

ICC-ES Evaluation Report ESR-1347

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This report is subject to renewal May 2024.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 05 23—Wood, Plastic, and Composite Fastenings

REPORT HOLDER:

R. H. TAMLYN AND SONS, LP

EVALUATION SUBJECT:

TAMLYN AND SONS WOOD STRUCTURAL CONNECTORS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012 and 2009 *International Residential Code*® (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Property evaluated:

Structural

2.0 USES

R. H. Tamlyn and Sons, LP, wood structural connectors are used as wood framing connectors.

3.0 DESCRIPTION

3.1 Single Joist Hanger (SJQ) Series and Double Joist Hanger (ALUS) Series:

The SJQ series hangers are U-shaped connectors formed from No. 20 gage [0.036 inch (0.9 mm)] design thickness galvanized steel; the ALUS series hangers are U-shaped hangers formed from No. 18 gage [0.048 inch (1.2 mm)] galvanized steel. The SJQ and ALUS series hangers are attached to the joist member with nails. Nailing schedules, dimensions and allowable loads must be in accordance with Table 1. See Figure 1 and Table 1 of this report for further details and information.

3.2 Special Joist Hanger (ALUS & AU) Series:

The ALUS & AU series hangers are U-shaped hangers formed from No. 18 gage [0.048 inch (1.2 mm)] galvanized steel. The ALUS & AU hanger series are attached to the joist member with nails. Nailing schedules, dimensions and

allowable loads must be in accordance with Table 2. See Figure 2 and Table 2 of this report for further details and information.

3.3 Rafter Tie (RT and HT) Series:

The RT series and HT series connectors are fabricated in various configurations, and are designed to connect joists or rafters and/or studs to wall plates. The RT and HT series are formed from No. 18 gage [0.048 inch (1.2 mm)] galvanized steel. Nailing schedules, dimensions and allowable loads must be in accordance with Table 3. See Figure 3 and Table 3 of this report for further details and information.

3.4 Truss Hanger (TH and DTH) Series:

The TH and DTH series truss hangers are designed for use with wood joists, trusses or headers. The TH and DTH series are formed from No. 18 gage [0.048 inch (1.2 mm)] galvanized steel. Nailing schedules, dimensions and allowable loads must be in accordance with Table 4. See Figure 4 and Table 4 of this report for further details and information.

3.5 Flat Wall Brace (WB and WBT) Series:

The WB wall brace is a flat, 1¹/₄-inch-wide (31.8 mm) strap of No. 16 gage [0.060 inch (1.5 mm)] galvanized steel furnished in lengths ranging from 9 feet 3 inches (2819.4 mm) to 15 feet 6 inches (4724.4 mm). The braces are installed at approximately a 45-degree or 60-degree angle in a manner similar to that for wood let-in braces. The WBT wall brace is a T-section brace formed from No. 22 gage [0.030 inch (0.7mm)] galvanized steel, with a 2-inch-wide (50.8 mm) flange and a 7¹/₁₆-inch-deep (11.1 mm) web section. The WBT series come in lengths of either 9 feet 6 inches (2895.6mm) or 11 feet 4 inches (3453.4 mm). The WBT braces are also installed at approximately a 45-degree or 60-degree angle in a manner similar to that for wood let-in braces. Nail schedules and dimensions must be in accordance with Table 5. See Figure 5 and Table 5 of this report for further details and information.

The WB and WBT series wall braces are alternatives to the code-prescribed LIB let-in-bracing method, as noted in 2021, 2018 and 2015 IBC Table 2308.6.3(1) and 2021, 2018 and 2015 IRC Table R602.10.4. Two WB or two WBT wall braces must be installed in opposite directions to be an alternate to a single let-in brace as illustrated in Figure 5. A minimum 2x6 stud wall is required when two WBT wall braces are installed to the same studs on each side of the stud wall.

3.6 Hurricane Strap (SS, MSS and HSS) Series:

The SS, MSS and HSS series straps are designed to act as tension ties between two butting wood members. The straps are formed from Nos. 16, 18 and 20 gage [0.060 inch (1.5 mm), 0.048 inch (1.2 mm) and 0.036 inch (0.9 mm)] galvanized steel and are punched to receive 10d common nails. Nailing schedules, dimensions and allowable loads must be in accordance with Table 6. See Figure 6 and Table 6 of this report for further details and information.

3.7 Nail Plate (TNP) Series:

The TNP nail plates are designed to provide positive connections at wall intersections and ridge ties when the top plates are cut. The TNP series are also used for truss repairs or construction and splice applications on wood-to-wood splices. The TNP nail plates are formed from No. 20 gage [0.036 inch (0.9 mm)] galvanized steel. Nailing schedules, dimensions and allowable loads must be in accordance with Table 7. See Figure 7 and Table 7 of this report for further details and information.

