

META/HETA/HHETA/HETAL/DETAL/TSS/TBP8

Embedded Truss Anchors and Truss Seat Snap-In

The embedded truss anchor series provides an engineered method to properly attach roof trusses to concrete and masonry walls. The products are designed with staggered nail patterns for greater uplift resistance. Information regarding the use of two anchors on single- and multi-ply trusses is included.

Simpson Strong-Tie provides two different moisture barrier plates between the concrete/masonry and truss. The TSS is a preassembled, companion product of the META and some HETA models. The TBP8 seat plate also provides a moisture barrier installed prior to truss placement. The seat plate is installed with prongs, instead of fasteners.

The DETAL20 combines dual embedded anchors with partially embedded moisture barrier to provide higher lateral and uplift loads.

Material: HHETA — 14 gauge; HETA — 16 gauge; HETAL — strap 16 gauge, truss seat 18 gauge; META — 18 gauge; TSS/TBP8 — 22 gauge; DETAL — 16 gauge (barrier — 18 gauge)

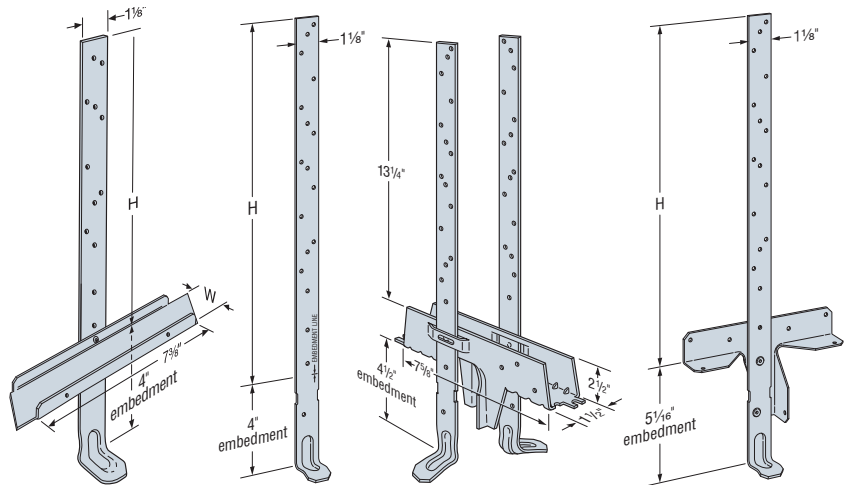
Finish: Galvanized. Some products available in ZMAX® coating or stainless steel.

Installation:

- Use all specified fasteners; see General Notes.
- The META, HETA and HHETA are embedded 4" into a 6" min. concrete beam or 8" nominal grouted block wall; HETAL is embedded 5 1/16"; DETAL is embedded 4 1/2".
- The DETAL20 is installed centered and flush on top of an 8" masonry bond beam or concrete tie beam. The moisture barrier seat bears on masonry face shell or concrete tie beam form boards; the two flanges embed into grout or concrete. The two embedded anchors shall be installed vertically into grout or concrete.
- The TSS moisture barrier may be preattached to the truss using 0.113" x 2" nails.
- For mislocated truss anchors which are greater than 1/8" but less than 1 1/2" from the face of the truss, a shim must be provided. Shim design by truss engineer. When gap is greater than 1 1/2", abandon existing embedded truss anchor and install new anchor per designer.
- Minimum spacing of single anchors is twice the embedment depth for full load. For closer spacing, see loads for double anchor installation.
- In double anchor installations, install anchors with spoons facing outward and straps spaced no more than 1/8" wider than the rafter/truss width. Do not install nails where the straps overlap when wrapped over the rafter/truss.
- Straps do not need to be wrapped over the rafter/truss to achieve tabulated loads, unless noted otherwise.

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.



