

H/TSP

Seismic and Hurricane Ties

Simpson Strong-Tie hurricane ties provide a positive connection between truss/rafter and the wall of the structure to resist wind and seismic forces.

Material: See table

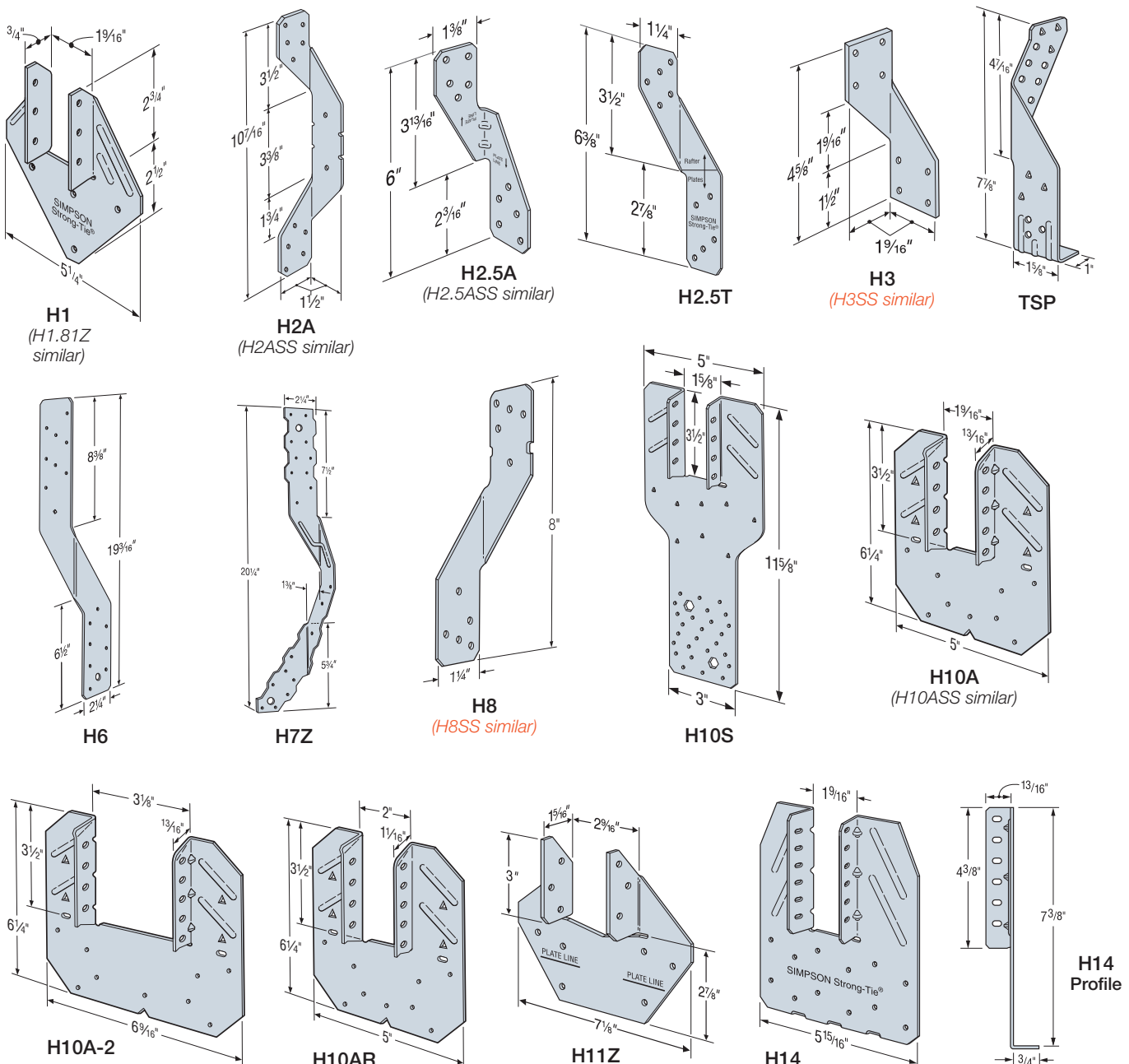
Finish: Galvanized. H1.81Z, H7Z and H11Z — ZMAX® coating. Some models available in stainless steel or ZMAX; see Corrosion Information, pp. 12–15 or visit strongtie.com.

