

HRS/ST/FHA/PS/LSTA/LSTI/MST/MSTA/MSTC/MSTI Strap Ties

Straps are load rated and provide the correct thickness and number of fasteners the specifier is looking for compared with field fabricated straps.

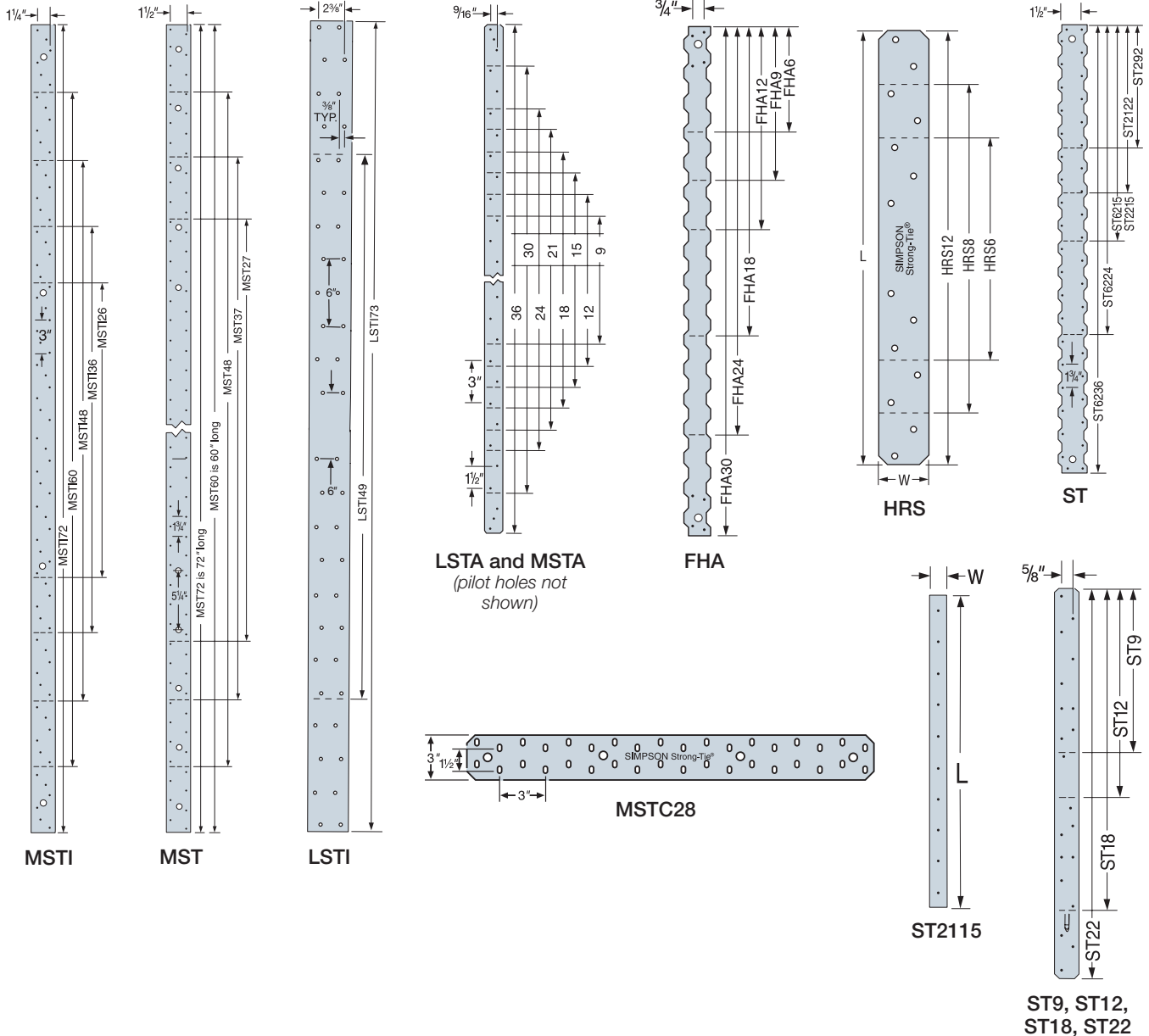
Install strap ties where top or bottom plates are cut, at wall intersections, and as ridge ties. Reduce the allowable load based on the size and quantity of fasteners used.

