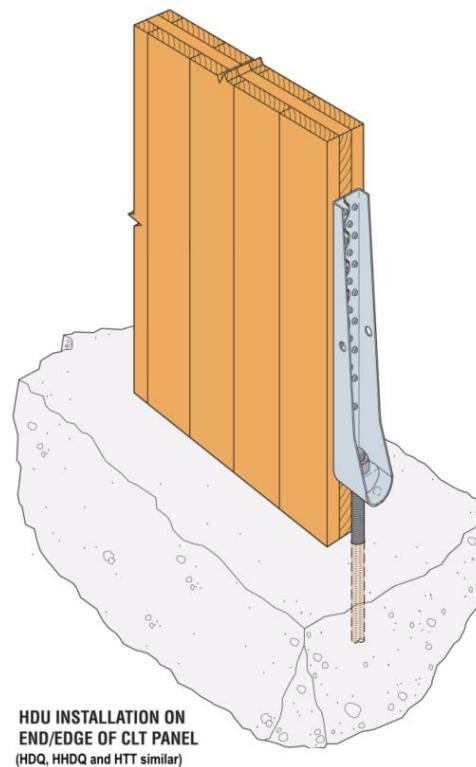
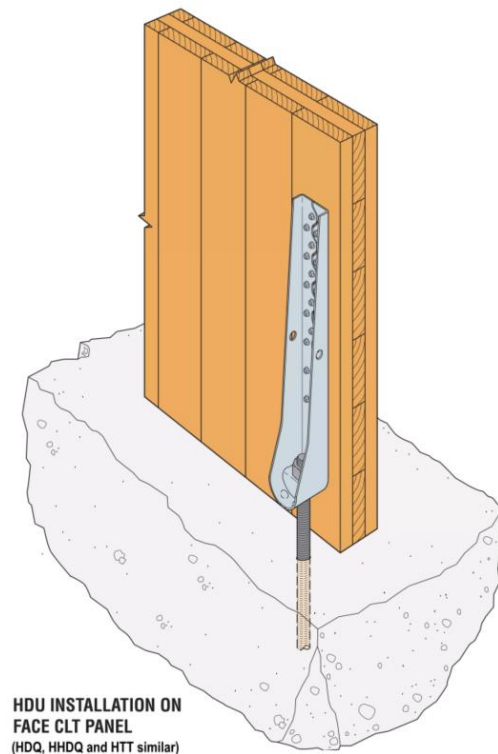


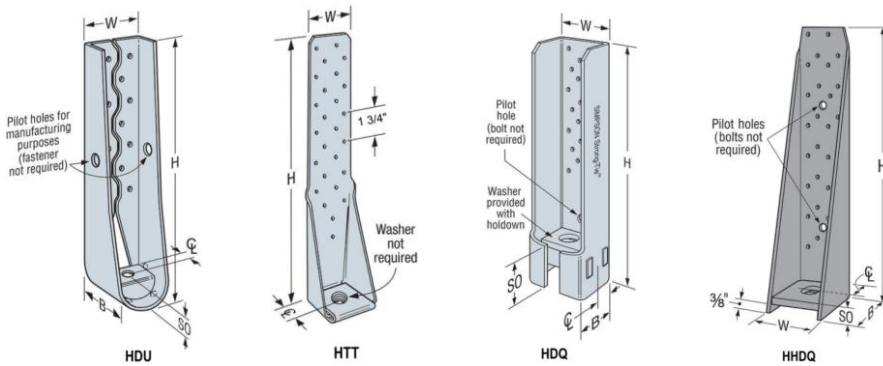
January 29, 2024

Re: Simpson Strong-Tie® Holdowns on Cross-Laminated Timber Panels

Simpson Strong-Tie evaluated the HDQ/HHDQ, HDU and HTT Holdowns in Cross-Laminated Timber Panel (CLT) applications installed with SD and SDS screws. The following illustrations and tables illustrate face and end/edge holdown installations on CLT and provide the Allowable Tension Loads and Deflection at maximum Allowable Load for face and end/edge installations. For holdowns installed on face of the CLT panel, full catalog loads apply. Based on testing completed at the Simpson Strong-Tie IAS accredited test lab, holdowns installed on the end/edge of 3-ply CLT panels require a reduction factor of 0.67 be applied to the catalog loads as shown in tables on page 2. Higher loads for end/edge installations require the use of 1/4" x 6" long SDS screws (not supplied with the holdown). See footnote 2 in following tables for more information.

Testing was performed on 3-ply CLT panels where each layer was 1.375" thick. 3-ply CLT panels with 0.67" thick minor (tangential) layer were also evaluated with similar results. The published allowable tension loads in tables shown on page 2 are applicable to 3, 5, 7 and 9-ply CLT panels. For holdown installed on end/edge of 3-ply CLT panel, the holdown shall be centered on the CLT panel. For holdown installed on end/edge of 5-ply or greater thickness CLT panel or on face of CLT panel, minimum edge distance from edge of CLT panel to center of holdown shall be 1 3/4".