Installation:

- Use all specified fasteners; see General Notes.
- Hurricane ties can be installed with flanges facing inward or outward.

- H2.5T, H3 and H6 ties are shipped in equal quantities of right and left versions (right versions shown).
- Hurricane ties do not replace solid blocking.
- When installing ties on plated trusses (on the side opposite the truss plate) do not fasten through the truss plate from behind. This can force the truss plate off of the truss and compromise truss performance.
- H10A optional nailing to connect shear blocking, use 0.131" x 2 1/2" nails. Slots allow maximum field bending up to a pitch of 6:12, use H10A sloped loads for field-bent installation.

Codes: See p. 11 for Code Reference Key Chart



H/TSP

Seismic and Hurricane Ties (cont.)

These products are available with additional corrosion protection. For more information, see p. 14.

SS For stainless-steel fasteners, see p. 21.

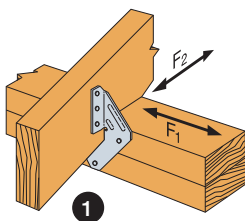
SD Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 348–352 for more information.

	Model No.	Ga.	Fasteners (in.)			DF/SP Allowable Loads			Uplift with 0.131" x 1 ½" Nails (160)	SPF/HF Allowable Loads			Uplift with 0.131" x 1 ½" Nails (160)	Code Ref.
			To Rafters/Truss	To Plates	To Studs	Uplift (160)	Lateral (160)			Uplift (160)	Lateral (160)			
							F ₁	F ₂			F ₁	F ₂		
	H1	18	(6) 0.131 x 1 ½	(4) 0.131 x 2 ½	—	480	510	190	455	425	440	165	370	IBC, FL, LA
	H1.81Z	18	(6) 0.131 x 1 ½	(4) 0.131 x 2 ½	—	540	440	170	460	465	380	130	395	—
	H2A	18	(5) 0.131 x 1 ½	(2) 0.131 x 1 ½	(5) 0.131 x 1 ½	525	130	55	—	495	130	55	—	IBC, FL, LA
SS	H2ASS	18	(5) 0.131 x 1 ½	(2) 0.131 x 1 ½	(5) 0.131 x 1 ½	400	130	55	400	345	130	55	345	—
	H2.5A	18	(5) 0.131 x 2 ½	(5) 0.131 x 2 ½	—	700	110	110	625	615	110	110	540	IBC, FL, LA
SS	H2.5ASS	18	(5) 0.131 x 2 ½	(5) 0.131 x 2 ½	—	440	75	70	365	380	75	70	310	—
	H2.5T	18	(5) 0.131 x 2 ½	(5) 0.131 x 2 ½	—	590	135	145	480	565	135	145	475	IBC, FL, LA
	H3	18	(4) 0.131 x 2 ½	(4) 0.131 x 2 ½	—	400	210	170	400	365	180	145	290	
SS	H3SS	18	(4) 0.131 x 2 ½	(4) 0.131 x 2 ½	—	280	145	120	275	225	100	85	210	—
	H6	16	—	(8) 0.131 x 2 ½	(8) 0.131 x 2 ½	1,230	—	—	—	1,065	—	—	—	IBC, FL, LA
	H7Z	16	(4) 0.131 x 2 ½	(2) 0.131 x 1 ½	(8) 0.131 x 2 ½	830	410	—	—	715	355	—	—	
	H8	18	(5) 0.148 x 1 ½	(5) 0.148 x 1 ½	—	780	95	90	630	710	95	90	510	
SS	H8SS	18	(5) 0.148 x 1 ½	(5) 0.148 x 1 ½	—	610	90	120	440	370	90	55	335	—
	H10A Field Bent	18	(9) 0.148 x 1 ½	(9) 0.148 x 1 ½	—	780	590	285	—	760	505	285	—	IBC, FL, LA
	H10A	18	(9) 0.148 x 1 ½	(9) 0.148 x 1 ½	—	1,040	565	285	—	1,015	485	285	—	
SS	H10ASS	18	(9) 0.148 x 1 ½	(9) 0.148 x 1 ½	—	970	565	170	—	835	485	170	—	—
	H10AR	18	(9) 0.148 x 1 ½	(9) 0.148 x 1 ½	—	1,050	490	285	—	905	420	285	—	
	H10S	18	(8) 0.131 x 1 ½	(8) 0.131 x 1 ½	(8) 0.131 x 2 ½	910	660	215	550	785	570	185	475	IBC, FL, LA
	H10A-2	18	(9) 0.148 x 1 ½	(9) 0.148 x 1 ½	—	1,080	680	260	—	930	585	225	—	
	H11Z	18	(6) 0.162 x 2 ½	(6) 0.162 x 2 ½	—	830	525	760	—	715	450	655	—	—
	H14	18	(12) 0.131 x 1 ½	(13) 0.131 x 2 ½	—	1,275	725	285	—	1,050	480	245	—	IBC, FL, LA
			(12) 0.131 x 1 ½	(15) 0.131 x 2 ½	—	1,340	670	230	—	1,050	480	245	—	
	TSP	16	(9) 0.148 x 1 ½	(6) 0.148 x 1 ½	—	755	310	190	—	650	265	160	—	
			(9) 0.148 x 1 ½	(6) 0.148 x 3	—	1,015	310	190	—	875	265	160	—	