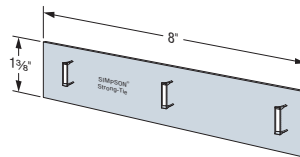
META with TSS

HETA20
(HHETA similar)

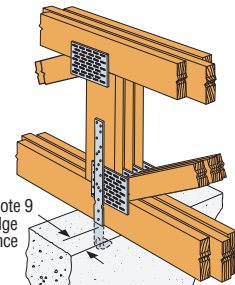
DETAL20
US Patent 7,987,636

HETAL

Model No.	W (in.)
TSS2	1 3/4
TSS2-2	3 1/8
TSS4	3 5/8



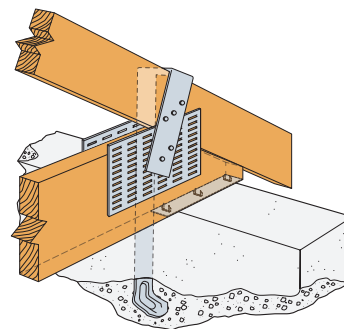
TBP8



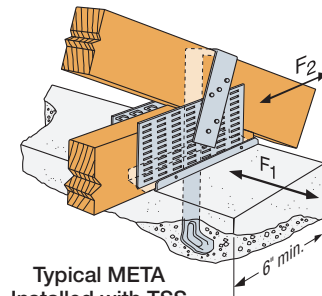
Moisture barrier not shown (typ.)

See note 9 for edge distance

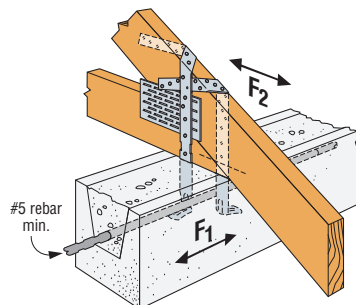
Typical HETA20 Installation
(all others similar)



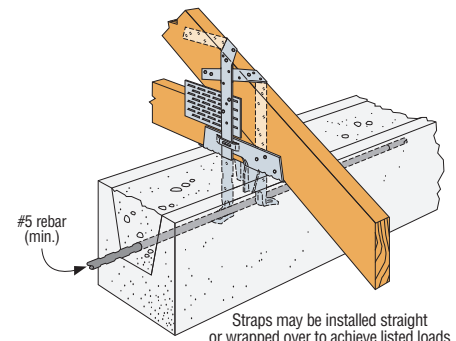
Typical META Installed with TBP8



Typical META Installed with TSS



Typical Installation with Two METAs



Typical DETAL Installation

Straps may be installed straight or wrapped over to achieve listed loads

META/HETA/HHETA/HETAL/DETAL/TSS/TBP8

Embedded Truss Anchors and Truss Seat Snap-In (cont.)

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

SS For stainless-steel fasteners, see p. 23.

Model No.	H (in.)	1-Ply Southern Pine (SP) Rafter/Truss				2- or 3-Ply Southern Pine (SP) Rafter/Truss				Code Ref.	
		Fasteners (in.)	Uplift (160)	F ₁ (160)	F ₂ (160)	Fasteners (in.)	Uplift (160)		F ₁ (160)		F ₂ (160)
			GFCMU/Concrete				GFCMU	Concrete			
Single Anchor											
META12	8	(7) 0.148 x 1 ½	1,420	340	770	(6) 0.162 x 3 ½	1,450	1,450	340	770	FL
META16	12	(8) 0.148 x 1 ½	1,450	340	770	(6) 0.162 x 3 ½	1,450	1,450	340	770	
META18	14										
META20	16										
META24	20										
META40	36										
HETA12	8	(7) 0.148 x 1 ½	1,455	340	770	(7) 0.162 x 3 ½	1,730	1,730	340	770	
HETA16	12	(9) 0.148 x 1 ½	1,810	340	770	(8) 0.162 x 3 ½	1,810	1,810	340	770	
HETA20	16										
HETA24	20										
HETA40	36										
HHETA16	12										
HHETA20	16										
HHETA24	20										
HHETA40	36										
HETAL12	7	(10) 0.148 x 1 ½	1,040	390	1,040	(10) 0.162 x 3 ½	1,235	1,235	390	1,040	
HETAL16	11	(14) 0.148 x 1 ½	1,810	390	1,040	(13) 0.162 x 3 ½	1,810	1,810	390	1,040	
HETAL20	15										
Double Anchor											
META12	8	(10) 0.148 x 1 ½	1,875	1,000	900	(14) 0.162 x 3 ½	1,795	2,435	1,285	1,080	FL
META16	12	(10) 0.148 x 1 ½	1,875	1,000	900	(14) 0.162 x 3 ½	1,795	2,435	1,285	1,080	
META18	14										
META20	16										
META24	20										
META40	36										
HETA12	8	(10) 0.148 x 1 ½	1,920	1,115	900	(12) 0.162 x 3 ½	2,365	2,560	1,350	1,430	
HETA16	12	(10) 0.148 x 1 ½	1,920	1,115	900	(12) 0.162 x 3 ½	2,365	2,560	1,350	1,430	
HETA20	16										
HETA24	20										
HETA40	36										
HHETA16	12										
HHETA20	16										
HHETA24	20										
HHETA40	36										
DETAL20	15 ¾	(18) 0.148 x 1 ½	2,480	2,000	1,370	—	—	—	—	—	

