

STHD/LSTHD Strap Tie Holdowns



This product is preferable to similar connectors because of a) easier installation, b) higher loads, c) lower installed cost, or a combination of these features.

The STHD is an embedded strap-tie holdown offering high-load capacity. The STHD incorporates many features that aid correct installation and improve performance. When installed on the forms with the StrapMate® strap holder, the unique design of the STHD delivers enhanced stability before and during the pour to help prevent both parallel and perpendicular movement (relative to the form). This results in accurate positioning of the strap and reduced possibility of spalling.

Features

- The fastener pattern allows for fastening to the edges of back-to-back studs
- Strap nail slots are countersunk to provide a lower nail head profile
- The slots below the embedment line enable increased front-to-back concrete bond and help to reduce spalling
- Rim joist models accommodate up to a 17" clear span without any loss of strap fastening

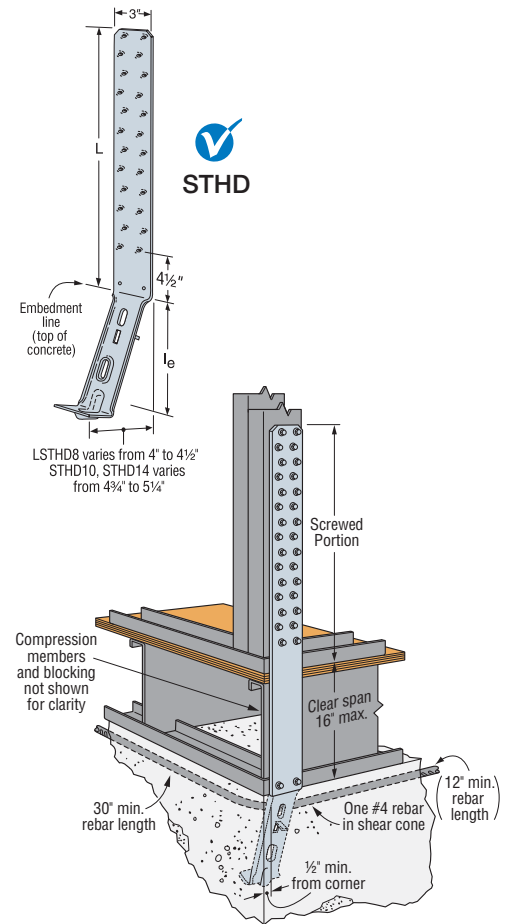
Material: LSTHD8, LSTHD8RJ — 14 gauge, all others — 12 gauge

Finish: Galvanized

Installation: • Use all specified fasteners; see General Notes.

- Use table below for both standard concrete and post-tension slab installations.
- Install before concrete pour with a StrapMate® or other holding device.
- Fasten strap from the bottom up.
- Strap may be bent one full cycle (bent horizontal 90° then bent vertical) to aid wall placement, but 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. 1" to 4" spalls for LSTHD8 achieve 0.9 times table loads. STHD10 and STHD14 achieve full load for spalls less than 4". Any portion of the strap left exposed should be protected against corrosion.
- Other than where noted in the two-pour detail, 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.
- Additional studs attached to the shearwall studs or post may be required by the Designer for wall sheathing fastening.
- For installation in severe corrosion environments, refer to strongtie.com for additional considerations.

Codes: See p. 11 for Code Reference Key Chart



Typical STHD14RJ Rim Joist Application

Allowable Stress Design (ASD) Loads for STHD Strap Style Hold-Down on CFS — 2,500 psi Concrete