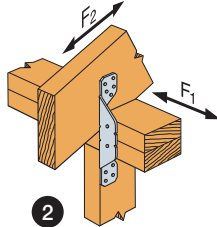
- See pp. 266–267 for Straps and Ties General Notes.
- Allowable loads are for one anchor. A minimum rafter thickness of 2 1/2" must be used when framing anchors are used on each side of the joist and on the same side of the plate (exception: connectors installed such that nails on opposite side don't interfere).
- Allowable DF/SP uplift load for stud-to-bottom plate installation (see detail 12) is 390 lb. (H2.5A); 265 lb. (H2.5ASS); and 310 lb. (H8). For SPF/HF values, multiply these values by 0.86.
- Allowable loads in the F₁ direction are not intended to replace diaphragm boundary members and do not account for possible cross-grain bending of the truss or rafter members.
- When cross-grain bending or cross-grain tension cannot be avoided in the members, mechanical reinforcement to resist such forces shall be considered by the designer.
- Hurricane ties are shown installed on the outside of the wall for clarity and assume a minimum overhang of 3 1/2". Installation on the inside of the wall is acceptable. For uplift Continuous Load Path, connections in the same area (i.e., truss-to-plate connector and plate-to-stud connector) must be on same side of the wall.
- Southern pine allowable uplift loads for H10A = 1,105 lb. (160), H2.5A with 0.131" x 1 1/2" nails = 635 lb. (160) and H2.5A with 0.131" x 2 1/2" nails = 730 lb. (160).
- Refer to Simpson Strong-Tie® technical bulletin T-C-HTIEBEAR at strongtie.com for allowable bearing enhancement loads.
- H10S can have the stud offset a maximum of 1" from the rafter (center to center) for a reduced uplift of 890 lb. (DF/SP) and 765 lb. (SPF).
- H10S nails to plates are optional for uplift but required for lateral loads.
- Some load values for the stainless-steel connectors shown here are lower than those for the carbon-steel versions. Ongoing test programs have shown this also to be the case with other stainless-steel connectors in the product line that are installed with nails. Visit strongtie.com/corrosion for updated information.
- The allowable loads of stainless-steel connectors match carbon-steel connectors when installed with stainless-steel Strong-Drive® SCNR Ring-Shank Connector nails. For more information, refer to engineering letter L-F-SSNAILS at strongtie.com.
- Simpson Strong-Tie offers stainless-steel Strong-Drive SCNR Ring-Shank Connector nails. For bulk SCNR nails, see p. 345; for collated SCNR nails, see p. 346. For general fastener information, see pp. 21–22.
- Allowable DF/SP/SPF uplift load for the H2.5A fastened to a 2x4 truss bottom chord and double top plates using five 0.131" x 1 1/2" nails in the top plates and three 0.131" x 1 1/2" nails in the lowest three flange holes into the truss bottom chord is 260 lb. (160).
- For TSP installed stud to single plate see pp. 280–281.
- For simultaneous loads in more than one direction, the connector must be evaluated using either the Unity Equation or the 75% Rule, as described in Straps and Ties General Notes on p. 267.
- Fasteners:** Nail dimensions are listed diameter by length. See pp. 21–22 for fastener information.

