

HDU – Heavy Duty Holdown

Material: Carbon Steel 3.5mm thick

Finish: Z275 Galvanised



Size: See illustration on the right

HDU8-SDS2.5 includes 20 – SDS 6.4mm x 64mm screws

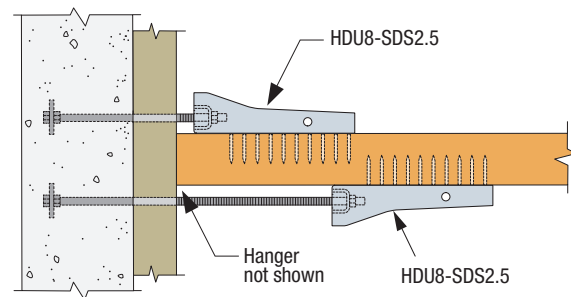
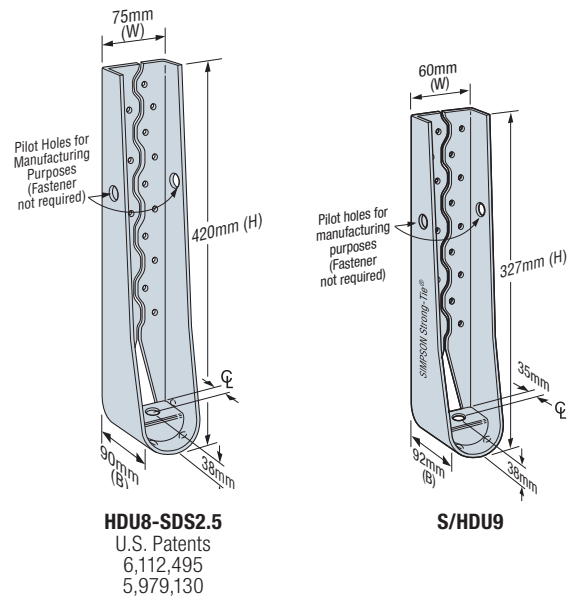
Features & Benefits

- Pre-deflected body virtually eliminates deflection due to material stretch
- Uses Strong-Drive® SDS Heavy-Duty Connector screws which install easily, reduce fastener slip and provide a greater net section area of the post compared to bolts
- Strong-Drive SDS Heavy-Duty Connector screws are supplied with the holdowns to ensure proper fasteners are used (HDU8-SDS2.5 includes 20 – SDS 6.4mm x 64mm screws)
- Easy to install
- No stud bolts to countersink at openings

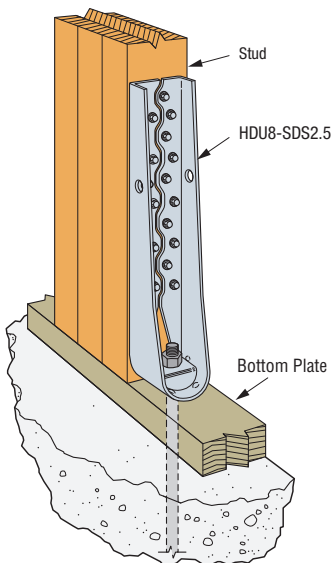
Installation

- Use all specified fasteners
- The HDU requires no additional washer
- Strong-Drive SDS Heavy-Duty Connector screws install best with a low speed high torque drill with a 3/8" hex head driver

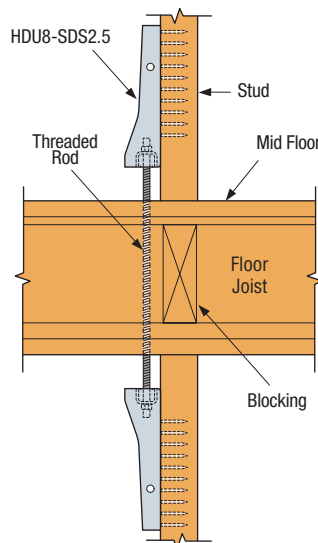
Construction Details



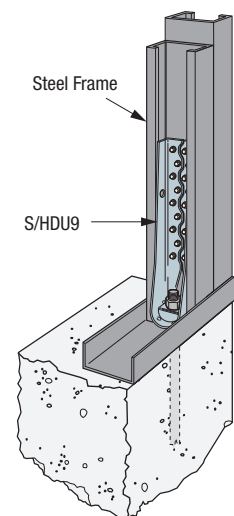
HDU8-SDS2.5 Lateral Load Connection



HDU8-SDS2.5 Holddown



HDU8-SDS2.5 Mid Floor Holddown Installation



S/HDU9 Holddown - Steel Frame

HDU — Heavy Duty Holdown

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)			
HDU8-SDS2.5	3.5	75	420	90	35	20	20 – SDS6.4 x 64	90 x 75	AU	k _i = 1.14 32.58
									NZ	k _i = 1.0 26.83
									AU	k _i = 1.14 36.20
									NZ	k _i = 1.0 29.81
									AU	k _i = 1.14 38.85
									NZ	k _i = 1.0 32.00

- 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.
- 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.
- Duration of Load Factor (k_i) is as shown. Reduce Duration of Load Factor where applicable. Capacities may not be increased.
- 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.
- Simpson Strong-Tie Strong-Drive SDS Heavy Duty Connector screws are HDU8.
- The Designer must specify anchor bolt type, length and embedment.
- Anchor bolt nut should be finger tight plus 1/3 to 1/2 turn with a hand wrench. Care should be taken not to over-tighten the nut.
- Post or beam design by Designer. Posts may consist of multiple members provided they are connected independently of the holdown fasteners.
- 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.
- Simpson Strong-Tie stainless-steel connectors require stainless-steel fasteners.
- Values in the table reflect installation into the wide face.
- Holdowns and tension ties are for use in vertical or horizontal applications.
- 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 taken into account.

Model No.	H (mm)	Fasteners		Stud Quantity	Stud Member Thickness (mm)	LRFD Tension Load (kN)	Deflection at LRFD Load ⁴ (mm)	Nominal Tension Load ⁵ (kN)
		Fdn Anchor Diameter (mm)	Stud Fasteners					
S/HDU9	327	22	18 - 14g	2	0.75	49.5	4.8	58.6
				2	0.95	68.9	6.4	97.0
				2	1.15	71.0	5.7	108.9
				Steel Fixture	4.76	91.2	4.5	139.9

- Designer shall specify the foundation anchor material type, length, embedment and configuration.
- Stud design by Specifier. Tabulated loads are based on a minimum stud thickness for fastener connection.
- Self-drilling tapping screws of 6.35 mm diameter can be substituted for 14g.
- Deflection at LRFD Loads includes fastener slip, holdown elongation and anchor bolt elongation (L=102mm).
- Nominal Tension Load is based on the average ultimate (peak) load from tests. AISI Lateral Design standard requires holdowns to have nominal strength to resist the lesser of the amplified seismic load or the maximum force the system can deliver.