

CS/CMST/CMSTC/CSHP

Coiled Straps

Coiled straps are continuous utility straps which can be cut to length at the jobsite. The patent-pending CSHP high-performance coil strap features a raised embossment that makes it easy to install with a power framing nailer. This tested feature provides improved performance — resulting in fewer nails, shorter straps and overall lower installed cost. 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; see Corrosion Information, pp. 12–15. 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. 266-267.
- For lap splice and alternate nailing information, refer to p. 274.
- The cut length of the strap shall be equal to twice the “End Length” noted in the table plus the clear span dimension.
- **CS/CSHP straps are available in 25' lengths (add -R to model no.).**

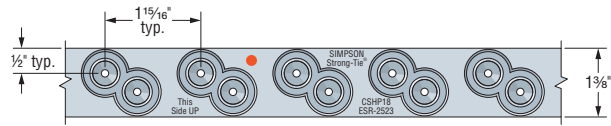
CSHP:

- The colored dot must be installed facing out.
- **Designed to be installed with a power framing nailer using concentric, full round-head nails.**

CMST:

- Use every other round hole if the wood tends to split.
- Use round and triangle holes for comparable MST loads, providing wood does not tend to split.

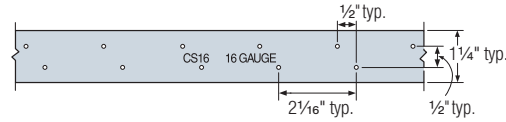
Codes: See p. 11 for Code Reference Key Chart



CSHP

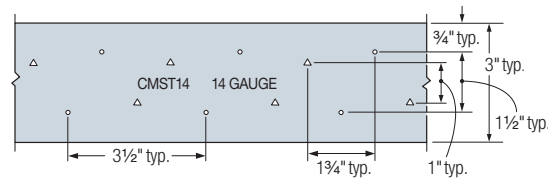
US Patent Pending

Colored dots indicate nailing face and strap model.
CSHP18: Orange — CSHP20: Black



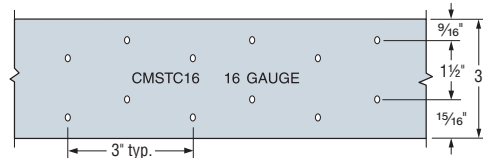
CS16 Hole Pattern

(all other CS straps similar)



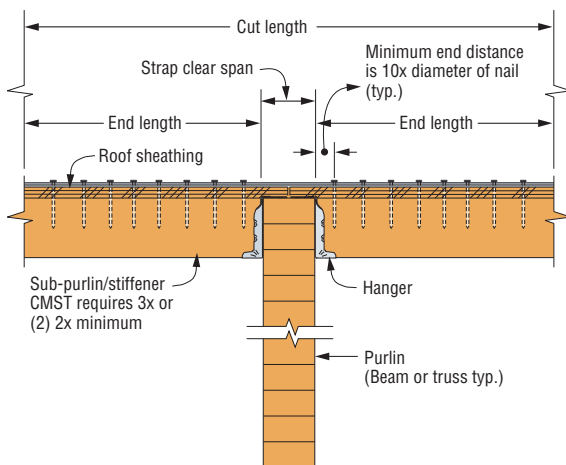
CMST14 Hole Pattern

(CMST12 similar)

