Strap Ties

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

HRS — A 12 gauge strap with a nailing pattern designed for installation on the edge of 2x members. The HRS416Z installs with Simpson Strong-Tie® Strong-Drive® SDS Heavy-Duty Connector screws.

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

LSTI — Light 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: HST3 and HST6 — Simpson Strong-Tie® gray paint; all others–galvanized. Some products are available in stainless steel or ZMAX® coating; see Corrosion Information, pp. 15–18.

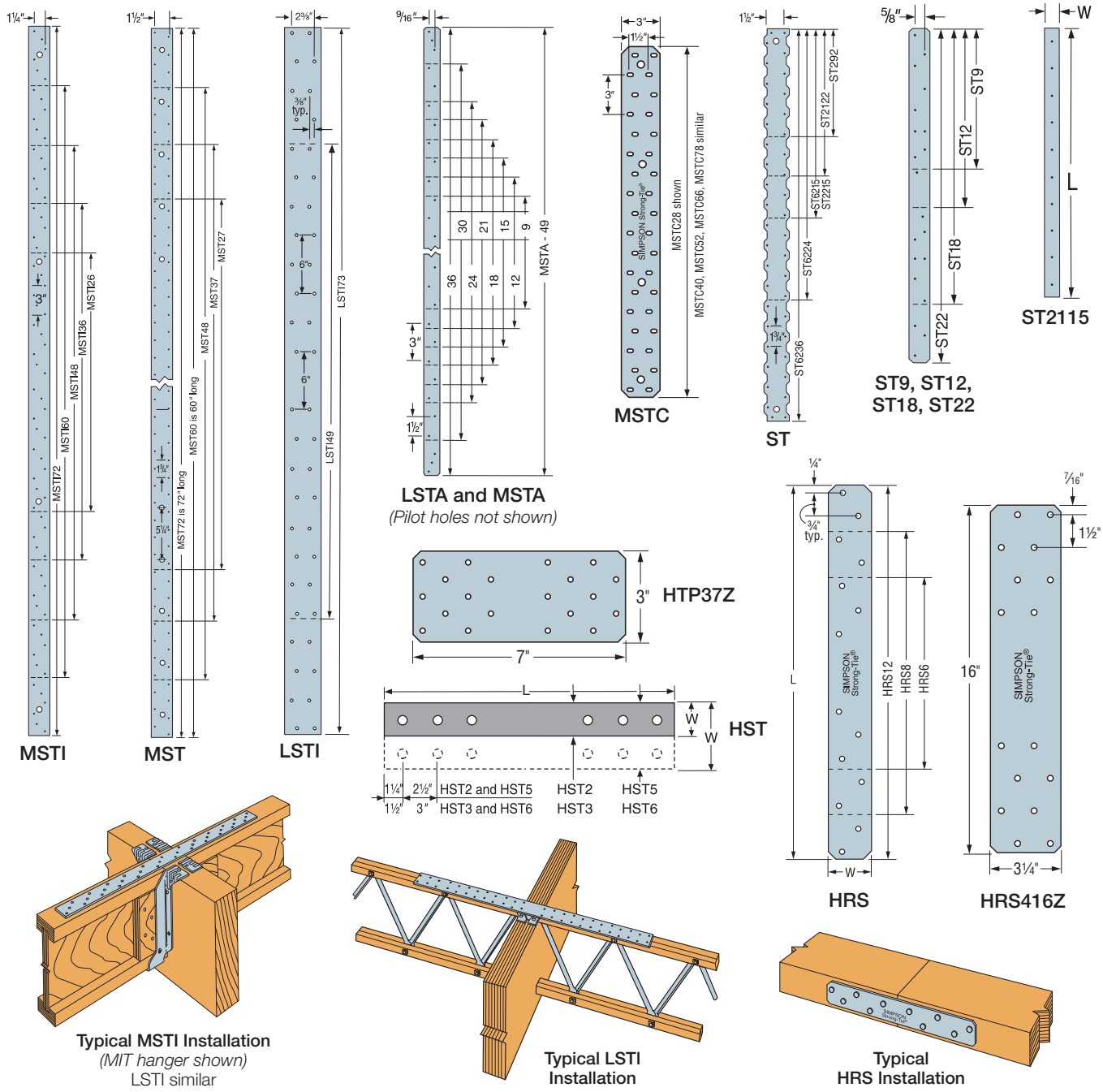
Installation: Use all specified fasteners; see General Notes

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

Codes: See p. 14 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 R602.6.1 International Building Code® — 2012 /2015 2308.9.8

(For RPS, refer to p. 358.)



