

# STHD Strap Tie Holdown

Holdowns & Tension Ties

The STHD is an embedded strap tie holdown with high load capacity and designed to reduce spalling.

- FEATURES:**
- A slot below the embedment line allows for increased front to back concrete bond and reduced spalling.
  - Rim joist models accommodate up to a 17" clear span without any loss of strap fastening. Diamond holes for optional attachment to rim joist.

**MATERIAL:** 68 mil (12 ga)    **FINISH:** Galvanized

**INSTALLATION:** • Use all specified fasteners. See General Notes.

- Install before concrete pour with a StrapMate, or other holding device.
- Screw strap from the bottom up. Strap may be bent one full cycle.
- Bending the strap 90° to aid wall placement may cause spalling behind the strap. If the spall is 1" or less, measured from the embedment line to the bottom of the spall, full loads apply. For spalls between 1" and 4" (see illustration), the allowable load is 0.90 of the table loads. Any portion of the strap left exposed should be protected against corrosion.
- Where fewer fasteners are used in the structural member, reduce loads according to the code.
- Unless otherwise noted, do NOT install where: (a) a horizontal cold joint exists within the embedment depth between the slab and foundation wall or footing beneath, unless provisions are made to transfer the load, or the slab is designed to resist the load imposed by the anchor; or (b) slabs are poured over concrete block foundation walls.
- To get the full table load, the minimum center-to-center spacing is twice the embedment depth when resisting tension loads at the same time.
- There may be an increase in the amount of deflection if the strap is installed on the outside of the shear panel versus under the shear panel directly to the framing.

**FOUNDATION CORNERS:** Screw quantities may be reduced for less than  $l_e$  corner distance design loads—use the code allowable loads for fasteners in shear.

- To tie multiple stud members together, the Designer must determine the fasteners required to bind members to act as one unit.
- Additional studs attached to the shearwall studs or post may be required by the Designer for wall sheathing fastener.
- 1- #4 rebar must be installed in the shear cone

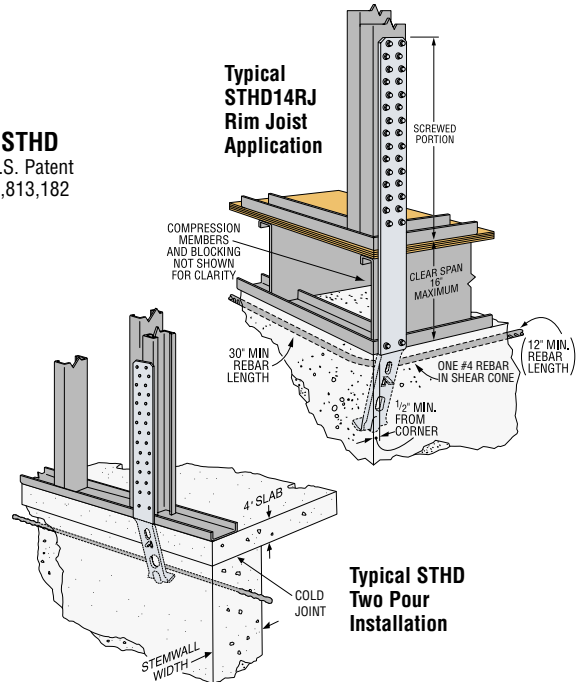
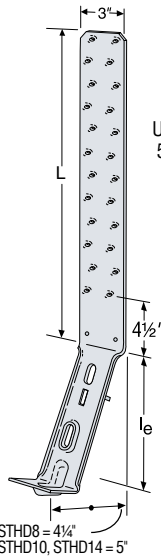
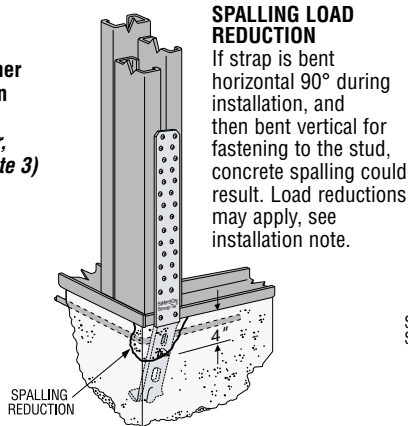
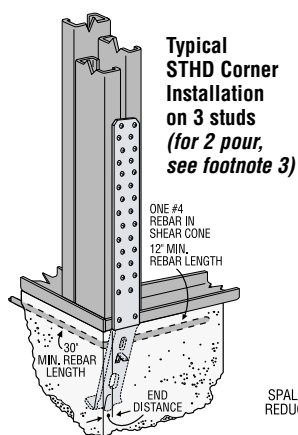
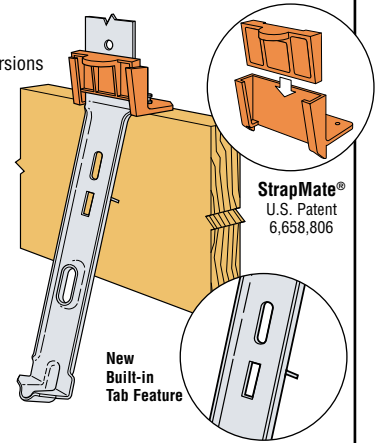
**CODES:** See page 8 for Code Listing Key Chart