Refer to applicable code for minimum edge and end distances.

Finish: PS — hot-dip galvanized (HDG); all others — galvanized. Some products are available in stainless steel or ZMAX®; see Corrosion Information, pp. 17-19.

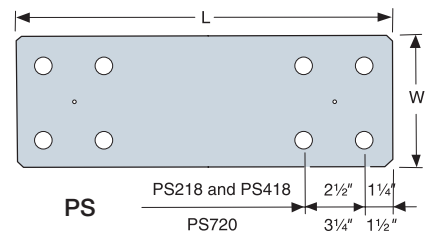
Installation: Use all specified fasteners; see General Notes

Codes: See p. 11 for Code Reference Key Chart



Model No.	Connector Material Thickness mil (ga.)	Dimensions (in.)		Bolts		Code Ref.
		W	L	Qty.	Dia. (in.)	
PS218	171 (7)	2	18	4	3/4	—
PS418		4	18	4	3/4	
PS720		6 3/4	20	8	1/2	

1. PS strap design loads must be determined by the designer for each illustration. Hole diameter in the part may be oversized to accommodate the HDG. Designer must determine if the oversize creates an unacceptable installation.



HRS/ST/FHA/PS/LSTA/LSTI/MST/MSTA/MSTC/MSTI Strap Ties

Codes: See p. 11 for Code Reference Key Chart

Model No.	Connector Material Thick. mil (ga.)	Dimensions (in.)		Fasteners ⁴ (Total)			Allowable ASD Tension Load (lb.)			Code Ref.
				Rafter/Stud/Joist Thickness			33 mil (20 ga.)	43 mil (18 ga.)	54 mil (16 ga.)	
		W	L	33 mil (20 ga.)	43 mil (18 ga.)	54 mil (16 ga.)				
LSTA9	33 (20)	1 ¼	9	(8) #10	(8) #10	(8) #10	705	1,120	1,190	IBC, FL, LA
LSTA12		1 ¼	12	(10) #10	(10) #10	(8) #10	885	1,190	1,190	
LSTA15		1 ¼	15	(12) #10	(12) #10	(10) #10	1,060	1,190	1,190	
LSTA18		1 ¼	18	(14) #10	(12) #10	(10) #10	1,190	1,190	1,190	
LSTA21		1 ¼	21	(14) #10	(12) #10	(10) #10	1,190	1,190	1,190	
LSTA24		1 ¼	24	(14) #10	(12) #10	(10) #10	1,190	1,190	1,190	
ST292		2 ⅝	9 ⅝	(12) #10	(10) #10	(10) #10	1,060	1,240	1,240	
ST2122		2 ⅝	12 ⅜	(16) #10	(12) #10	(10) #10	1,415	1,502	1,502	
ST2115		¾	16 ⅝	(8) #10	(6) #10	(4) #10	630	630	630	
ST2215		2 ⅝	16 ⅝	(20) #10	(14) #10	(10) #10	1,765	1,825	1,825	
LSTA30	43 (18)	1 ¼	30	(18) #10	(12) #10	(10) #10	1,555	1,555	1,555	
LSTA36		1 ¼	36	(18) #10	(16) #10	(14) #10	1,555	1,555	1,555	
LSTI49		3 ¾	49	(32) #10	(32) #10	(20) #10	2,830	4,050	4,050	
LSTI73		3 ¾	73	(46) #10	(32) #10	(20) #10	4,050	4,050	4,050	
MSTA9		1 ¼	9	(8) #10	(8) #10	(8) #10	705	1,050	1,555	
MSTA12		1 ¼	12	(10) #10	(10) #10	(8) #10	885	1,315	1,555	
