

CS/CMST/CMSTC

Coiled Straps

Coiled straps are continuous utility straps which can be cut to length at the jobsite. CMSTC provides countersunk nail slots for lower profile when installed with 0.148" x 3/4" sinkers.

Finish: Galvanized. Some products available in ZMAX® coating. CS may be ordered in stainless steel (order CS16SS-R).

Material: See table

Installation:

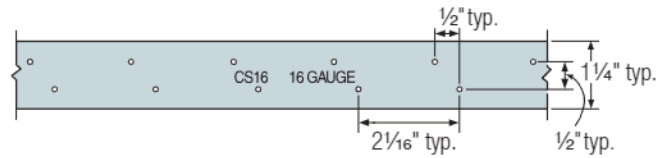
- Use all specified fasteners; see General Notes.
- Wood shrinkage after strap installation across horizontal wood members may cause strap to buckle outward.
- Refer to the applicable code for minimum nail penetration and minimum wood edge and end distances.
- The table shows the maximum allowable loads and the nails required to obtain them. Fewer nails may be used; reduce the allowable load as shown in the table notes or in the Straps and Ties General Notes on pp. 276–277.
- For lap splice and alternate nailing information, refer to p. 285.
- The cut length of the strap shall be equal to twice the “End Length” noted in the table plus the clear span dimension.
- CS straps are available in 25' lengths (add -R to model no.).

CMST:

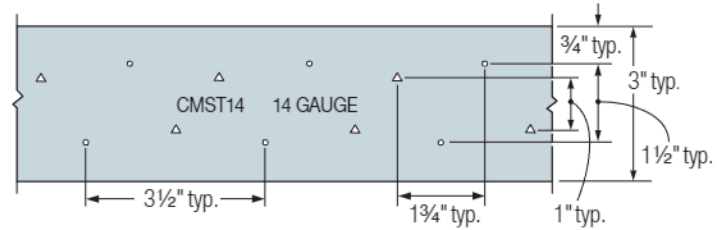
- Use every other round hole if the wood tends to split.
- **Fill round and triangle holes for loads shown. If wood tends to split, fill only round holes and double the end length listed for full load.**

Codes: See p. 13 for Code Reference Key Chart

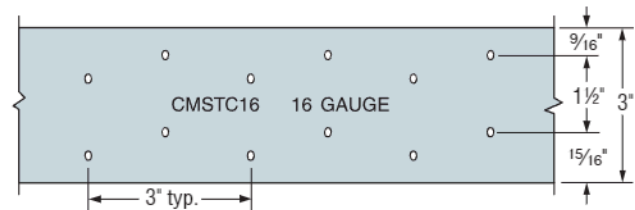
Web Applications: Visit app.strongtie.com/csc to access our Coil Strap Calculator web application.



CS16 Hole Pattern
(all other CS straps similar)

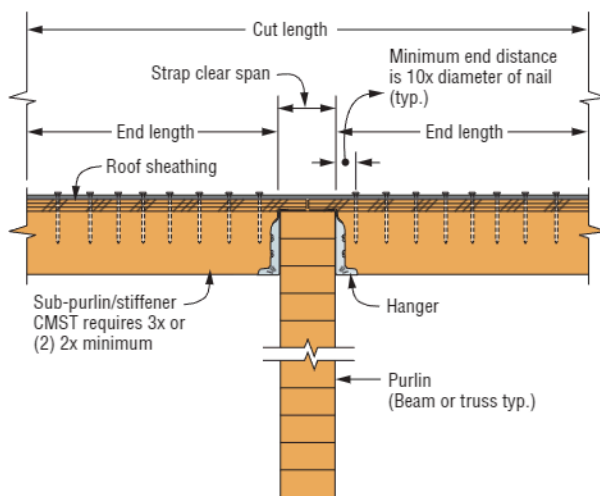


CMST14 Hole Pattern
(CMST12 similar)

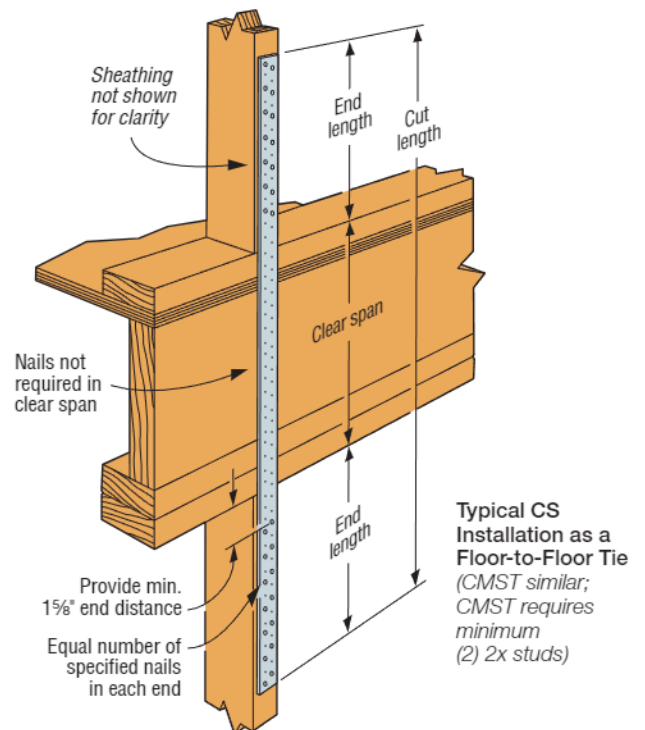


CMSTC16 Hole Pattern

Gauge stamped on part for easy identification



Typical Horizontal CS/CMST Installation



Typical CS Installation as a Floor-to-Floor Tie
(CMST similar; CMST requires minimum (2) 2x studs)

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Coiled Straps (cont.)