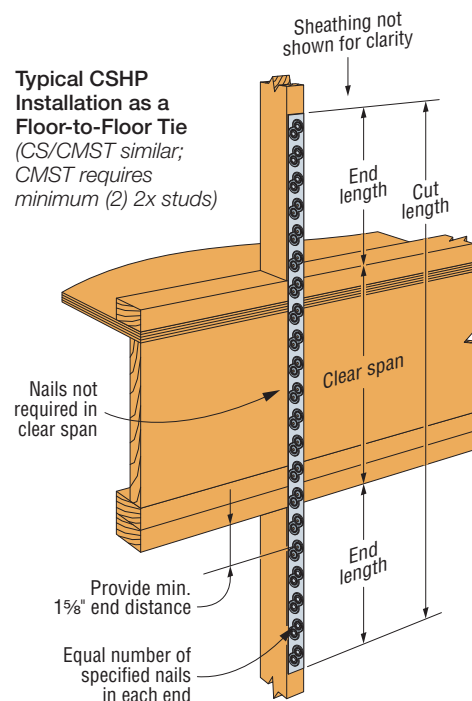


CMSTC16 Hole Pattern

Gauge stamped on part for easy identification



Typical Horizontal CS/CMST/CSHP Installation



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

CS/CMST/CMSTC/CSHP

Coiled Straps (cont.)

These products are available with additional corrosion protection. For more information, see p. 14.

SS For stainless-steel fasteners, see p. 21.

SD Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 348–352 for more information.

Model No.	Total L	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	(58) 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	
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	
CSHP18	75'	18	(14) 0.148 x 2½	9	(16) 0.148 x 2½	10	1,540	
			(16) 0.131 x 2½	10	(18) 0.131 x 2½	11	1,540	
CSHP20	75'	20	(12) 0.148 x 2½	8	(12) 0.148 x 2½	8	1,160	
			(12) 0.131 x 2½	8	(14) 0.131 x 2½	9	1,160	

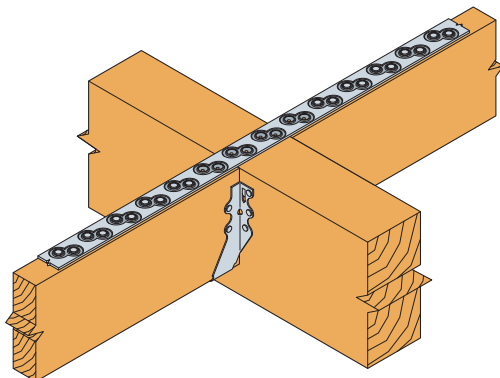
- See pp. 266–267 for Straps and Ties General Notes.
- Calculate the connector value for a reduced number of nails as follows:

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

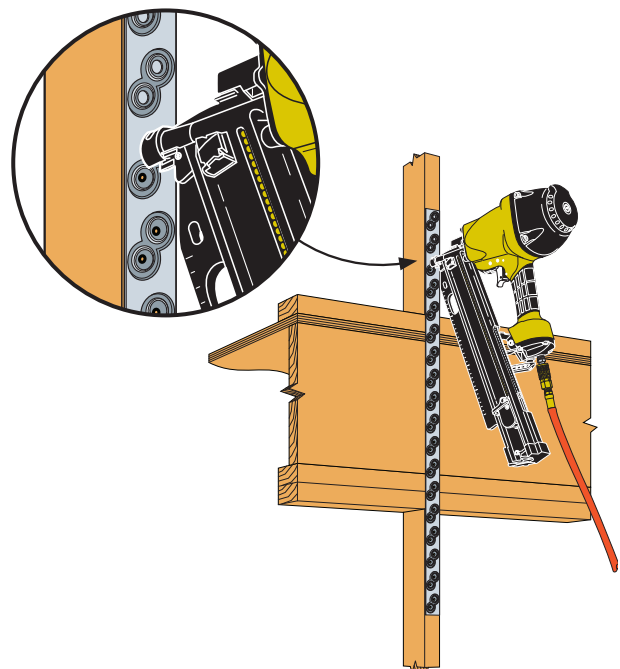
Example: CMSTC16 in DF/SP with 40 nails total.
(Half of the nails in each member being connected)

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

- See p. 274 for alternate nailing and lap splice information.
- Fasteners:** Nail dimensions are listed diameter by length. See pp. 21–22 for fastener information.