Wind and SDC A&B — Allowable Tension Load (lb.) — 33 mil (20 ga.) Studs														Code Ref.
Min. Stem Wall (in.)	Model No.		Strap Length (L)		le (in.)	Non-Cracked				Cracked				
	Standard	Rim Joist	Standard (in.)	Rim Joist (in.)		Req'd Screws ⁵	Mid Wall	Corner	End Wall	Req'd Screws ⁵	Mid Wall	Corner	End Wall	
6	LSTHD8	LSTHD8RJ	18%	32½	8	(20) #10	3,115	2,700	1,690	(16) #10	2,675	2,320	1,455	
	STHD10	STHD10RJ	24%	38½	10	(24) #10	3,690	3,820	2,050	(22) #10	3,140	3,140	1,705	
	STHD14	STHD14RJ	26½	39%	14	(30) #10	5,150	5,150	3,200	(30) #10	5,150	5,150	3,200	
8	LSTHD8	LSTHD8RJ	18%	32½	8	(20) #10	3,115	2,700	2,230	(16) #10	2,675	2,320	1,915	
	STHD10	STHD10RJ	24%	38½	10	(28) #10	4,755	4,120	3,145	(26) #10	4,195	3,500	2,585	
	STHD14	STHD14RJ	26½	39%	14	(30) #10	5,300	5,300	4,210	(30) #10	5,300	5,300	4,210	
SDC C–F — Allowable Tension Load (lb.) — 33 mil (20 ga.) Studs														
Min. Stem Wall (in.)	Model No.		Strap Length (L)		le (in.)	Non-Cracked				Cracked				
	Standard	Rim Joist	Standard (in.)	Rim Joist (in.)		Req'd Screws ⁵	Mid Wall	Corner	End Wall	Req'd Screws ⁵	Mid Wall	Corner	End Wall	
6	LSTHD8	LSTHD8RJ	18%	32½	8	(16) #10	2,270	2,090	1,220	(14) #10	2,250	1,950	1,220	
	STHD10	STHD10RJ	24%	38½	10	(18) #10	2,750	2,750	1,615	(18) #10	2,640	2,640	1,435	
	STHD14	STHD14RJ	26½	39%	14	(22) #10	3,695	3,695	2,685	(22) #10	3,695	3,695	2,685	
8	LSTHD8	LSTHD8RJ	18%	32½	8	(16) #10	2,615	2,125	1,635	(14) #10	2,250	1,820	1,610	
	STHD10	STHD10RJ	24%	38½	10	(20) #10	3,400	2,940	2,295	(20) #10	3,400	2,940	2,175	
	STHD14	STHD14RJ	26½	39%	14	(24) #10	3,815	3,815	3,500	(24) #10	3,815	3,815	3,500	

18, FL

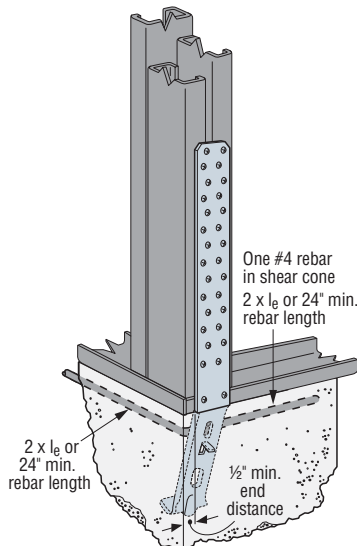
For SI: 1 in. = 25.4 mm, 1 lb. = 4.45 N, 1 psi = 6.895 kPa.

1. Deflection at highest allowable loads for install over CFS double studs are as follows: LSTHD8 = 0.065", STHD8 = 0.071", STHD10 = 0.096" and STHD14 = 0.115".
2. Multiply Seismic and Wind ASD load values by 1.4 or 1.6 respectively to obtain LRFD capacities.
3. Per 2009 and 2013 IBC Section 1613, detached one- and two-family

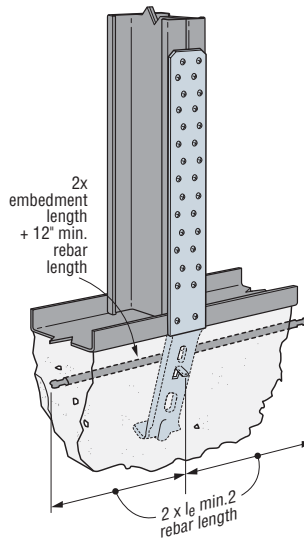
dwelling in Seismic Design Category (SDC) C may use "Wind and SDC A&B" allowable loads.