MSTA15		1 ¼	15	(12) #10	(12) #10	(10) #10	1,060	1,555	1,555	
MSTA18		1 ¼	18	(14) #10	(12) #10	(10) #10	1,235	1,555	1,555	
MSTA21		1 ¼	21	(16) #10	(12) #10	(10) #10	1,415	1,555	1,555	
MSTA24		1 ¼	24	(18) #10	(12) #10	(10) #10	1,555	1,555	1,555	
MSTA30	54 (16)	1 ¼	30	(22) #10	(16) #10	(12) #10	1,945	1,950	1,950	
MSTA36		1 ¼	36	(24) #10	(18) #10	(16) #10	1,950	1,950	1,950	
ST6215		2 ⅝	16 ⅝	(20) #10	(16) #10	(10) #10	1,765	2,025	2,025	
ST6224		2 ⅝	23 ⅝	(28) #10	(20) #10	(12) #10	2,455	2,455	2,455	
ST9		1 ¼	9	(8) #10	(8) #10	(8) #10	705	1,050	1,350	
ST12		1 ¼	11 ⅝	(10) #10	(10) #10	(8) #10	885	1,315	1,350	
ST18		1 ¼	17 ¾	(14) #10	(12) #10	(12) #10	1,235	1,350	1,350	
ST22		1 ¼	21 ⅝	(20) #10	(20) #10	(20) #10	1,350	1,350	1,350	
MSTC28		3	28 ¼	(36) #10	(36) #10	(30) #10	3,180	4,600	4,600	
MSTC40		3	40 ¼	(52) #10	(46) #10	(46) #10	4,595	4,600	4,600	
MSTC52	3	52 ¼	(54) #10	(42) #10	(42) #10	4,600	4,600	4,600		
MSTC66	68 (14)	3	65 ¾	(66) #10	(46) #10	(30) #10	5,795	5,795	5,795	
MSTC78		3	77 ¾	(66) #10	(46) #10	(30) #10	5,795	5,795	5,795	
ST6236		2 ⅝	33 ⅜	(40) #10	(30) #10	(18) #10	3,535	3,760	3,760	
HRS6	97 (12)	1 ⅝	6	(6) #10	(6) #10	(6) #10	530	790	1,600	
HRS8		1 ⅝	8	(10) #10	(10) #10	(10) #10	885	1,315	2,670	
HRS12		1 ⅝	12	(14) #10	(14) #10	(12) #10	1,235	1,840	2,710	
FHA12		1 ⅞	11 ⅝	(8) #10	(8) #10	(8) #10	705	1,050	2,045	
FHA18		1 ⅞	17 ¾	(8) #10	(8) #10	(8) #10	705	1,050	2,045	
MSTI26		2 ⅝	26	(26) #10	(26) #10	(22) #10	2,300	3,420	5,025	
MSTI36		2 ⅝	36	(36) #10	(36) #10	(22) #10	3,180	4,735	5,025	
MSTI48		2 ⅝	48	(48) #10	(40) #10	(22) #10	4,240	5,025	5,025	
MSTI60		2 ⅝	60	(58) #10	(40) #10	(22) #10	5,025	5,025	5,025	
MST27		2 ⅝	27	(30) #10	(30) #10	(22) #10	2,650	3,945	5,025	
MST37	2 ⅝	37	(42) #10	(40) #10	(34) #10	3,710	5,025	5,025		
MST48	2 ⅝	48	(54) #10	(54) #10	(46) #10	4,770	5,155	5,155		
MST60	118 (10)	2 ⅝	60	(68) #10	(68) #10	(62) #10	5,820	6,420	6,650	
MST72		2 ⅝	72	(80) #10	(72) #10	(64) #10	6,650	6,650	6,650	

These products are available with additional corrosion protection. Additional products on this page may also be available with this option. Check with Simpson Strong-Tie for details.

