DTT/HTT Tension Ties, HDU Holdown

Simpson Strong-Tie offers a wide variety of holdown devices designed and tested to address many applications and load demands.

The DTT2Z tension tie is designed for lighter-duty holdown applications on single or double studs. It installs easily with the Strong-Drive® SDS Heavy-Duty Connector screws (included).

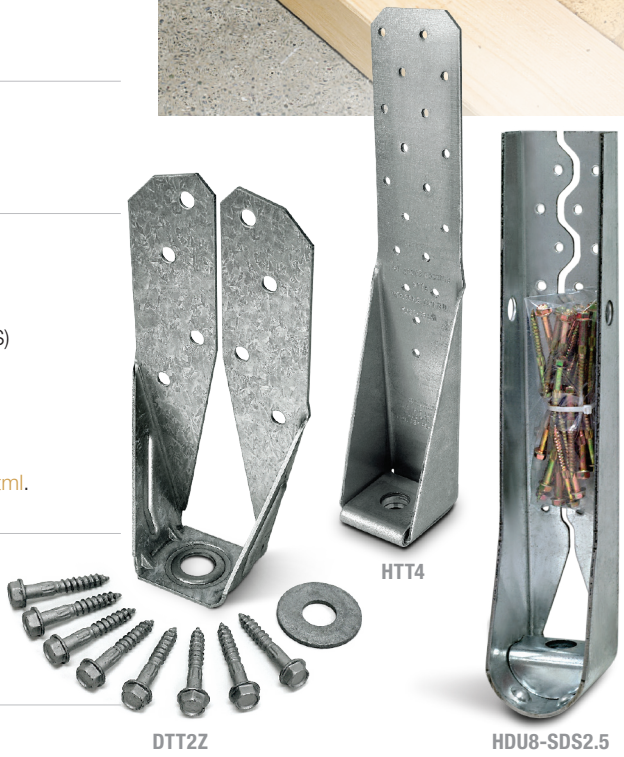
The HTT4 tension tie installs with nails and features a nailing pattern that provides better results with less deflection.

The HDU8 Holdown is pre-deflected during the manufacturing process, virtually eliminating deflection under load due to material stretch. They install with Simpson Strong-Tie® Strong-Drive® SDS Heavy-Duty Connector screws which install easily, reduce fastener slip and provide a greater net section when compared to bolts.

For more information on holdown options, contact Simpson Strong-Tie.

Material: See table on next page.

Finish: Galvanised; DTT2Z galvanised—ZMAX® coating; DTT2SS—stainless steel. See Corrosion Information.



Installation

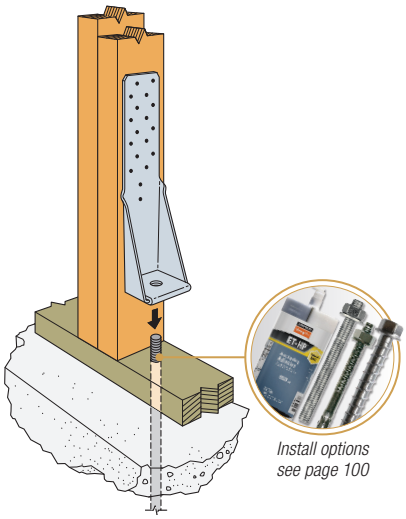
- Use all specified fasteners. See General Notes.
- The DTT requires a standard cut washer (included with DTT2Z, DTT2SS) be installed between the nut and the seat.
- The HDU and HTT requires no additional washer.
- Strong-Drive SDS Heavy-Duty Connector screws install best with a low speed high torque drill with a ⅜" hex head driver.
- Watch an installation video; www.strongtie.com/videolibrary/con-hdq.html.

Note

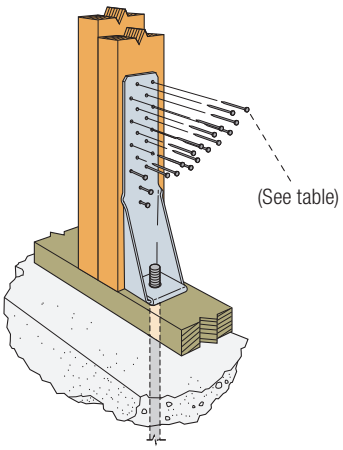
- DTTs and HDUs are supplied with the fasteners required to attach to framing.

HTT4 Typical Installation

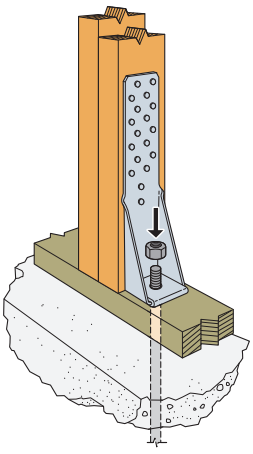
STEP 1: Place holdown over anchor bolt.



STEP 2: Install specified fasteners, filling all holes.

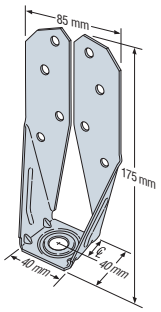


STEP 3: Attach nut to anchor bolt. Anchor bolt nut should be finger tight plus ⅓ to ½ turn with a hand wrench.