### NEW FEATURES ON THE STHD STRAP TIE HOLDOWNS

- Built-in tab StrapMate®**  
Additional diamond hole in RJ versions

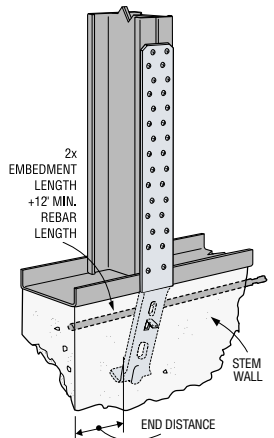
### BENEFITS

- Built-in Tab:**
- Reduces spalling and costly retrofits
  - No additional labor to install
  - Hold STHD away from form board
- StrapMate Locator Line:**
- Easy inspection to ensure proper location
  - Allows adjustment without removing STHD
- Additional Diamond Hole:**
- One more fastener to help prevent the STHD RJ models from bowing out at the rim joist section



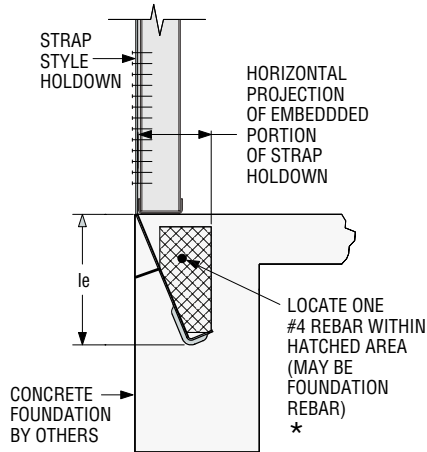
Model No. Standard / Rim Joist	Min Stem Wall Width	Strap Length (L)		$l_e$	Screws	Allowable ASD Tension Loads 33 mil (20 ga)									Code Ref
		Std Model	Rim Joist Model			End Distance									
						2000 psi Concrete			2500 psi Concrete			3000 psi Concrete			
						1/2"	1 1/2"	$l_e$	1/2"	1 1/2"	$l_e$	1/2"	1 1/2"	$l_e$	
STHD8 / STHD8RJ	6	21 3/8"	35 1/8"	8	18-#10	1760	2050	2345	1950	2210	2345	2135	2425	2425	ILC1, FC1
STHD10 / STHD10RJ	6	23 3/8"	36 3/8"	10	22-#10	2035	2575	3295	3730	3730	3730	3730	3730	3730	
STHD14 / STHD14RJ	6	31 3/8"	39 3/8"	14	30-#10	3235	4220	4805	5025	5025	5025	5025	5025	5025	
STHD8 / STHD8RJ	8	21 3/8"	35 1/8"	8	18-#10	2170	2170	3180	2370	2370	3180	2370	2370	3180	
STHD10 / STHD10RJ	8	23 3/8"	36 3/8"	10	22-#10	2745	2745	3725	3730	3730	3730	3730	3730	3730	
STHD14 / STHD14RJ	8	31 3/8"	39 3/8"	14	34-#10	3885	4430	5785	5025	5025	5785	5025	5025	5785	

1. 'RJ' after the model indicates STHDs for rim joist applications, e.g. STHD8RJ.
2. For two pour with 4" slab or less. The STHD14 load at 1/2" edge 2000 psi is 2035 lbs. The STHD10 at the same condition is 2035 lbs.
3. Not all fastener holes need to be filled as additional fastener holes provided. Install fasteners symmetrically.
4. Table loads apply to end installation applications provided there is a minimum end distance of  $l_e$ .