1. Use half of the fasteners in each member being connected to achieve the listed loads.
2. Loads are based on lesser of steel capacity or fastener calculation.
3. Not all fastener holes need to be filled, as additional fastener holes are provided. Install fasteners symmetrically.
4. See *Fastening Systems* catalog (C-F-2019) on strongtie.com for more information on Simpson Strong-Tie fasteners.

HRS/ST/HTP/LSTA/LSTI/MST/MSTA/MSTC/MSTI

Strap Ties

Straps are designed to transfer tension loads in a wide variety of applications.

HRS — Heavy strap designed for installation on the edge of 2x members. The HRS416Z installs with Strong-Drive® SDS Heavy-Duty Connector screws.

HTP — Heavy tie plate designed for installation on the side of 2x4 or larger members.

LSTA and MSTA — Designed for use on the edge of 2x members, with a nailing pattern that reduces the potential for splitting.

LSTI and MSTI — Light and medium straps that are suitable where pneumatic-nailing is necessary through diaphragm decking and wood chord open-web trusses.

MST — High-capacity strap that can be installed with either nails or bolts. Suitable for double 2x member connections or greater.

MSTC — High-capacity strap that utilizes a staggered nail pattern to help minimize wood splitting. Nail slots have been countersunk to provide a lower nail head profile.

Finish: Galvanized. Some products are available in stainless steel, ZMAX® coating or black powder coat (add PC to SKU); contact Simpson Strong-Tie. See Corrosion Information, pp. 12–15.