H/TSP

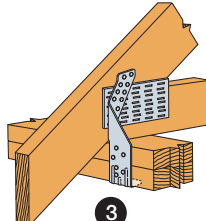
Seismic and Hurricane Ties (cont.)



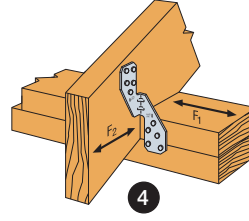
1 H1 Installation
(H1.81Z similar)



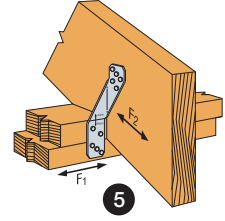
2 H2A Installation



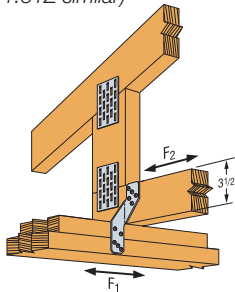
3 TSP Installation



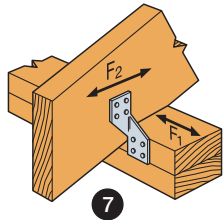
4 H2.5A Installation
(nails into both top plates)



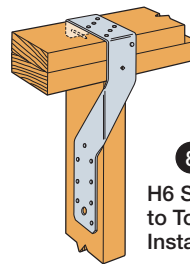
5 H2.5T Installation
(nails into both top plates)



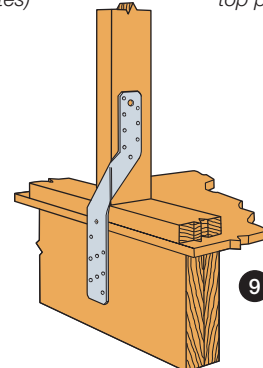
6 H2.5T Installation



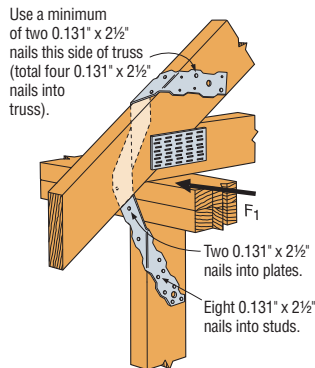
7 H3 Installation
(nails into upper top plate)



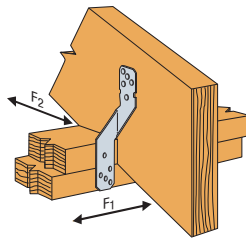
8 H6 Stud to Top Plate Installation



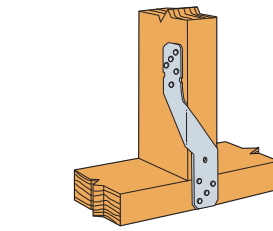
9 H6 Stud to Rim Board Installation



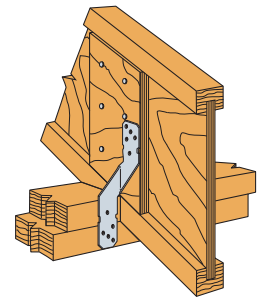
10 H7Z Installation



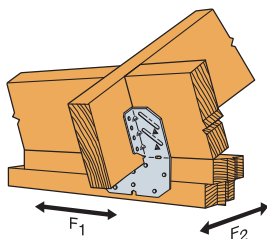
11 H8 Attaching Rafter to Double Top Plates