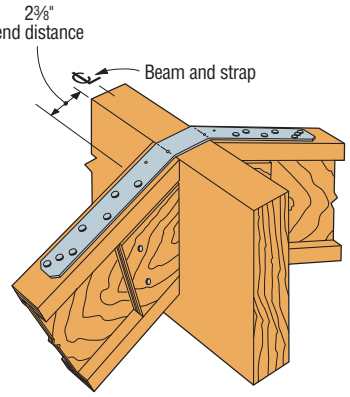
Strap Ties (cont.)

Codes: See p. 14 for Code Reference Key Chart

These products are available with additional corrosion protection. For more information, see p. 18.

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

Model No.	Ga.	Dimensions (in.) W	Dimensions (in.) L	Fasteners (Total)	Allowable Tension Loads (DF/SP) (160)	Allowable Tension Loads (SPF/HF) (160)	Code Ref.
LSTA9	20	1¼	9	(8) 10d	740	635	I4, L3, L5, FL
LSTA12		1¼	12	(10) 10d	925	795	
LSTA15		1¼	15	(12) 10d	1,110	950	
LSTA18		1¼	18	(14) 10d	1,235	1,110	
LSTA21		1¼	21	(16) 10d	1,235	1,235	
LSTA24		1¼	24	(18) 10d	1,235	1,235	
ST292		2⁹⁄₁₆	9⁵⁄₁₆	(12) 16d	1,265	1,120	
ST2122		2⁹⁄₁₆	12¹³⁄₁₆	(16) 16d	1,530	1,505	
ST2115		¾	16⁵⁄₁₆	(10) 16d	660	660	
ST2215		2⁹⁄₁₆	16⁵⁄₁₆	(20) 16d	1,875	1,875	
LSTA30	18	1¼	30	(22) 10d	1,640	1,640	
LSTA36		1¼	36	(24) 10d	1,640	1,640	
LSTI49		3¾	49	(32) 10d x 1½"	2,975	2,555	
LSTI73		3¾	73	(48) 10d x 1½"	4,205	3,830	
MSTA9		1¼	9	(8) 10d	750	645	
SS MSTA12		1¼	12	(10) 10d	940	810	
MSTA15		1¼	15	(12) 10d	1,130	970	
SS MSTA18		1¼	18	(14) 10d	1,315	1,130	
MSTA21		1¼	21	(16) 10d	1,505	1,290	
SS MSTA24		1¼	24	(18) 10d	1,640	1,455	
MSTA30	16	1¼	30	(22) 10d	2,050	1,820	
SS MSTA36		1¼	36	(26) 10d	2,050	2,050	
MSTA49		1¼	49	(26) 10d	2,020	2,020	FL, L3, L5
ST6215		2⁹⁄₁₆	16⁵⁄₁₆	(20) 16d	2,095	1,900	I4, IL14, L3, L5, FL
ST6224		2⁹⁄₁₆	23⁵⁄₁₆	(28) 16d	2,540	2,540	I4, L3, L5, FL
ST9		1¼	9	(8) 16d	885	760	
ST12		1¼	11⅝	(10) 16d	1,105	950	
ST18		1¼	17¾	(14) 16d	1,420	1,330	
ST22		1¼	21⅝	(18) 16d	1,420	1,420	I4, L3, L5, FL
MSTC28		3	28¼	(36) 16d sinkers	3,455	2,980	
MSTC40		3	40¼	(52) 16d sinkers	4,745	4,305	
MSTC52		3	52¼	(62) 16d sinkers	4,745	4,745	
HTP37Z		3	7	(20) 10d x 1½"	1,850	1,600	L5
MSTC66	14	3	65¾	(76) 16d sinkers	5,860	5,860	
MSTC78		3	77¾	(76) 16d sinkers	5,860	5,860	I4, L3, L5, FL
ST6236		2⁹⁄₁₆	33¹³⁄₁₆	(40) 16d	3,845	3,845	
HRS6	12	1⅜	6	(6) 10d	605	525	
HRS8		1⅜	8	(10) 10d	1,010	880	L5, FL
HRS12		1⅜	12	(14) 10d	1,415	1,230	
MSTI26		2⁹⁄₁₆	26	(26) 10d x 1½"	2,745	2,325	
MSTI36		2⁹⁄₁₆	36	(36) 10d x 1½"	3,800	3,220	
MSTI48		2⁹⁄₁₆	48	(48) 10d x 1½"	5,065	4,290	I4, L3, L5, FL
MSTI60		2⁹⁄₁₆	60	(60) 10d x 1½"	5,080	5,080	
MSTI72		2⁹⁄₁₆	72	(72) 10d x 1½"	5,080	5,080	
HRS416Z		3¼	16	(16) ¼" x 1½" SDS	2,835	2,305	170