3.8 CS Series Coil Strap:

The CS Series coil strap is a flat, 1¹/₄-inch-wide strap designed to act as a tension tie to connect wood studs. The straps are formed from Nos. 16, 18, 20 and 22 gage [0.0600 inch (1.5 mm), 0.048 inch (1.2 mm), 0.036 inch (0.9 mm) and 0.030 inch (0.7 mm)] galvanized steel and are punched to receive 8d or 10d common nails. Nailing schedules, dimensions and allowable loads must be in accordance with Table 8. See Figure 8 and Table 8 for further details and information.

3.9 TLCE4 Post Cap:

The TLCE4 post caps are designed to connect wood post and beam members. The TLCE 4 post caps are formed from 20 gage [0.036 inch (0.9 mm)] galvanized steel and are punched to receive 16d common nails. Nailing schedules, dimensions and allowable loads must be in accordance with Table 9. See Figure 9 and Table 9 for further details and information.

3.10 TRSPT6-2 Stud Plate Tie:

The TRSPT6-2 stud plate ties are designed to connect wood studs to bottom single plates and top double plates. The TRSPT6-2 stud plate ties are formed from 18 gage [0.048 inch (1.2 mm)] galvanized steel and are punched to receive 10d common nails. Nailing schedules, dimensions and allowable loads must be in accordance with Table 10. See Figure 10 and Table 10 for further details and information.

3.11 Materials:

3.11.1 Steel: The R.H. Tamlyn and Sons connectors described in this report are manufactured from galvanized steel sheet conforming to ASTM A653 CS, G90. These connectors are produced using a die made to form each connector. With the exception of the SS, MSS and HSS series straps described in Section 3.6, the galvanized sheet steel from which the connectors are manufactured has a minimum yield strength of 33,000 psi (227 MPa) and a minimum tensile strength of 45,000 psi (310 MPa). Hurricane Strap (SS, MSS and HSS) series straps are manufactured from galvanized sheet steel having minimum yield strengths of either 33,000 or 48,000 psi (227 or 331 MPa) and minimum tensile strengths of either 45,000 or 58,000 psi (310 and 400 MPa), respectively. Connectors described in this report are cold-formed and galvanized to Coating Designation G90 in accordance with ASTM A653.

The galvanized steel used in the connectors described in this report has the following minimum base-metal thicknesses:

NOMINAL GAGE NO.	MINIMUM BASE-METAL THICKNESS (inch)
16	0.0600
18	0.0480
20	0.0360
22	0.0300

For SI: 1 inch = 25.4 mm.

3.11.2 Wood: Wood members with which the connectors are used must be nominal-dimension lumber or approved structural composite lumber (SCL), and are limited to lumber that has not been treated with fire-retardant chemicals or preservatives. Wood members must have a moisture content not exceeding 19 percent, unless the connection has been designed with the appropriate wet service factor, C_M , for dowel-type fasteners, as noted in Section 11.3.3 of the 2018 *National Design Specification® for Wood Construction* (NDS) (Section 10.3.3 of the 2012 and 2005 NDS for the 2012 and 2009 IBC and IRC, respectively).

Beams or headers supporting joists must have the following minimum widths based on nail sizes attaching the joist hangers to the beam or header:

NAIL SIZE	MINIMUM SIZE OF BEAM, OR HEADER WIDTH
8d and 10d	1.5 inches (38 mm)
16d	3.5 inches (89 mm)

For SI: 1 inch = 25.4 mm.

3.11.3 Fasteners: Nails are common carbon steel wire nails of the penny weight noted in the tables of this evaluation report. The nails must comply with ASTM F1667 and must have the following minimum dimensions and bending yield strengths, F_{yb} :

COMMON NAIL PENNYWEIGHT	NAIL DIAMETER × LENGTH (inches)	F_{yb} (psi)
8d	0.131 x 1 ¹ / ₂	100,000
8d	0.131 x 2 ¹ / ₂	100,000
10d	0.148 x 1 ¹ / ₂	90,000
10d	0.148 x 3	90,000
16d	0.162 x 3.5	90,000

For SI: 1 inch = 25.4 mm; 1 psi = 6.895 kPa.

3.11.4 Use with Treated Wood: Use of the connectors and specified fasteners with preservative-treated or fire-retardant-treated wood is outside the scope of this report. R. H. Tamlyn and Sons, LP, or the manufacturers of the chemical treatment must be consulted for recommendations on minimum corrosion-resistant protection for the steel connectors and fasteners used with specific wood treatments.