Installation: Use all specified fasteners; see General Notes

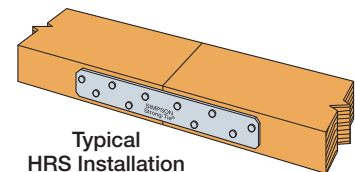
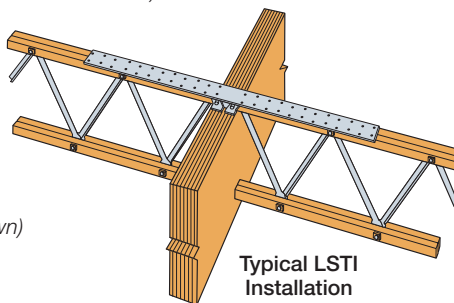
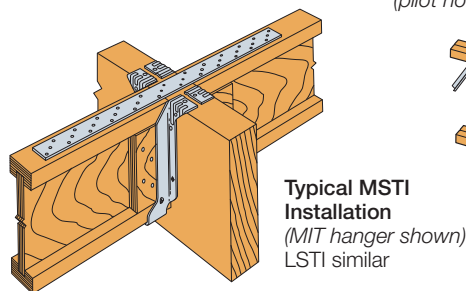
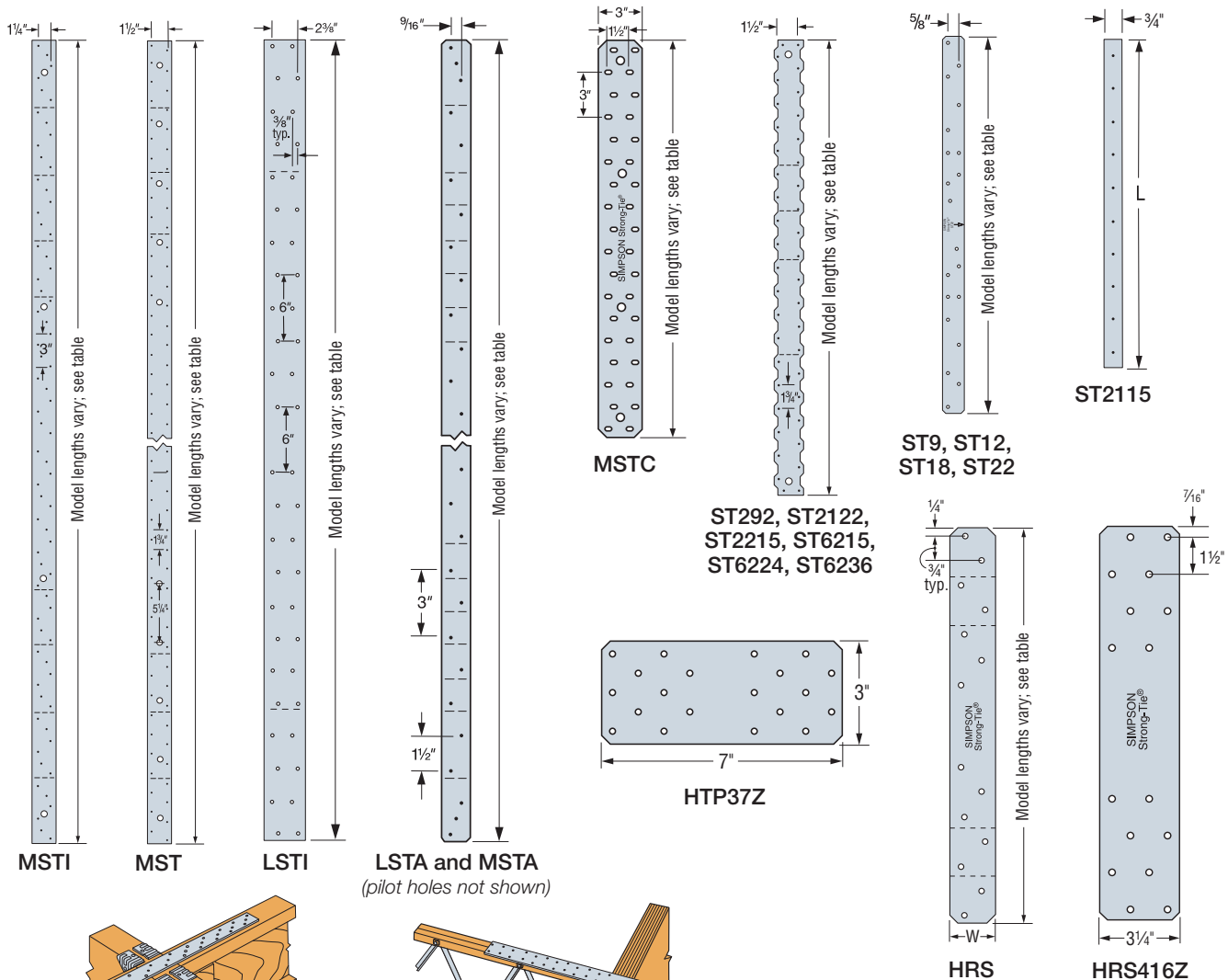
Options: Special sizes can be made to order; contact Simpson Strong-Tie

Codes: See p. 11 for Code Reference Key Chart

MSTC and RPS meet code requirements for reinforcing cut members (16 gauge) at top plate and RPS at sill plate. International Residential Code® — 2012/2015/2018/2021 R602.6.1

International Building Code® — 2012 2308.9.8; 2015/2018/2021 2308.5.8

(For RPS, refer to p. 309. For CTS218 compression and tension strap, see p. 307.)



HRS/ST/HTP/LSTA/LSTI/MST/MSTA/MSTC/MSTI

Strap Ties (cont.)

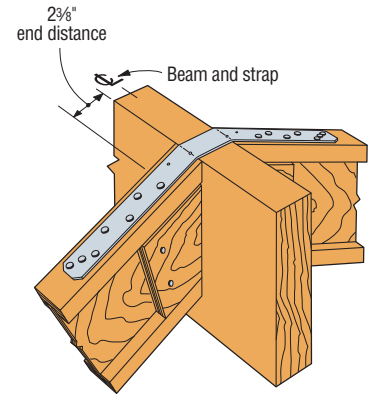
Codes: See p. 11 for Code Reference Key Chart

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

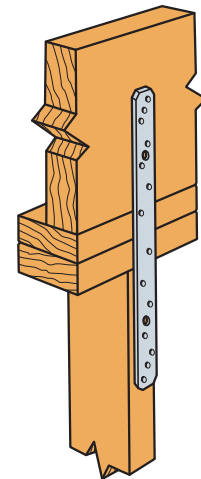
SS For stainless-steel fasteners, see p. 21.

