

LTT/HTT

Tension Ties

Tension ties offer a solution for resisting tension loads that are fastened with nails. The HTT4 and HTT5 tension ties feature an optimized nailing pattern which results in better performance with less deflection.

HTT5KT is sold as a kit with the holdown, bearing plate washer and Strong-Drive® SD Connector screws.

The HTT5-¾ is designed to use a ¾"-diameter anchor bolt. ¾" post-installed anchor bolts are commonly used when retrofitting tension ties to horizontal wood members.

The LTT19 light tension tie is designed for 2x joists or purlins and the LTT20B is for nail- or bolt-on applications. The 3" nail spacing makes the LTT20B suitable for wood I-joists with 0.148" x 1½". The LTTI31 is designed for wood chord open-web truss attachments to concrete or masonry walls and may also be installed vertically on a minimum 2x6 stud.

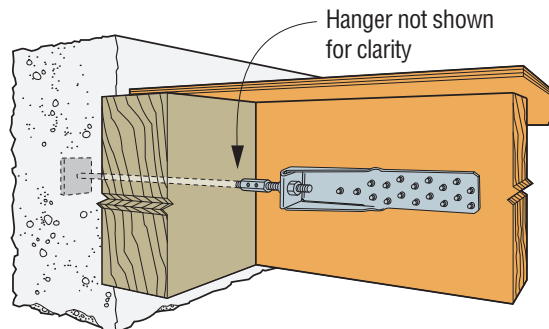
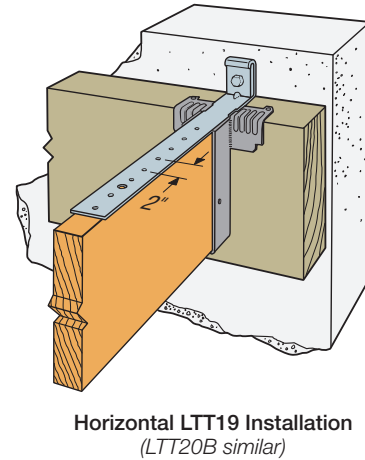
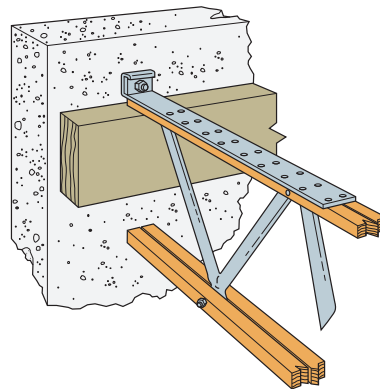
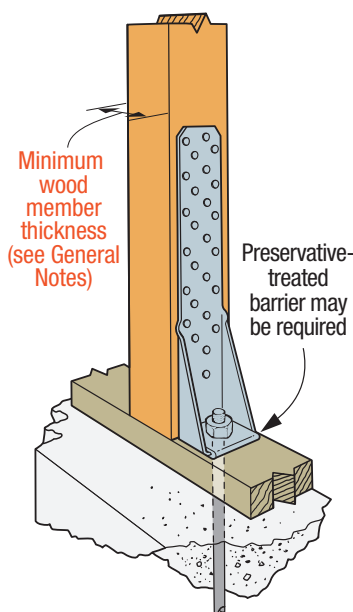
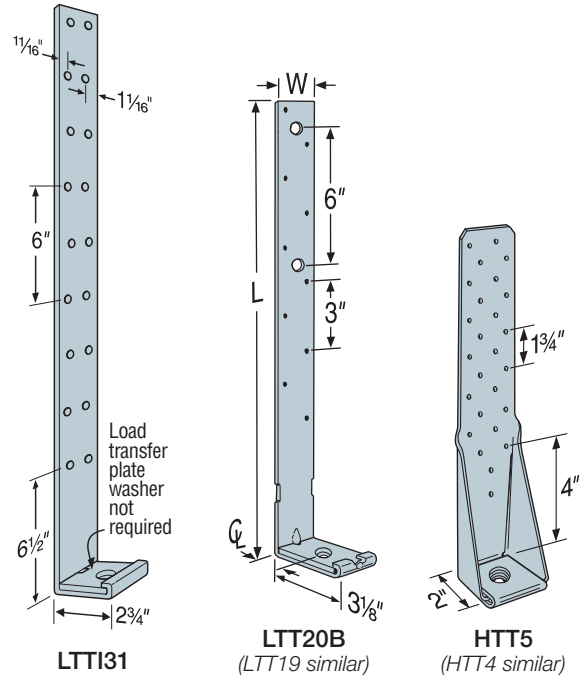
Material: See table

Finish: Galvanized. May be ordered HDG; contact Simpson Strong-Tie.

Installation:

- See Holdown and Tension Tie General Notes on pp. 49–50.
- A standard-cut washer is required for LTT19 and LTT20B when using ½" or ⅝" anchor bolts. No additional washer is required when using ¾" anchor bolt.
- For information about marriage strap at panelized roof applications, see strongtie.com.
- HTT5-KT requires BP 5/8-2 bearing plate and SD10212 Strong-Drive screws (included in kit).

Codes: See p. 12 for Code Reference Key Chart



LTT/HTT

Tension Ties (cont.)

These products are available with additional corrosion protection. For more information, see p. 15.

SD Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 335-337 for more information.