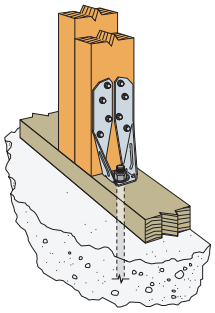


C-C-AU16 © 2016 Simpson Strong-Tie Company Inc.

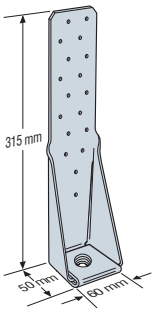
Holdowns and Tension Ties



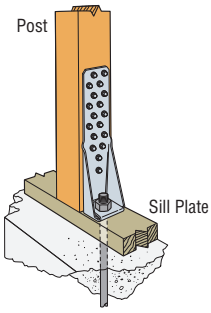
DTT2Z
(DTT2SS similar)



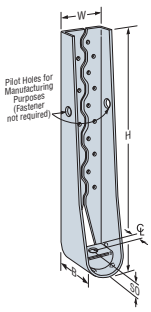
Vertical DTT2Z installation



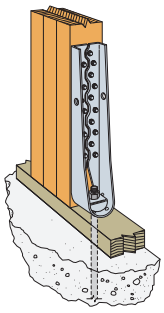
HTT4



Vertical HTT4 installation



HDU8-SDS2.5
U.S. Patents
6,112,495
5,979,130



Vertical HDU8-SDS2.5 installation

DTT, HTT and HDU Technical Data

Model No.	Dimensions (mm)					Fasteners		Minimum Timber Member Size (Depth x Breadth, mm)	Country	Design Tension Capacity (kN)
	Strap Thickness	W	H	B	CL	Anchor Bolt Dia (mm)	Post (Nails: No. - Length x Dia., Screws: No. - Dia. x Length, mm)			
DTT2Z, DTT2SS	2	85	175	40	21	12	8 – SDS6.4 x 38	90 x 38	AU	k_1 = 1.14 9.37
									NZ	k_1 = 1.0 7.72
								90 x 75	AU	k_1 = 1.14 10.98
									NZ	k_1 = 1.0 9.04
HTT4	3.1	65	315	50	33	16	18 – 40 x 3.75	140 x 38	AU	k_1 = 1.14 15.30
									NZ	k_1 = 1.0 14.40
								90 x 75	AU	k_1 = 1.14 18.38
									NZ	k_1 = 1.0 17.05
							18 – SD#10 x 38	140 x 38 or 90 x 75	AU	k_1 = 1.14 23.04
									NZ	k_1 = 1.0 18.97
HDU8-SDS2.5	3.5	75	420	90	35	20	20 – SDS6.4 x 64	90 x 75	AU	k_1 = 1.14 32.58
									NZ	k_1 = 1.0 26.83
								90 x 90	AU	k_1 = 1.14 36.20
									NZ	k_1 = 1.0 29.81
								115 x 90	AU	k_1 = 1.14 38.85
									NZ	k_1 = 1.0 32.00

1. Design Capacity is the lesser of (1) the Characteristic Capacity multiplied by the Australian Capacity Factor, or the NZ Strength Reduction Factor (ϕ), and applicable the k modification factors following AS 1720.1 and NZS 3603 and (2) the Serviceability Capacity which is the load at 6.4mm joint slip, which includes fastener slip, anchor elongation and holdown deformation. Design Capacity is the minimum of test data and structural joint calculation.
2. For Australia, the Capacity Factor (ϕ) is 0.85 for nails and screws for structural joints in a Category 1 application. Reduce tabulated values where other Category applications govern. For NZ, the Strength Reduction Factor (ϕ) is 0.80 for nails in lateral load and 0.70 for other fasteners.
3. Duration of Load Factor (k_1) is as shown. Reduce Duration of Load Factor where applicable. Capacities may not be increased.
4. Timber species for joint design is seasoned Radiata Pine, which is Australia Joint Group JD4 per AS 1720.1 Table H2.4 and New Zealand Joint Group J5 per NZS 3603 Table 4.1.
5. Simpson Strong-Tie Strong-Drive SDS Heavy Duty Connector screws are included with the DTT2s and HDU8. Fasteners for the HTT4 are sold separately.
6. The Designer must specify anchor bolt type, length and embedment.
7. Anchor bolt nut should be finger tight plus ⅓ to ½ turn with a hand wrench. Care should be taken not to over-tighten the nut.
8. Post or beam design by Designer. Posts may consist of multiple members provided they are connected independently of the holdown fasteners.
9. Structural composite timber columns have sides that either show the wide face or the edges of the timber strands/veneers, known as the narrow face.
10. Simpson Strong-Tie stainless-steel connectors require stainless-steel fasteners.
11. Values in the table reflect installation into the wide face.
12. Holdowns and tension ties are for use in vertical or horizontal applications.
13. Holdowns and tension ties may be installed raised up to 460mm above the top of the concrete with no load reduction, provided that additional elongation of the anchor rod is taked into account.

C-C-AU16 © 2016 Simpson Strong-Tie Company Inc.