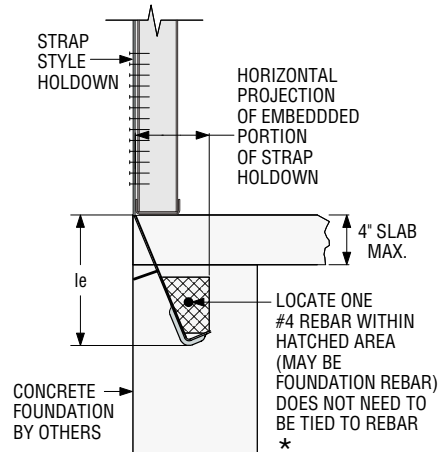


**Typical STHD End Installation (see footnote 6)**

**STHD** Strap Tie Holdown



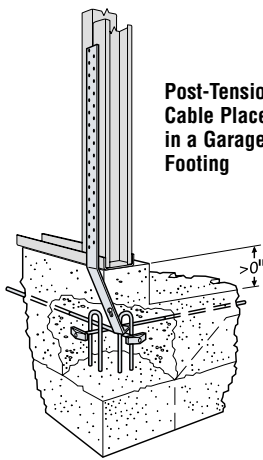
**Single Pour Rebar Installation**  
*\*Maintain minimum rebar cover, per ACI-318 concrete code requirements.*



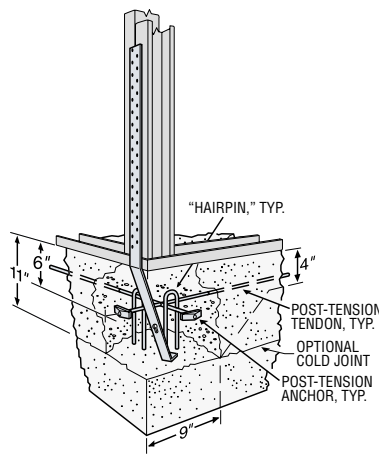
**Two Pour Rebar Installation**  
*\*Maintain minimum rebar cover, per ACI-318 concrete code requirements.*

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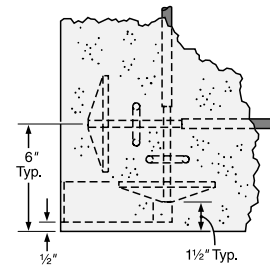
**POST-TENSION INFORMATION**



**DETAIL 1**  
When installed on a raised curb, use stemwall installation and loads (see pages 29-31) (rebar required)



**DETAIL 2**  
Post-Tension Cable Placement Corner Installation (no rebar required)



**Top View of Post-Tension Cable Placement**

C-CFS10 © 2010 SIMPSON STRONG-TIE COMPANY INC.

Model No.	Distance from Corner	Fasteners			Allowable ASD Tension Loads	Code Ref.
		33 mil (20 ga)	43 mil (18 ga)	54 mil (16 ga)		
S/HPAHD22	½" Min	16- #10	11- #10	6- #10	2705	170
	8" Min	25- #10 <sup>5</sup>	23- #10	23- #10	4740 <sup>5</sup>	
STHD8/ STHD8RJ	½" Min	12- #10	8- #10	4- #10	2055	
	8" Min	16- #10	11- #10	6- #10	2780	
STHD10/ STHD10RJ	½" Min	12- #10	8- #10	4- #10	2055	
	10" Min	19- #10	13- #10	7- #10	3240	

1. Minimum concrete strength is 2500 psi.
2. Post-tension steel is minimum ½" diameter, 7-wire, low-relaxation strand in accordance with ASTM A416, Grade 270 ksi, with a guaranteed ultimate strength of 41.3 k.
3. Anchorage is monostrand-type anchor system with current ICC approval using a ductile iron casting of at least 2.25' x 4.5' of bearing and reusable pocket formers on all stressing ends.
4. It is the designer's responsibility to provide reinforcement to tie cold-joints and to resist bending stresses in the foundation due to anchor uplift.
5. For S/HPAHD attaching to 33 mil (20 ga) CFS, the allowable load is 4420 lbs.