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

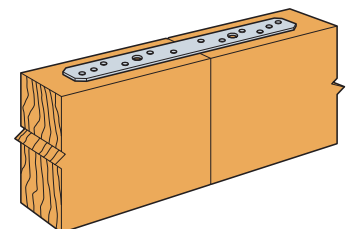
Model No.	Ga.	Dimensions (in.)		Fasteners (Total) (in.)	Allowable Tension Loads (DF/SP)	Allowable Tension Loads (SPF/HF)	Code Ref.
		W	L		(160)	(160)	
ST2115	20	¾	16⅝	(10) 0.162 x 2½	660	660	IBC, FL, LA
LSTA9		1¼	9	(8) 0.148 x 2½	740	635	
LSTA12		1¼	12	(10) 0.148 x 2½	925	795	
LSTA15		1¼	15	(12) 0.148 x 2½	1,110	955	
LSTA18		1¼	18	(14) 0.148 x 2½	1,235	1,115	
LSTA21		1¼	21	(16) 0.148 x 2½	1,235	1,235	
LSTA24		1¼	24	(18) 0.148 x 2½	1,235	1,235	
LSTA30		1¼	30	(22) 0.148 x 2½	1,640	1,640	
LSTA36	1¼	36	(24) 0.148 x 2½	1,640	1,640		
MSTA9	18	1¼	9	(8) 0.148 x 2½	750	650	
MSTA12		1¼	12	(10) 0.148 x 2½	940	810	
MSTA15		1¼	15	(12) 0.148 x 2½	1,130	970	
MSTA18		1¼	18	(14) 0.148 x 2½	1,315	1,135	
MSTA21		1¼	21	(16) 0.148 x 2½	1,505	1,295	
MSTA24		1¼	24	(18) 0.148 x 2½	1,640	1,460	
MSTA30		1¼	30	(22) 0.148 x 2½	2,050	1,825	
MSTA36		1¼	36	(26) 0.148 x 2½	2,050	2,050	
MSTA49	16	1¼	49	(26) 0.148 x 2½	2,020	2,020	
ST9		1¼	9	(8) 0.162 x 2½	885	765	
ST12		1¼	11⅞	(10) 0.162 x 2½	1,105	955	
ST18		1¼	17¾	(14) 0.162 x 2½	1,420	1,335	
ST22		1¼	21⅞	(18) 0.162 x 2½	1,420	1,420	
HRS6	12	1⅝	6	(6) 0.148 x 2½	605	530	
HRS8		1⅝	8	(10) 0.148 x 2½	1,010	880	
HRS12		1⅝	12	(14) 0.148 x 2½	1,415	1,230	
ST292	20	2⅞	9⅝	(12) 0.162 x 2½	1,260	1,120	
ST2122		2⅞	12⅜	(16) 0.162 x 2½	1,530	1,510	
ST2215		2⅞	16⅝	(20) 0.162 x 2½	1,875	1,875	
ST6215	16	2⅞	16⅝	(20) 0.162 x 2½	2,090	1,910	
ST6224		2⅞	23⅜	(28) 0.162 x 2½	2,535	2,535	
ST6236	14	2⅞	33⅜	(40) 0.162 x 2½	3,845	3,845	
MSTI26	12	2⅞	26	(26) 0.148 x 1½	2,745	2,380	
MSTI36		2⅞	36	(36) 0.148 x 1½	3,800	3,295	
MSTI48		2⅞	48	(48) 0.148 x 1½	5,070	4,390	
MSTI60		2⅞	60	(60) 0.148 x 1½	5,070	5,070	
MSTI72		2⅞	72	(72) 0.148 x 1½	5,070	5,070	
HTP37Z	16	3	7	(20) 0.148 x 1½	900	690	
MSTC28		3	28¼	(36) 0.148 x 3¼	3,460	2,990	
MSTC40		3	40¼	(52) 0.148 x 3¼	4,735	4,315	
MSTC52		3	52¼	(62) 0.148 x 3¼	4,735	4,735	
MSTC66	14	3	65¾	(76) 0.148 x 3¼	5,850	5,850	
MSTC78		3	77¾	(76) 0.148 x 3¼	5,850	5,850	
HRS416Z	12	3¼	16	(16) ¼ x 1½ SDS	2,835	2,305	—
LSTI49	18	3¼	49	(32) 0.148 x 1½	2,970	2,560	IBC, FL, LA
LSTI73		3¼	73	(48) 0.148 x 1½	4,205	3,840	



