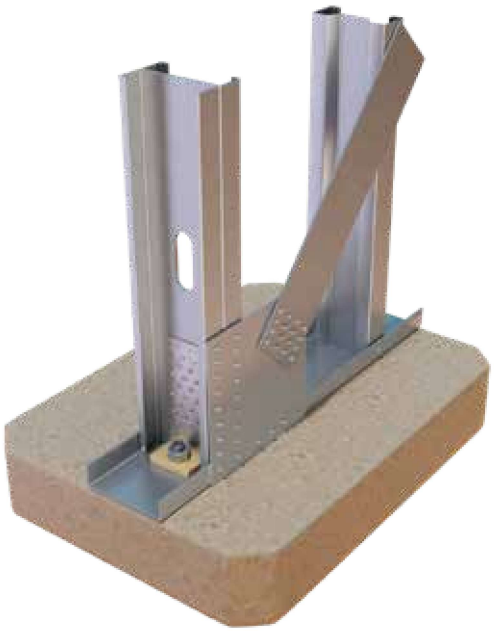
Steel Example Details

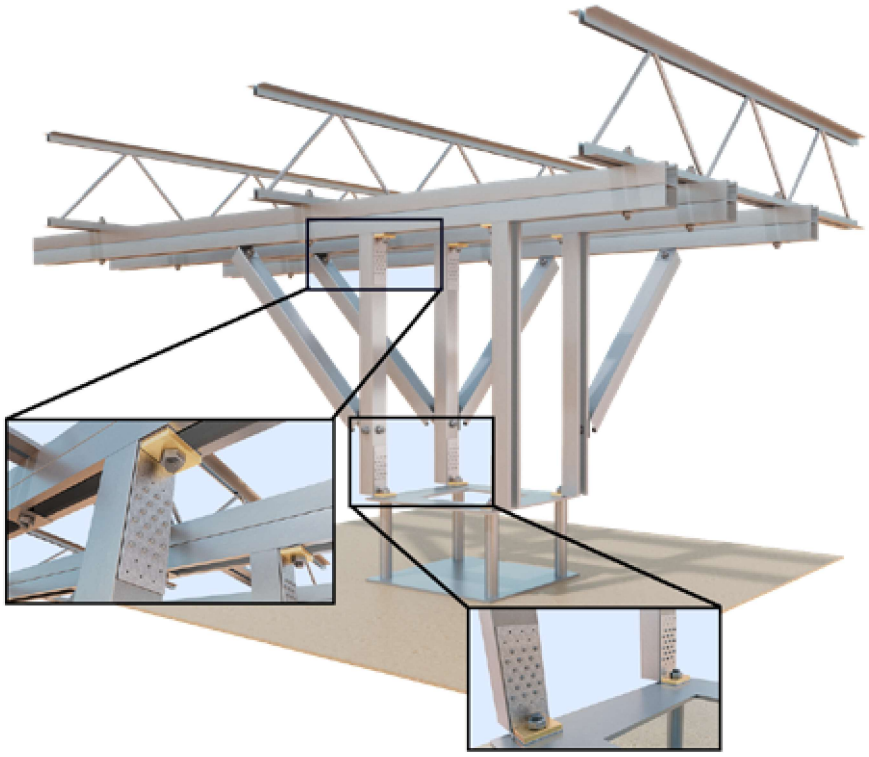
Stud Tie Down	X-Brace Shear Wall Column Anchor
	

Wood Example Details

Wood Stud Tie Down	Shear Wall Column Anchor (Wood Framing)
	

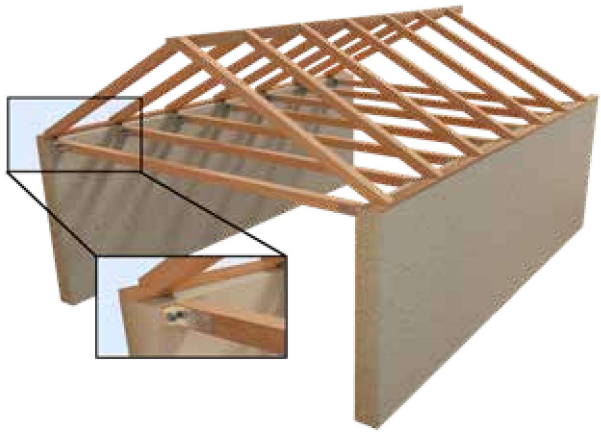
Other Example Details

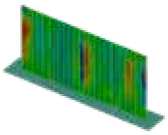
Medical Equipment Anchor



Joist/Truss Top Chord Anchor

Tension Tie Anchor





StiffClip TD 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® PLC

Panel Lift Clip

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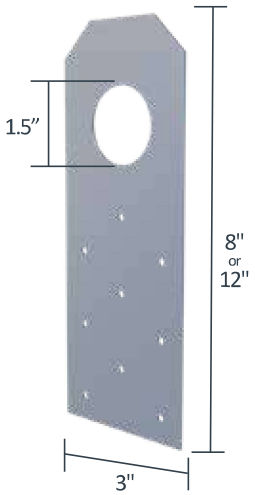
Material Composition

ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 97mil minimum thickness (12 gauge, 0.1017" design thickness) with ASTM A653/A653M G90 (Z275) hot dipped galvanized coating.



StiffClip PLC Allowable Loads

StiffClip® PLC, Recommended Allowable Load for Steel Framing (lbs): F3 & F2												
Screw Patterns with #10 Screws	F2 Load Direction						F3 Load Direction					
	PLC-8-97			PLC-12-97			PLC-8-97			PLC-12-97		
	3 Screws	6 Screws	9 Screws	5 Screws	9 Screws	15 Screws	3 Screws	6 Screws	9 Screws	5 Screws	9 Screws	15 Screws
33mil (20ga), 33ksi Stud	106	306	373	166	237	517	531	1,062	1,361	885	1,361	1,361
33mil (20ga), 50ksi Stud	153	441	537	239	341	745	765	1,361	1,361	1,275	1,361	1,361
43mil (18ga), 33ksi Stud	158	455	554	247	352	768	789	1,361	1,361	1,315	1,361	1,361
43mil (18ga), 50ksi Stud	228	658	800	356	509	1,110	1,140	1,361	1,361	1,361	1,361	1,361
54mil (16ga), 33ksi Stud	222	641	779	347	495	1,081	1,110	1,361	1,361	1,361	1,361	1,361
54mil (16ga), 50ksi Stud	320	924	1,125	501	715	1,156	1,361	1,361	1,361	1,361	1,361	1,361
68mil (14ga), 50ksi Stud	329	949	1,154	514	734	1,156	1,361	1,361	1,361	1,361	1,361	1,361
97mil (12ga), 50ksi Stud	329	949	1,154	514	734	1,156	1,361	1,361	1,361	1,361	1,361	1,361
118mil (10ga), 50ksi Stud	329	949	1,154	514	734	1,156	1,361	1,361	1,361	1,361	1,361	1,361
Maximum Allowable Clip Load	1,156						1,361					

Load Table Notes:

1. Design loads consider loads on the clip and #10 screw fasteners to steel framing.
2. Spacing between clips to be controlled by the weight of panel and presence of a spreader bar or a load distribution member
3. For screw patterns other than standard patterns shown, contact TSN technical services.
4. For LRFD strengths contact TSN technical services.

Load Direction