- Loads have been increased for wind or earthquake loading, with no further increase allowed. Reduce where other loads govern.
- Concrete shall have a minimum compressive strength of $f'_c = 2,500$ psi.
- Grout-filled CMU (GFCMU) shall have a minimum compressive strength of $f'_m = 2,000$ psi.
- 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. 277.
- F₁ lateral load toward face of HETAL is 1,870 lb.
- The HHETA allowable F₁ load can be increased to 435 lb. if the strap is wrapped over the truss and a minimum of 12 nails are installed.
- The DETAL20 requires six nails installed in the truss seat and six nails in each strap. The HETAL requires five nails installed in the truss seat. For double META/HETA/HHETA installations, install half of the required fasteners in each strap.
- F₁ lateral loads listed for double META/HETA/HHETA on 2- or 3-ply rafter/truss may cause an additional ¼" deflection beyond the standard ¼" limit where the straps are installed not wrapped over the heel as shown.
- Minimum edge distance for META/HETA/HHETA is 1 ½" for concrete and 2" for masonry. Where edge distance is less than 2" for masonry, the maximum uplift load is 1,005 lb.
- It is acceptable to use a reduced number of fasteners provided that there is a reduction in uplift allowable load. Calculate the connector allowable load for a reduced number of nails as follows: Allowable Load = (No. of Nails Used) / (No. of Nails in Table) x Table Load. Lateral loads require the lowest six nail holes filled for META and lowest seven nail holes filled for HETA/HHETA.
- Fasteners:** Nail dimensions are listed diameter by length. See pp. 23–24 for fastener information.

META/HETA/HHETA Embedded Truss Anchors

The embedded truss anchor series provides an engineered method to properly attach roof trusses to concrete and masonry walls. Information regarding the use of two anchors on single- and multi-ply trusses is included below.

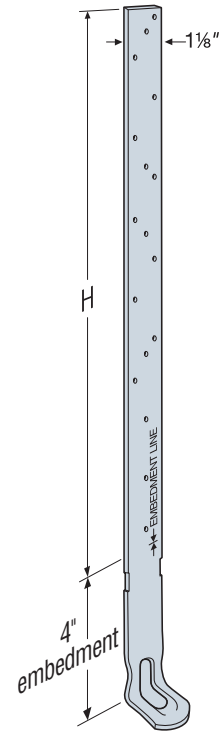
Material: HHETA — 14 gauge; HETA — 16 gauge; META — 18 gauge

Finish: Galvanized (G90). Some products available in ZMAX® coating; see Corrosion Information on pp. 19–23.

Installation:

- Use all specified fasteners; see General Notes.
- The META, HETA and HHETA are embedded 4" into a 6" minimum concrete beam or 8" nominal grouted block wall.
- For mislocated truss anchors which are greater than 1/8" but less than 1 1/2" from the face of the truss, a shim must be provided. Shim design by truss engineer. When gap is greater than 1 1/2", install retrofit anchors.
- In double embedded anchor installations, do not install fasteners where the straps overlap when wrapped over the truss heel.

Codes: See p. 13 for Code Reference Key Chart



HETA20
(META/HHETA similar)

These products are available with additional corrosion protection. Additional products on this page may also be available with this option. Check with Simpson Strong-Tie for details.