Holdowns and
Tension Ties

Model No.	Ga.	Dimensions (in.)			Seat Thickness (in.)	Fasteners (in.)		Minimum Wood Member Size (in.)	Allowable Tension Loads (160)		Deflection at Highest Allowable Load	Code Ref.
		W	L	CL		Anchor Bolts Diameter	Wood Fasteners		DF/SP	SPF/HF		
LTT19	16	1¾	19½	1¾	⅝	½, ⅝ or ¾	(8) 0.148 x 1½	1½ x 3½	1,310	1,125	0.18	IBC, FL, LA
							(8) 0.148 x 1½	3 x 3½	1,310	1,125	0.18	
							(8) 0.148 x 3	3 x 3½	1,340	1,150	0.157	
LTT20B	12	2	19¾	1½	⅝	½, ⅝ or ¾	(10) 0.148 x 1½	3 x 3½	1,355	1,165	0.195	
							(10) 0.148 x 3	3 x 3½	1,500	1,290	0.185	
							(2) ½ Bolt	3 x 3½	1,625	1,400	0.183	
LTT131	18	3¾	31	1¾	¼	⅝	(18) 0.148 x 1½	3 x 3½	1,350	1,160	0.193	
HTT4	11	2½	12¾	1⅞	⅞	⅝	(18) 0.148 x 1½	1½ x 3½	3,000	2,580	0.09	IBC, FL, LA
							(18) 0.148 x 1½	3 x 3½	3,610	3,105	0.086	
							(18) 0.162 x 2½	3 x 3½	4,235	3,640	0.123	—
							(18) SD #10 x 1½	1½ x 5½	4,455	3,830	0.112	
							(18) SD #10 x 1½	3 x 3½	4,455	3,830	0.112	
HTT5	11	2½	16	1⅞	⅞	⅝	(26) 0.148 x 1½	3 x 3½	4,350	3,740	0.12	IBC, FL, LA
							(26) 0.148 x 3	3 x 3½	4,670	4,015	0.116	
							(26) 0.162 x 2½	3 x 3½	5,090 ²	4,375 ²	0.135	—
							(26) SD #10 x 1½	1½ x 5½	4,555	3,915	0.114	
HTT5KT	11	2½	16	1⅞	⅞	⅝	(26) SD #10 x 2½	3 x 3½	5,445	5,360	0.103	—
HTT5-3/4	11	2½	16	1⅞	⅞	¾	(26) 0.148 x 1½	1½ x 5½	4,065	3,495	0.103	IBC, FL
							(26) 0.162 x 2½	3 x 3½	5,090	4,375	0.121	
							(26) SD #10 x 1½	1½ x 7¼	4,830	4,155	0.1	

- LTT131 installed flush with concrete or masonry has an allowable load of 2,285 lb.
- Allowable load for HTT5 with a BP 5/8-2 bearing-plate washer installed in the seat of the holdown is 5,295 lb. for DF/SP and 4,555 lb. for SPF/HF.
- Fasteners:** Nail dimensions in the table are listed diameter by length. SD and SDS screws are Strong-Drive® screws. See pp. 21–22 for fastener information.

Table 1 — Anchorage Selection Guide for Holdowns Attached to DF/SP Lumber

Holdown on DF/SP Lumber	Stemwall Width (in.)	Stemwall				Slab on Grade			
		Wind and Seismic Design Category A&B		Seismic Design Category C-F		Wind and Seismic Design Category A&B		Seismic Design Category C-F	
		Midwall/Corner	End Wall	Midwall/Corner	End Wall	Midwall/Corner	Garage Curb	Midwall/Corner	Garage Curb
HDU2	6	SSTB16		SSTB24		SSTB16		SSTB16	SSTB20* (2,960)
HDU4	6	SSTB24* (4,470)		SB¾x24		SSTB16	SSTB24* (4,470)	SSTB20	SB¾x24
HDU5	6	SB¾x24		SB¾x24		SSTB20	SB¾x24	SSTB24	SB¾x24
HDU8	8	SSTB28	SSTB28* (7,615)	SB¾x24* (7,855)	PAB7	SSTB28		SSTB28	
HDQ8	8	SB¾x24	PAB7	PAB7	PAB7	SSTB28		SSTB28	PAB7
HDU11									
HHQ11									
HDU14									
HHQ14									

Table 2 — Anchorage Selection Guide for Holdowns Attached to SPF/HF Lumber

Holdown on SPF/HF Lumber	Stemwall Width (in.)	Stemwall				Slab on Grade			
		Wind and Seismic Design Category A&B		Seismic Design Categories C-F		Wind and Seismic Design Category A&B		Seismic Design Categories C-F	
		Midwall/Corner	End Wall	Midwall/Corner	End Wall	Midwall/Corner	Garage Curb	Midwall/Corner	Garage Curb
HDU2	6	SSTB16		SSTB16		SSTB16		SSTB16	
HDU4	6	SSTB16		SSTB24		SSTB16		SSTB16	SSTB24
HDU5	6	SSTB20* (4,040)		SB¾x24		SSTB16	SSTB20* (4,040)	SSTB20	SB¾x24
HDU8	8	SSTB28		SSTB28		SSTB28		SSTB28	SSTB28
HDQ8	8	SSTB28		SSTB28	SSTB28* (6,395)	SSTB28		SSTB28	SSTB28
HDU11	8	SB1x30	PAB8	SB1x30	PAB8			SB1x30	
HHQ11	8	SB1x30	PAB8		PAB8			SB1x30	SB1x30
HDU14									
HHQ14			PAB8		PAB8			SB1x30	SB1x30
LTT19	6								
LTT20B	6								
LTT1	6								
HTT4	6	SSTB16* (3,610)		SB¾x24		SSTB16	SSTB16* (3,610)	SSTB16	SB¾x24
HTT5	6	SSTB24		SB¾x24		SSTB16	SSTB24	SSTB20	SB¾x24

We've made selecting the right anchor bolt for the holdown easier. Check out our Holdown Anchorage Solutions table on p. 44 or the Connector Anchor Selector online.