Typical LSTA Installation
(hanger not shown)
Bend strap one time only,
max. 12/12 joist pitch.



Typical LSTA18 Installation



Typical MSTA15 Installation

Straps and Ties

1. See pp. 266–267 for Straps and Ties General Notes.
2. **Fasteners:** Nail dimensions are listed diameter by length. SDS screws are Simpson Strong-Tie® Strong-Drive SDS Heavy-Duty Connector screws. See pp. 21–22 for fastener information.

MST/MSTA/MSTC

Strap Ties (cont.)

Codes: See p. 11 for Code Reference Key Chart

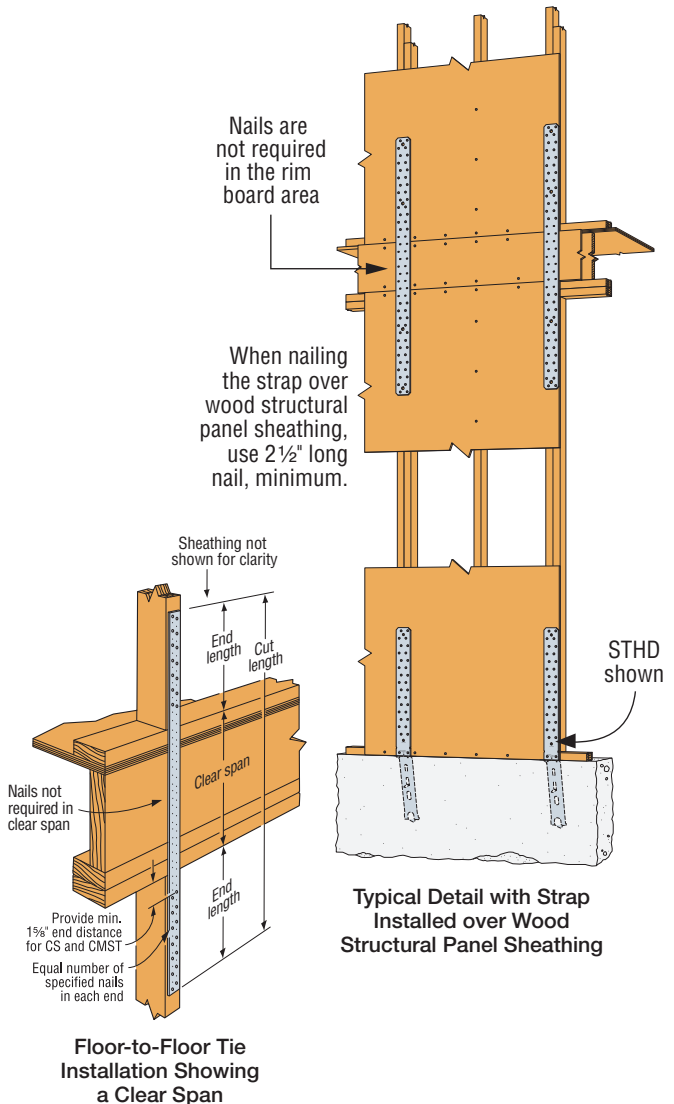
These products are available with additional corrosion protection. For more information, see p. 14.