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

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

SD Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 362–366 for more information.

Model No.	Total L (ft.)	Ga.	DF/SP		SPF/HF		Allowable Tension Loads (160)	Code Ref.
			Fasteners (in.)	End Length (in.)	Fasteners (in.)	End Length (in.)		
CMST12	40	12	(74) 0.162 x 2½	33	(84) 0.162 x 2½	38	9,215	IBC®, FL, LA
			(86) 0.148 x 2½	39	(98) 0.148 x 2½	44	9,215	
CMST14	52½	14	(56) 0.162 x 2½	26	(66) 0.162 x 2½	30	6,475	
			(66) 0.148 x 2½	30	(76) 0.148 x 2½	34	6,475	
CMSTC16	54	16	(50) 0.148 x 3¼	20	(50) 0.148 x 3¼	25	4,690	
CS14	100	14	(26) 0.148 x 2½	15	(30) 0.148 x 2½	16	2,490	
			(30) 0.131 x 2½	16	(36) 0.131 x 2½	19	2,490	
SS CS16	150	16	(20) 0.148 x 2½	11	(22) 0.148 x 2½	13	1,705	
			(22) 0.131 x 2½	13	(26) 0.131 x 2½	15	1,705	
CS18	200	18	(16) 0.148 x 2½	9	(18) 0.148 x 2½	11	1,370	
			(18) 0.131 x 2½	11	(22) 0.131 x 2½	12	1,370	
CS20	250	20	(12) 0.148 x 2½	7	(14) 0.148 x 2½	9	1,030	
			(14) 0.131 x 2½	9	(16) 0.131 x 2½	9	1,030	
CS22	300	22	(10) 0.148 x 2½	6	(12) 0.148 x 2½	7	845	
			(12) 0.131 x 2½	7	(14) 0.131 x 2½	8	845	

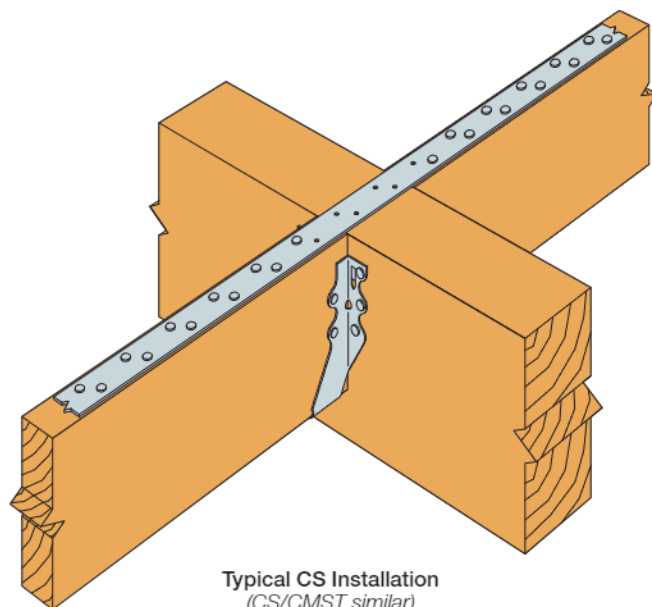
- See pp. 276–277 for Straps and Ties General Notes.
- Calculate the connector value for a reduced number of nails as follows:

$$\text{Allowable Load} = \frac{\text{No. of Nails Used}}{\text{No. of Nails in Table}} \times \text{Table Load}$$

Example: CMSTC16 in DF/SP with 40 nails total.
(Half of the nails in each member being connected)

$$\text{Allowable Load} = \frac{40 \text{ Nails (Used)}}{50 \text{ Nails (Table)}} \times 4,690 \text{ lb.} = 3,752 \text{ lb.}$$

- See p. 285 for alternate nailing and lap splice information.
- Fasteners:** Nail dimensions are listed diameter by length. See pp. 23–24 for fastener information.



Typical CS Installation
(CS/CMST similar)

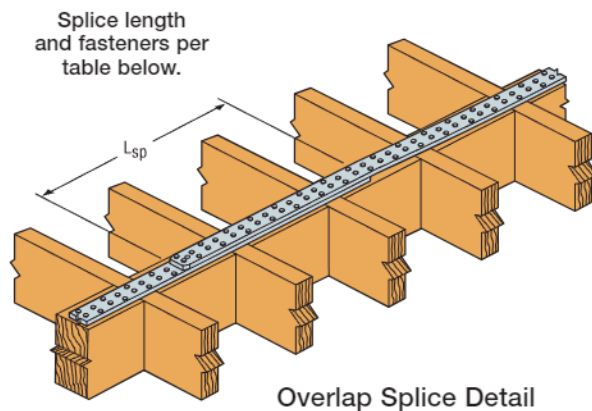
CS/CMST/CMSTC

Coiled Straps (cont.)