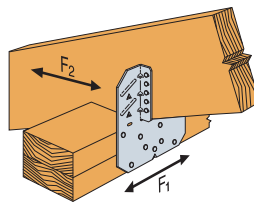
12 H8 attaching Stud to Sill
(4) 0.131" x 2½" nails into plate,
(5) 0.131" x 2½" nails into stud,
refer to footnote 3 for loads)



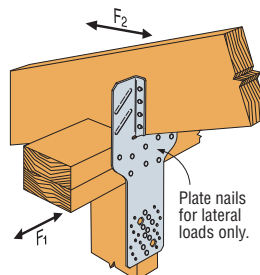
13 H8 attaching I-Joist to Double Top Plates



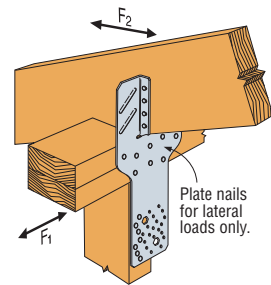
14 H10A Field-Bent Installation



15 H10A Installation

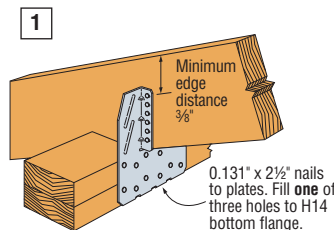


16 H10S Installation

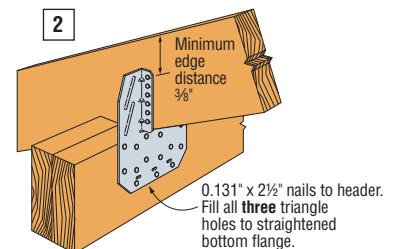


17 H10S Installation with Stud Offset

H10A optional nailing connects shear blocking to rafter. Use 0.131" x 2½" nails. Slot allows maximum field-bending up to a pitch of 6/12, use 75% of the table uplift load; bend one time only.



18 H14 Installation to Double Top Plates



19 H14 Installation to Double 2x Header

H

Seismic and Hurricane Ties

The hurricane tie series features various configurations of wind and seismic ties for trusses and rafters. The H16 series has a presloped seat of 5/12 for double trusses.

The presloped 5/12 seat of the H16 provides for a tight fit and reduced deflection. The strap length provides for various truss heel heights ranging from 13½" maximum to 4" minimum.

The HGA10 attaches to gable trusses and provides good lateral wind resistance. The HS24 attaches the bottom chord of a truss or rafter at pitches from 0/12 to 4/12 to double 2x4 top plates. Double-shear nailing allows for higher lateral resistance.

Material: See table

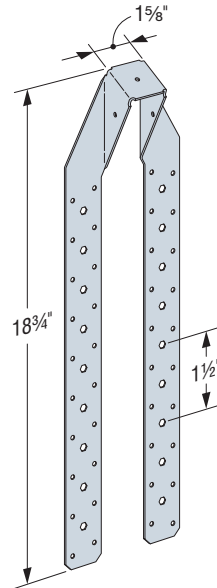
Finish: Galvanized; HGA also available in HDG

Installation:

- Use all specified fasteners; see General Notes.
- HGA10KT: sold as a kit with (10) HGA10 connectors and (40) ¼" x 1½" Strong-Drive® SDS Heavy-Duty Connector screws and (40) ¼" x 3" SDS screws. Additional screws sold separately to install with all ¼" x 1½" SDS screws (SDS25112).
- HS24 requires slant nailing only when bottom chord of truss or rafter has no slope.

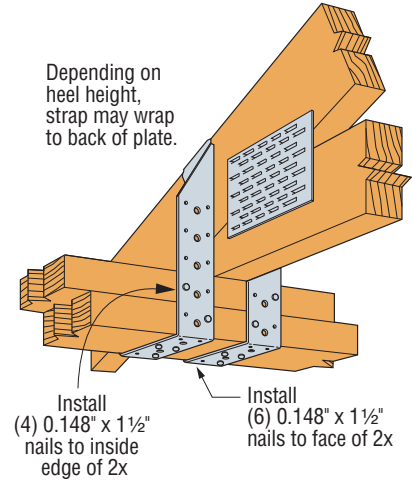
Codes: See p. 13 for Code Reference Key Chart

Web Applications: Visit app.strongtie.com/rws to access our Roof-to-Wall Selector web application.