4. Minimum center-to-center spacing is three times the required embedment ($S_{min} = 3 \times l_e$) for STHD's acting in tension simultaneously. Mid wall install is based on 1.5xle end distance.
5. See pp. 138 through 171 for more information on Simpson Strong-Tie fasteners.

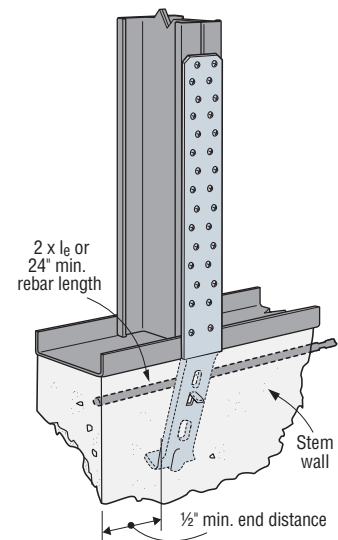
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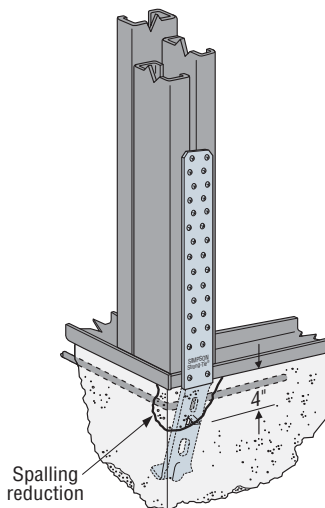
Typical STHD14 Corner Installation on Three Studs
(end of wall similar)



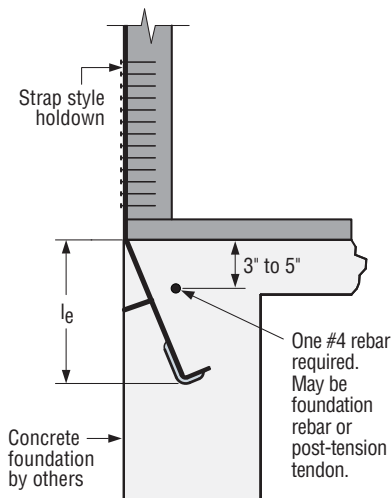
Typical STHD14 Mid-Wall Installation



Typical STHD End Installation

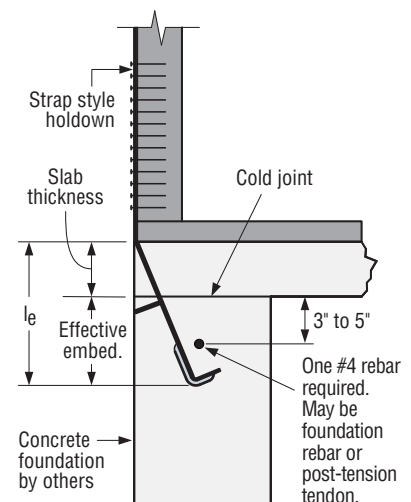


Spalling Load Reduction
If strap is bent horizontal 90° during installation, and then bent vertical for fastening to the stud, concrete spalling could result. Load reductions may apply, see installation note.



Single-Pour Rebar Installation

*Maintain minimum rebar cover, per ACI-318 concrete code requirements.



Two-Pour Installation for Downturn Footings

Spall Reduction System for STHD Holdown

Features

- Built-in tab
- StrapMate® locator line
- Additional diamond hole in RJ versions

Benefits

Built-in Tab:

- Reduces spalling and costly retrofits.
- No additional labor to install.
- Holds 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.