HDQ/HHDQ Holddowns Allowable Loads

Model No.	Ga.	Dimensions (in.)					Fasteners		CLT Panel Thickness (Min. # of Plies)	Allowable Tension Loads (160)				
		W	H	B	CL	SO	Anchor Bolt Dia. (in.)	Wood Fasteners (in.)		DF/SP		SPF/HF		Deflection at Max. Allowable Load (in.)
										Face of CLT Panel	End/Edge of CLT Panel²	Face of CLT Panel	End/Edge of CLT Panel²	
HDQ8-SDS3	7	2 7/8	14	2 1/2	1 1/4	2 3/8	7/8	(20) 1/4 x 3 SDS	3	9,230	6,185	7,020	4,705	0.095
HHDQ11-SDS2.5	7	3	15 1/8	3 1/2	1 1/2	7/8	1	(24) 1/4 x 2 1/2 SDS	3	11,810	7,915	8,425	5,645	0.131
HHDQ14-SDS2.5	7	3	18 3/4	3 1/2	1 1/2	7/8	1	(30) 1/4 x 2 1/2 SDS	3	13,710	9,185	10,530	7,055	0.107

- HHDQ14 requires a heavy-hex anchor nut (supplied with holdown).
- When installed on the end/edge of a CLT panel with 1/4"x6" SDS screws (not supplied with holdown), the tabulated end/edge allowable loads may be increased by 12%.
- SDS screws are Simpson Strong-Tie Strong-Drive® heavy-duty connector screws.

HDU Holddowns Allowable Loads

Model No.	Ga.	Dimensions (in.)					Fasteners		CLT Panel Thickness (Min. # of Plies)	Allowable Tension Loads (160)				
		W	H	B	CL	SO	Anchor Bolt Dia. (in.)	Wood Fasteners (in.)		DF/SP		SPF/HF		Deflection at Max. Allowable Load (in.)
										Face of CLT Panel	End/Edge of CLT Panel ²	Face of CLT Panel	End/Edge of CLT Panel ²	
HDU2-SDS2.5	14	3	8 11/16	3 1/4	1 5/16	1 3/8	5/8	(6) 1/4 x 2 1/2 SDS	3	3,075	2,060	2,215	1,485	0.088
HDU4-SDS2.5	14	3	10 15/16	3 1/4	1 5/16	1 3/8	5/8	(10) 1/4 x 2 1/2 SDS	3	4,565	3,060	3,285	2,200	0.114
HDU5-SDS2.5	14	3	13 3/16	3 1/4	1 5/16	1 3/8	5/8	(14) 1/4 x 2 1/2 SDS	3	5,645	3,780	4,340	2,910	0.115
HDU8-SDS2.5	10	3	16 5/8	3 1/2	1 3/8	1 1/2	7/8	(20) 1/4 x 2 1/2 SDS	3	7,870	5,275	6,580	4,410	0.113
HDU11-SDS2.5	10	3	22 1/4	3 1/2	1 3/8	1 1/2	1	(30) 1/4 x 2 1/2 SDS	3	11,175	7,485	9,610	6,440	0.137
HDU14-SDS2.5	7	3	25 11/16	3 1/2	1 9/16	1 9/16	1	(36) 1/4 x 2 1/2 SDS	3	14,445	9,680	12,425	8,325	0.172

- HDU14 requires heavy-hex anchor nut to achieve tabulated loads (supplied with holdown).
- When installed on the end/edge of a CLT panel with 1/4"x6" SDS screws (not supplied with holdown), the tabulated end/edge allowable loads may be increased by 12%.
- SDS screws are Simpson Strong-Tie Strong-Drive heavy-duty connector screws.

HTT Holddowns Allowable Loads

Model No.	Ga.	Dimensions (in.)			Seat Thickness (in.)	Fasteners		CLT Panel Thickness (Min. # of Plies)	Allowable Tension Loads (160)				
		W	L	CL		Anchor Bolt Dia. (in.)	Wood Fasteners (in.)		DF/SP		SPF/HF		Deflection at Max. Allowable Load (in.)
									Face of CLT Panel	End/Edge of CLT Panel	Face of CLT Panel	End/Edge of CLT Panel	
HTT4	11	2 1/2	12 3/8	1 5/16	7/16	5/8	(18) SD #10 x 1 1/2	3	4,455	2,985	3,830	2,565	0.112
HTT5	11	2 1/2	16	1 5/16	7/16	5/8	(26) SD #10 x 2 1/2	3	5,445	3,650	5,360	3,590	0.103

- SD screws are Simpson Strong-Tie Strong-Drive® connector screws.



The information in this letter is valid until **12/31/2026** when it will be re-evaluated by Simpson Strong-Tie. Please visit strongtie.com for additional pertinent information. If you have questions or need further assistance regarding this matter, please contact the Simpson Strong-Tie Engineering Department at 800.999.5099.

Sincerely,

SIMPSON STRONG-TIE COMPANY INC.