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

Floor to Floor Span Table

Model No.	Clear Span (in.)	Fasteners (Total) (in.)	Allowable Tension Loads (160)	
			(DF/SP)	(SPF/HF)
MSTA49	18	(26) 0.148 x 2½	2,020	2,020
	16	(26) 0.148 x 2½	2,020	2,020
MSTC28	18	(12) 0.148 x ¾	1,150	995
	16	(16) 0.148 x ¾	1,535	1,330
MSTC40	24	(20) 0.148 x ¾	1,920	1,660
	18	(28) 0.148 x ¾	2,690	2,325
	16	(32) 0.148 x ¾	3,070	2,655
MSTC52	24	(36) 0.148 x ¾	3,455	2,990
	18	(44) 0.148 x ¾	4,225	3,650
	16	(48) 0.148 x ¾	4,610	3,985
MSTC66	30	(48) 0.148 x ¾	4,775	4,130
	24	(54) 0.148 x ¾	5,375	4,645
	18	(64) 0.148 x ¾	5,850	5,505
	16	(68) 0.148 x ¾	5,850	5,850
MSTC78	30	(64) 0.148 x ¾	5,850	5,505
	24	(72) 0.148 x ¾	5,850	5,850
	18	(76) 0.148 x ¾	5,850	5,850
MST37	24	(14) 0.162 x 2½	1,720	1,500
	18	(20) 0.162 x 2½	2,460	2,140
	16	(22) 0.162 x 2½	2,705	2,355
MST48	24	(26) 0.162 x 2½	3,210	2,780
	18	(32) 0.162 x 2½	3,950	3,425
	16	(34) 0.162 x 2½	4,200	3,640
MST60	30	(34) 0.162 x 2½	4,605	3,995
	24	(40) 0.162 x 2½	5,240	4,700
	18	(46) 0.162 x 2½	6,235	5,405
MST72	30	(48) 0.162 x 2½	6,505	5,640
	24	(54) 0.162 x 2½	6,730	6,345
	18	(62) 0.162 x 2½	6,730	6,475

See footnotes below.



Straps and Ties

Model No.	Ga.	Dimensions (in.)		Fasteners (Total)			Allowable Tension Loads (DF/SP)		Allowable Tension Loads (SPF/HF)		Code Ref.
		W	L	Nails (in.)	Bolts		Nails (160)	Bolts (160)	Nails (160)	Bolts (160)	
					Qty.	Dia.					
MST27	12	2¼	27	(30) 0.162 x 2½	4	½	3,700	2,165	3,210	2,000	IBC, FL, LA
MST37		2¼	37½	(42) 0.162 x 2½	6	½	5,070	3,030	4,495	2,800	
MST48		2¼	48	(50) 0.162 x 2½	8	½	5,310	3,675	5,190	3,395	
MST60	10	2¼	60	(68) 0.162 x 2½	10	½	6,730	4,490	6,475	4,150	
MST72		2¼	72	(68) 0.162 x 2½	10	½	6,730	4,490	6,475	4,150	

- See pp. 266–267 for Straps and Ties General Notes.
- Install bolts or nails as specified by designer. Bolt and nail values may not be combined.
- Allowable bolt loads are based on parallel-to-grain loading and minimum member thickness: MST – 2½".
- Splitting may be a problem with installations on lumber smaller than 3½"; either fill every nail hole with 0.148" x 1½" nails or fill every other hole with 0.162" x 2½" nails. Reduce the allowable load based on the size and quantity of fasteners used.
- Fasteners:** Nail dimensions are listed diameter by length. See pp. 21–22 for fastener information.