

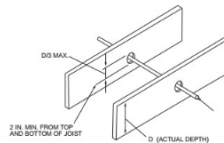
September 24, 2021

Summit Homes
120 SE 30th St.
Lee's Summit, MO 64082

RE: Field Issue of 3.5" deep x 3.5" wide notch in floor joist for Lot # 116 Woodside Ridge – 2134 NW Killarney Lane Lee's Summit MO 64081 – Permit # PRRES20211584

This letter addresses the 3.5" x 3.5" notch in floor joist for master bath toilet in second floor framing.

- Notch is at top of joist and is approximately 3.5" x 3.5" for master bath toilet. Notch is approximately 9" from LVL support.
- Floor joists span approximately 7'-3" and are #2 2x10 at 16" oc. Floor joists have standard D=10 psf and L=40 psf loading.
- Install a 24" length of CS-16 coil strap at bottom of floor joist centered over notch. Install with fasteners per manufacturer's specs.
- Install a CTS218 strap on side of floor joist without plumbing extruding at top of floor joist per manufacturer's specs. CTS218 strap shall be installed with rolled edges on outside of floor joist.



For SI: 1 inch = 25.4 mm.

FIGURE R502.8 CUTTING, NOTCHING AND DRILLING

R502.8.1 Sawn lumber.

Notches in solid lumber joists, rafters and beams shall not exceed one-sixth of the depth of the member, shall not be longer than one-third of the depth of the member and shall not be located in the middle one-third of the span. Notches at the ends of the member shall not exceed one-fourth the depth of the member. The tension side of members 4 inches (102 mm) or greater in nominal thickness shall not be notched except at the ends of the members. The diameter of holes bored or cut into members shall not exceed one-third the depth of the member. Holes shall not be closer than 2 inches (51 mm) to the top or bottom of the member, or to any other hole located in the member. Where the member is notched, the hole shall not be closer than 2 inches (51 mm) to the notch.

SD Connector screw. See pp. 39–40 for more information.

Model No.	Total L	Ga.	DF/SP		SPF/HF		Allowable Tension Loads (160)	Code Ref.
			Fasteners	End Length	Fasteners	End Length		
CMST12	40'	12	(74) 16d	33"	(84) 16d	38"	9,215	I4, L3, FL
			(86) 10d	39"	(98) 10d	44"	9,215	
CMST14	52½'	14	(56) 16d	26"	(66) 16d	30"	6,490	
			(66) 10d	30"	(76) 10d	34"	6,490	
CMSTC16	54'	16	(50) 16d sinker	20"	(58) 16d sinker	25"	4,585	
CS14	100'	14	(26) 10d	15"	(30) 10d	16"	2,490	
			(30) 8d	16"	(36) 8d	19"	2,490	
CS16	150'	16	(20) 10d	11"	(22) 10d	13"	1,705	
			(22) 8d	13"	(26) 8d	14"	1,705	
CS18	200'	18	(16) 10d	9"	(18) 10d	11"	1,370	
			(18) 8d	11"	(22) 8d	12"	1,370	
CS20	250'	20	(12) 10d	6"	(14) 10d	9"	1,030	
			(14) 8d	9"	(16) 8d	9"	1,030	
CS22	300'	22	(10) 10d	7"	(12) 10d	7"	845	
			(12) 8d	7"	(14) 8d	8"	845	

1. Fastener quantities and end lengths are calculated using an increase for wind or seismic loading.

Multi-strap configurations

- Meets the requirements of the IBC and IRC for repairing top plates that have been cut or notched to accommodate plumbing or HVAC ductwork

Material: 14 gauge

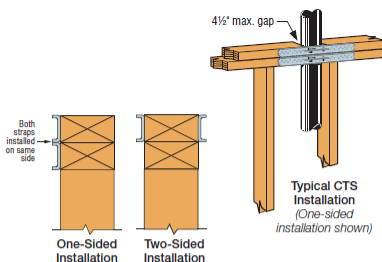
Finish: Galvanized

Installation:

- Use all specified fasteners; see General Notes.
- One-sided installations — install one or two CTS straps on the same side of the member.
- Two-sided installation — install CTS straps on opposite sides of member. For three-part installations, install two parts on one side, one part on opposite side.

Codes: See p. 14 for Code Reference Key Chart

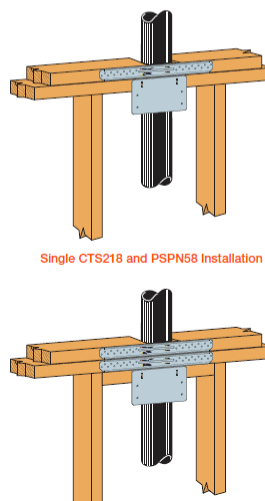
- International Building Code® – 2012/2015 2308.5.8



These products are approved for installation with the Strong-Drive® SD Connector screw. See pp. 39–40 for more information.

Model No.	Strap Qty.	Installation	Fasteners (Per Strap)	Allowable Loads DF/SP		Allowable Loads SPF/HF		Code Ref.
				Compression (160)	Tension (160)	Compression (160)	Tension (160)	
CTS218	1	One sided	(24) 10d x 1½"	1,020	2,270	880	1,970	FL, I4, L3
	2	One sided		2,045	4,540	1,760	3,940	
	3	Two sided		2,370	4,540	2,040	3,940	
	4	Two sided		3,725	6,810	3,205	5,910	
	1	One sided	(24) SD #9 x 1½"	4,740	9,080	4,080	7,880	
	2	One sided		1,175	2,480	1,010	2,150	
	3	Two sided		2,350	4,960	2,020	4,300	
	4	Two sided		2,735	4,960	2,350	4,300	
CTS218	1	One sided	(24) SD #9 x 1½"	4,130	7,440	3,550	6,450	FL, I4, L3
	2	Two sided		5,470	9,920	4,700	8,600	

- Allowable loads have been increased for wind or seismic with no further increase allowed; reduce where other loads govern.
- Fastener quantities are for a single strap.
- Maximum gap between wood members is 4½".
- Fasteners: 10d x 1½" = 0.148" dia. x 1½", SD #9 x 1½" = 0.131" dia. x 1½" long. See pp. 26–27 for other nail sizes and information.



Single CTS218 and PSPN58 Installation

Sincerely,

Bradley Huxol

Bradley Huxol, PE