Lap splicing of coiled straps can be used to extend standard strap lengths for designing continuous drag elements and diaphragm chord members. The Strap Lap Splices table provides the minimum splice length (L_{sp}) and fasteners, within the splice length, to achieve the highest allowable capacity of the strap.

The Allowable Loads for Alternative Nailing table provides information for coiled straps when installed with different nailing schedules. The highest allowable load given for each model is limited by the steel capacity.

The Engineer/Designer of Record must evaluate and determine the adequacy of the coiled strap's lap splice and alternative nailing applications to meet their design loads.



Strap Lap Splices

Model No.	Ga.	Strap Lap Splice	
		Minimum Fasteners per Splice	Min. Splice Length, L_{sp} (in.)
CMST12	12	(18) 0.162 x 2 1/2	18
		(22) 0.148 x 2 1/2	21
CMST14	14	(13) 0.162 x 2 1/2	14
		(15) 0.148 x 2 1/2	15
CMSTC16	16	(11) 0.162 x 2 1/2	10
		(11) 0.148 x 2 1/2	10
CS14	14	(6) 0.148 x 2 1/2	9
		(7) 0.131 x 2 1/2	10
CS16	16	(5) 0.148 x 2 1/2	8
		(6) 0.131 x 2 1/2	9
CS18	18	(5) 0.148 x 2 1/2	8
		(5) 0.131 x 2 1/2	8
CS20	20	(5) 0.148 x 2 1/2	8
		(5) 0.131 x 2 1/2	8
CS22	22	(4) 0.148 x 2 1/2	5
		(4) 0.131 x 2 1/2	6

- See pp. 276–277 for Straps and Ties General Notes.
- 0.148" x 2 1/2" nails can be replaced by 0.148" x 3 1/4" nails. No other nail substitution is allowed for lap splices.
- Refer to the applicable code for minimum edge distance and minimum end distance.
- No strap modification is allowed and the splice must meet both the minimum number of fasteners and the minimum splice length.

Allowable Loads for Alternative Nailing

Model No.	Ga.	Total Coil Length (ft.)	Fasteners (in.)	DF/SP Allowable Tension Loads	End Length (in.)				
				(160)	Nail Installed in Every Hole	Nail Installed in Every Other Hole			
CMST12	12	40	(66) 0.162 x 2 1/2	8,415	30	58			
			(58) 0.162 x 2 1/2	7,395	27	51			
			(50) 0.162 x 2 1/2	6,375	23	44			
			(76) 0.148 x 2 1/2	8,320	35	66			
			(60) 0.148 x 2 1/2	7,445	31	59			
CMST14	14	52 1/2	(48) 0.162 x 2 1/2	5,615	22	42			
			(40) 0.162 x 2 1/2	4,680	19	35			
			(32) 0.162 x 2 1/2	3,745	15	28			
			(58) 0.148 x 2 1/2	5,770	27	51			
			(50) 0.148 x 2 1/2	4,975	23	44			
CMSTC16	16	54	(42) 0.162 x 2 1/2	4,690	17	32			
			(34) 0.162 x 2 1/2	3,875	14	26			
			(26) 0.162 x 2 1/2	2,965	11	20			
			(18) 0.162 x 2 1/2	2,050	8	14			
			(48) 0.148 x 2 1/2	4,610	19	35			
			(40) 0.148 x 2 1/2	3,840	16	29			
			(32) 0.148 x 2 1/2	3,070	13	23			
CS14	14	100	(24) 0.148 x 2 1/2	2,390	13	23			
			(22) 0.148 x 2 1/2	2,190	13	22			
			(28) 0.131 x 2 1/2	2,340	15	27			
			(26) 0.131 x 2 1/2	2,170	15	27			
			CS16	16	150	(18) 0.148 x 2 1/2	1,700	11	18
						(16) 0.148 x 2 1/2	1,510	9	15
						(20) 0.131 x 2 1/2	1,570	11	19
CS18	18	200	(18) 0.131 x 2 1/2	1,415	11	18			
			(14) 0.148 x 2 1/2	1,370	8	15			
			(12) 0.148 x 2 1/2	1,110	7	13			
			(16) 0.131 x 2 1/2	1,230	9	17			
CS20	20	250	(14) 0.131 x 2 1/2	1,080	8	15			
			(10) 0.148 x 2 1/2	915	6	10			
			(12) 0.131 x 2 1/2	910	7	11			
CS22	22	300	(8) 0.148 x 2 1/2	730	5	9			
			(10) 0.131 x 2 1/2	755	6	11			

- See pp. 276–277 for Straps and Ties General Notes.
- Fasteners:** Nail dimensions are listed diameter by length. See pp. 23–24 for fastener information.