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

1. Allowable loads have been increased for wind or seismic loading with no further increase allowed; reduce where other loads govern.
2. See p. 27 for allowable nail substitutions and load reductions. When nailing strap over wood structural panels, use 2½" long fastener, minimum.
3. Use half of the nails in each member being connected to achieve the listed loads.
4. Tension loads apply for uplift when installed vertically.

Nails: 16d = 0.162" dia. x 3½" long, 16d sinker = 0.148" dia. x 3¼" long, 10d = 0.148" dia. x 3" long; 10d x 1½" = 0.148" dia. x 1½" long. See pp. 26–27 for other nail sizes and information.

Strap Ties

Codes: See p. 14 for Code Reference Key Chart

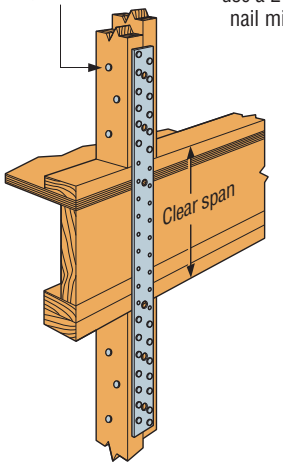
These products are available with additional corrosion protection. For more information, see p. 18.

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

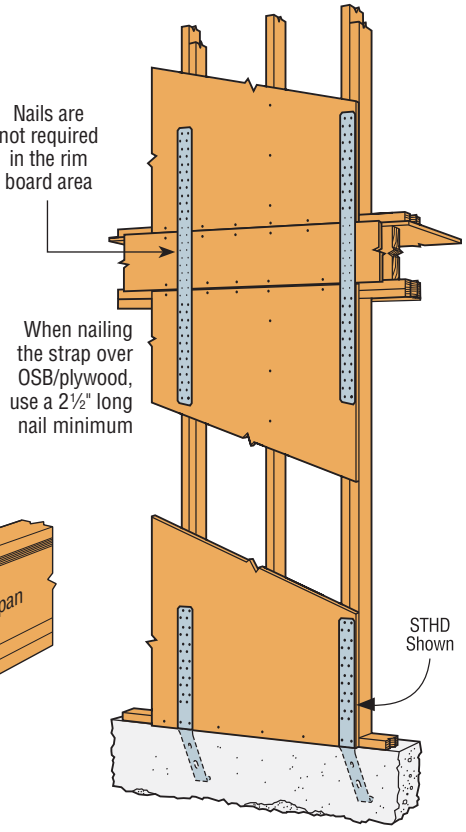
Floor-to-Floor Clear Span Table

Model No.	Clear Span (in.)	Fasteners (Total)	Allowable Tension Loads (DF/SP) (160)	Allowable Tension Loads (SPF/HF) (160)
MSTA49	18	(26) 10d	2,020	2,020
	16	(26) 10d	2,020	2,020
MSTC28	18	(12) 16d sinkers	1,155	995
	16	(16) 16d sinkers	1,540	1,325
MSTC40	24	(20) 16d sinkers	2,310	1,985
	18	(28) 16d sinkers	2,695	2,320
	16	(32) 16d sinkers	3,080	2,650
MSTC52	24	(36) 16d sinkers	3,465	2,980
	18	(44) 16d sinkers	4,235	3,645
	16	(48) 16d sinkers	4,620	3,975
MSTC66	30	(48) 16d sinkers	4,780	4,120
	24	(54) 16d sinkers	5,380	4,640
	18	(64) 16d sinkers	5,860	5,495
	16	(68) 16d sinkers	5,860	5,840
MSTC78	30	(64) 16d sinkers	5,860	5,495
	24	(72) 16d sinkers	5,860	5,860
	18	(76) 16d sinkers	5,860	5,860
MST37	24	(14) 16d	1,725	1,495
	18	(20) 16d	2,465	2,135
	16	(22) 16d	2,710	2,345
MST48	24	(26) 16d	3,215	2,780
	18	(32) 16d	3,960	3,425
	16	(34) 16d	4,205	3,640
MST60	30	(34) 16d	4,605	3,995
	24	(40) 16d	5,240	4,700
	18	(46) 16d	6,235	5,405
MST72	30	(48) 16d	6,505	5,640