H16

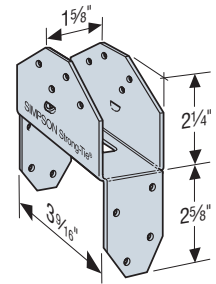
Presloped at 5/12.
Pitch of 3/12 to 7/12
is acceptable.



H16 Installation

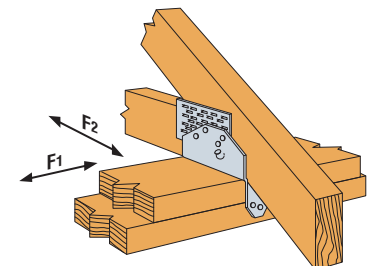
These products are available with additional corrosion protection. For more information, see p. 16.

Model No.	Ga.	Fasteners (in.)		DF/SP Allowable Loads				SPF/HF Allowable Loads				Code Ref.
		To Rafters/Truss	To Plates	Uplift (160)	Lateral (160)			Uplift (160)	Lateral (160)			
					F ₁	F ₂	F ₃		F ₁	F ₂	F ₃	
HGA10KT	14	(4) ¼ x 1 ½ SDS	(4) ¼ x 3 SDS	650	1,165	940	815	500	840	675	495	IBC®, FL, LA
			(4) ¼ x 1 ½ SDS	650	925	800	815	470	665	575	585	
HS24	18	(8) 0.131 x 1 ½ and (2) 0.131 x 2 ½ slant	(8) 0.131 x 2 ½	605	645	1,100	—	520	555	945	—	IBC, FL, LA
H16	18	(2) 0.148 x 1 ½	(10) 0.148 x 1 ½	1,370	—	—	—	1,180	—	—	—	

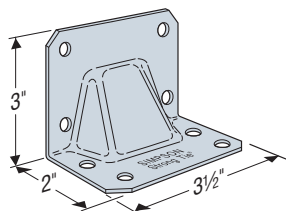


HS24

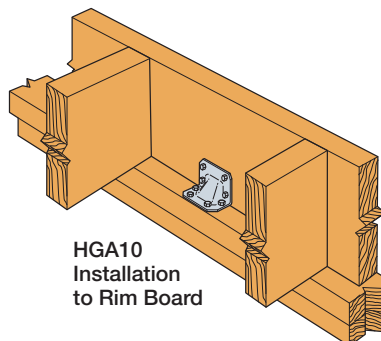
1. See pp. 276–277 for Straps and Ties General Notes.
2. When cross-grain bending or cross-grain tension should be avoided in the members, mechanical reinforcement to resist such forces shall be considered by the designer.
3. HS24 DF/SP allowable loads without slant nailing are 605 lb. (uplift), 590 lb. (F₁), 640 lb. (F₂). For SPF/HF loads multiply these values by 0.86.
4. Allowable loads in the F₁ direction are not intended to replace diaphragm boundary members or prevent cross-grain bending of the truss or rafter members. Additional shear transfer elements shall be considered where there may be effects of cross-grain bending or tension.
5. HGA10 loads in table are for when truss is parallel with the wall as depicted in the illustration. If truss is perpendicular to the wall, then uplift is 605 lb., F₁ is 500 lb. and F₂ is 720 lb. for DF/SP. For SPF/HF, multiply load values by 0.72.
6. **Fasteners:** Nail dimensions in the table are diameter by length. SDS screws are Simpson Strong-Tie Strong-Drive SDS Heavy-Duty Connector screws. See pp. 23–24 for fastener information.



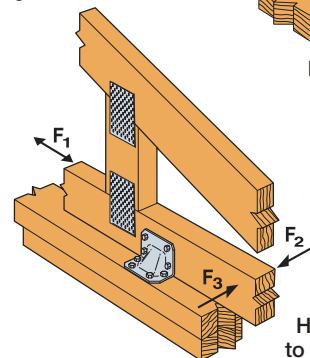
HS24 Installation



HGA10



**HGA10
Installation
to Rim Board**



**HGA10 Installation
to Double Top Plates**