Typical CSHP Installation
(CS/CMST similar)



Typical CSHP Installation

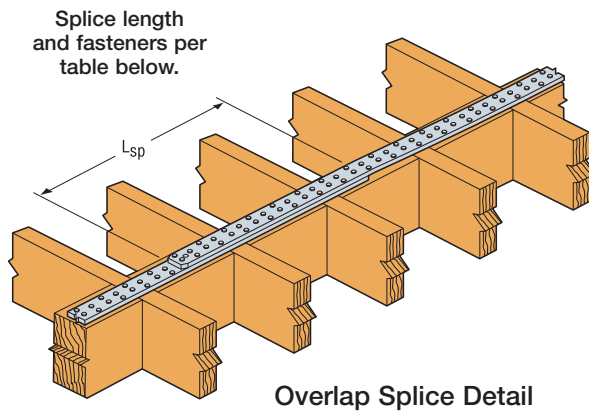
CS/CMST/CMSTC/CSHP

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 2½	18
		(22) 0.148 x 2½	21
CMST14	14	(13) 0.162 x 2½	14
		(15) 0.148 x 2½	15
CMSTC16	16	(11) 0.162 x 2½	10
		(11) 0.148 x 2½	10
CS14	14	(6) 0.148 x 2½	9
		(7) 0.131 x 2½	10
CS16	16	(5) 0.148 x 2½	8
		(6) 0.131 x 2½	9
CS20	20	(5) 0.148 x 2½	8
		(5) 0.131 x 2½	8
CSHP18	18	(7) 0.148 x 2½	9
		(7) 0.131 x 2½	9
CSHP20	20	(6) 0.148 x 2½	8
		(7) 0.131 x 2½	9

- See pp. 266–267 for Straps and Ties General Notes.
- 0.148" x 2½" nails can be replaced by 0.148" x 3¼" 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 2½	8,415	30	58
			(58) 0.162 x 2½	7,395	27	51
			(50) 0.162 x 2½	6,375	23	44
			(76) 0.148 x 2½	8,320	35	66
			(68) 0.148 x 2½	7,445	31	59
CMST14	14	52.5	(60) 0.148 x 2½	6,570	28	52
			(48) 0.162 x 2½	5,615	22	42
			(40) 0.162 x 2½	4,680	19	35
			(32) 0.162 x 2½	3,745	15	28
			(58) 0.148 x 2½	5,770	27	51
CMSTC16	16	54	(50) 0.148 x 2½	4,975	23	44
			(42) 0.148 x 2½	4,180	20	37
			(42) 0.162 x 2½	4,690	17	32
			(34) 0.162 x 2½	3,875	14	26
			(26) 0.162 x 2½	2,965	11	20
			(18) 0.162 x 2½	2,050	8	14
			(48) 0.148 x 2½	4,610	19	35
CS14	14	100	(40) 0.148 x 2½	3,840	16	29
			(32) 0.148 x 2½	3,070	13	23
			(24) 0.148 x 2½	2,305	10	17
			(16) 0.148 x 2½	1,535	7	11
			(24) 0.148 x 2½	2,390	13	23
CS16	16	150	(22) 0.148 x 2½	2,190	13	22
			(28) 0.131 x 2½	2,340	15	27
			(26) 0.131 x 2½	2,170	15	27
CS16	16	150	(18) 0.148 x 2½	1,700	11	18
			(16) 0.148 x 2½	1,510	9	15
			(20) 0.131 x 2½	1,570	11	19
CS20	20	250	(18) 0.131 x 2½	1,415	11	18
			(10) 0.148 x 2½	915	6	10
CS20	20	250	(12) 0.131 x 2½	910	7	11
			(12) 0.148 x 2½	1,440	8	14
CSHP18	18	75	(10) 0.148 x 2½	1,200	8	12
			(14) 0.131 x 2½	1,445	9	16
			(12) 0.131 x 2½	1,240	8	14
CSHP20	20	75	(10) 0.148 x 2½	1,150	8	12
			(8) 0.148 x 2½	920	6	10
			(10) 0.131 x 2½	985	8	12
			(8) 0.131 x 2½	790	6	10

- See pp. 266–267 for Straps and Ties General Notes.
- Fasteners:** Nail dimensions are listed diameter by length. See pp. 21–22 for fastener information.