	24	(54) 16d	6,730	6,345
	18	(62) 16d	6,730	6,475

See footnotes below.



Floor-to-Floor Tie Installation Showing a Clear Span



Typical Detail with Strap Installed Over Sheathing

Model No.	Ga.	Dimensions (in.) W	Dimensions (in.) L	Fasteners (Total) Nails	Fasteners (Total) Bolts Qty.	Fasteners (Total) Bolts Dia.	Allowable Tension Loads (DF/SP) Nails (160)	Allowable Tension Loads (DF/SP) Bolts (160)	Allowable Tension Loads (SPF/HF) Nails (160)	Allowable Tension Loads (SPF/HF) Bolts (160)	Code Ref.
MST27	12	2⅛6	27	(30) 16d	4	½	3,700	2,165	3,200	2,000	I4, L3, FL
MST37		2⅛6	37½	(42) 16d	6	½	5,080	3,025	4,480	2,805	
MST48		2⅛6	48	(50) 16d	8	½	5,310	3,675	5,190	3,410	
MST60	10	2⅛6	60	(68) 16d	10	½	6,730	4,485	6,475	4,175	
MST72		2⅛6	72	(68) 16d	10	½	6,730	4,485	6,475	4,175	
HST2	7	2½	21¼	—	6	⅝	—	5,220	—	4,835	
HST5		5	21¼	—	12	⅝	—	10,650	—	9,870	
HST3	3	3	25½	—	6	¾	—	7,680	—	6,660	
HST6		6	25½	—	12	¾	—	15,470	—	13,320	

1. Allowable loads have been increased for wind or seismic loading with no further increase allowed; reduce where other loads govern.
2. Install bolts or nails as specified by Designer. Bolt and nail values may not be combined.
3. Allowable bolt loads are based on parallel-to-grain loading and these minimum member thicknesses: MST – 2½"; HST2 and HST5 – 4"; HST3 and HST6 – 4½".
4. Splitting may be a problem with installations on lumber smaller than 3½"; either fill every nail hole with 10d x 1½" nails or fill every-other hole with 16d common nails. Reduce the allowable load based upon the size and quantity of fasteners used.
5. Use half of the required nails in each member being connected to achieve the listed loads.
6. When installing strap over wood structural panel sheathing, use 2½" long nail minimum.
7. Tension loads apply for uplift as well when installed vertically.
8. **Nails:** 16d = 0.162" dia. x 3½" long, 16d sinker = 0.148" dia. x 3¼" long, 10d x 1½" = 0.148" dia. x 1½" long. See pp. 26–27 for other nail sizes and information.