Single Embedded Anchor Installation

Model No.	H (in.)	Fastener ⁹ Rafter/Stud/Truss Thickness	Allowable Uplift Load (lb.)			Lateral Load ⁸		Code Ref.
			Rafter/Stud/Truss Thickness			F ₁	F ₂	
			33 mil, 43 mil and 54 mil (20 ga., 18 ga. and 16 ga.)	33 mil (20 ga.)	43 mil (18 ga.)	54 mil (16 ga.)	54 mil (16 ga.)	
META12	8	(7) #10	1,240	1,450	1,450	340	725	—
META16	12	(9) #10	1,450	1,450	1,450			
META18	14	(9) #10	1,450	1,450	1,450			
META20	16	(9) #10	1,450	1,450	1,450			
META22	18	(9) #10	1,450	1,450	1,450			
META24	20	(9) #10	1,450	1,450	1,450			
META40	36	(9) #10	1,450	1,450	1,450	340	725	
HETA12	8	(7) #10	1,240	1,780	1,780			
HETA16	12	(9) #10	1,595	1,810	1,810			
HETA20	16	(9) #10	1,595	1,810	1,810			
HETA24	20	(9) #10	1,595	1,810	1,810			
HETA40	36	(9) #10	1,595	1,810	1,810	340 ⁵	815	
HHETA12	8	(7) #10	1,240	1,820	1,820			
HHETA16	12	(10) #10	1,770	2,235	2,235			
HHETA20	16	(10) #10	1,770	2,235	2,235			
HHETA24	20	(10) #10	1,770	2,235	2,235			
HHETA40	36	(10) #10	1,770	2,235	2,235			

1. Allowable loads may not be increased for wind or seismic load.
2. Minimum $f'_c = 2,500$ psi. Minimum $f'_m = 1,500$ psi.
3. For simultaneous loads in more than one direction, the connector must be evaluated as described in Note d, p. 16 under General Instructions to the Designer.
4. It is acceptable to use a reduced number of fasteners provided that there is a reduction in uplift load capacity. Lateral loads do not apply when fewer fasteners are used.
5. The HHETA allowable F_1 load can be increased to 435 lb. if the strap is wrapped over the truss and a minimum of 12 fasteners are installed.
6. Minimum spacing for multiple anchor installation is two times the embedment depth for full load. See Double Embedded Anchor Installation table on p. 221 for loads on closer spaced anchors.
7. Minimum edge distance is 1 1/2" for concrete and 2" masonry.
8. Lateral loads are limited to 54 mil (16 ga.) CFS members.
9. See the current *Fastening Systems* catalog at strongtie.com for more information on Simpson Strong-Tie fasteners.

META/HETA/HHETA Embedded Truss Anchors

Double Embedded Anchor Installation

Model No.	Qty.	Application	Fasteners ⁸			Allowable Uplift Load (lb.)			Lateral Load ⁷	
			Rafter/Stud/Truss Thickness			33 mil (20 ga.)	43 mil (18 ga.)	54 mil (16 ga.)	F1	F2
			33 mil, 43 mil and 54 mil (20 ga., 18 ga. and 16 ga.)						54 mil (16 ga.)	
1 1/2" Width Minimum of Rafter/Stud/Truss										
META	2	CMU	(10) #10	1,770	1,985	1,985	340	725		
		Concrete	(10) #10	1,770	1,985	1,985				
HETA	2	CMU	(10) #10	1,770	2,035	2,035	340	725		
		Concrete	(10) #10	1,770	2,035	2,035				
HHETA	2	CMU	(10) #10	1,770	2,035	2,035	340	815		
		Concrete	(10) #10	1,770	2,235	2,235				
3" Width Minimum of Rafter/Stud/Truss										
META	2	CMU	(14) #10	1,900	1,900	1,900	1,210	1,160		
		Concrete	(14) #10	2,480	2,565	2,565				
HETA	2	CMU	(12) #10	2,480	2,500	2,500	1,225	1,520		
		Concrete	(12) #10	2,480	2,700	2,700				
HHETA	2	CMU	(12) #10	2,480	2,500	2,500	1,225	1,520		
		Concrete	(12) #10	2,480	3,050	3,050				
		Concrete	(14) #10	2,480	3,350	3,350				

- Allowable loads may not be increased for wind or seismic load.
- Minimum $f'_c = 2,500$ psi. Minimum $f_m = 1,500$ psi.
- For simultaneous loads in more than one direction, the connector must be evaluated as described in Note d, p. 16 under General Instructions to the Designer.
- Minimum spacing for multiple anchor installation is two times the embedment depth for full load. See Double Embedded Anchor Installation table for loads on closer spaced anchors.
- Install with spoons facing outward and straps spaced no more than 1/8" wider than the truss width.
- F_1 lateral loads listed may cause an additional 1/16" deflection beyond the standard 1/8" limit there the straps are installed not wrapped over the heel as shown.
- Lateral loads are limited to 54 mil (16 ga.) CFS members.
- See the current *Fastening Systems* catalog at strongtie.com for more information on Simpson Strong-Tie fasteners.