3.12 Design:

3.12.1 General: Allowable load capacities in this evaluation report are based on allowable stress design. Tabulated allowable loads are for normal duration and short durations, based on load duration factors, C_D , in accordance with Section 11.3.2 of the 2018 NDS (Section 10.3.2 of the 2012 and 2005 NDS for the 2012 and 2009 IBC and IRC, respectively). No further increases in allowable loads are permitted.

Tabulated allowable loads are for connections in wood seasoned to a moisture content of 19 percent or less, used under continuously dry interior conditions, and where sustained temperatures are 100°F (37.8°C) or less.

When connectors are installed in wood, having a moisture content greater than 19 percent, or where wet service is expected, the allowable loads in this evaluation report must be adjusted by the wet service factor, C_M , for dowel-type fasteners, specified in Section 11.3.3 of the 2018 NDS (Section 10.3.3 of the 2012 and 2005 NDS for the 2012 and 2009 IBC and IRC, respectively).

When connectors are installed in wood that will experience sustained exposure to temperatures exceeding 100°F (37.7°C), the allowable loads in this evaluation report must be adjusted by the temperature factor, C_t , specified in Section 11.3.4 of the 2018 NDS (Section 10.3.4 of the 2012 and 2005 NDS for the 2012 and 2009 IBC and IRC, respectively).

Group action factor, C_g , has been accounted for, in accordance with Section 11.3.6 of the 2018 NDS (Section 10.3.6 of the 2012 and 2005 NDS for the 2012 and 2009 IBC and IRC, respectively), in the tabulated loads, where applicable.

Connected wood members must be checked for load-carrying capacity at the connection in accordance with Section 11.1.2 of the 2018 NDS (Section 10.1.2 of the 2012 and 2005 NDS for the 2012 and 2009 IBC and IRC, respectively).

3.12.2 Design of TNP-Series Nail Plates: Tamlyn and Sons nail plate connectors used to connect wood joists and rafters must be designed not to exceed the allowable load capacities shown in Table 7 of this report. This evaluation report establishes nail plate allowable design values only. The allowable design values are applicable for metal plate connected wood members when connections are made with identical plates on opposite sides of the joint. The design, fabrication and installation of all framing members for which nail plates are used must be in accordance with the requirements of the appropriate design specification as referenced in the applicable code, engineering drawings, and ANSI/TP1, National Design Standard for Metal Plate Connected Wood Truss Construction.

4.0 INSTALLATION

Installation of the connectors must be in accordance with this evaluation report and the manufacturer's published installation instructions.

5.0 CONDITIONS OF USE

The R. H. Tamlyn and Sons, LP, wood structural connectors described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The connectors must be manufactured, identified and installed in accordance with this report and the manufacturer's instructions.
- 5.2 Design loads must be less than the allowable loads indicated in Tables 1 through 10.
- 5.3 Connected lumber must comply with Section 3.11.2 of this report.
- 5.4 Adjustment factors noted in Section 3.12.1 of this report and the applicable codes must be considered where applicable.
- 5.5 Fasteners must comply with Section 3.11.3 of this report.
- 5.6 Calculations showing compliance with this report must be submitted to the code official. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.7 Use of connectors with treated lumber, such as preservative-treated and fire-retardant-treated lumber, is outside the scope of this report. Refer to Section 3.11.4 of this report for details.
- 5.8 Products are manufactured by R. H. Tamlyn and Sons, LP, in Stafford, Texas, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with ICC-ES Acceptance Criteria for Joist Hangers and Similar Devices (AC13), dated October 2018 (editorially revised December 2020).
- 6.2 Report of tests in accordance with ASTM E72 for Flat Wall Brace (WB and WBT) series.
- 6.3 Engineering calculations for nail plate connectors.

7.0 IDENTIFICATION

- 7.1 Each connector described in this report is identified by the product model number and the evaluation report number (ESR-1347).

For field identification, each package of R. H. Tamlyn and Sons wood structural connectors described in this evaluation report is identified by a stamp bearing the manufacturer's name (TAMLYN) and/or trademark and the product name or type, the manufacturer's installation instructions and the evaluation report number (ESR-1347).

- 7.2 The report holder's contact information is the following:

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TABLE 1—SINGLE AND DOUBLE JOIST HANGERS SJQ AND ALUS SERIES ALLOWABLE LOADS

MODEL	DIMENSIONS (INCHES)			STEEL GAGE NO.	NAIL SCHEDULE ¹		ALLOWABLE LOADS – SYP ² (lbf)		
	H	W	B		Joist	Header	Gravity ³ 100%	Gravity ³ 115%	Gravity ⁴ 125%
SJQ24	3 ¹ / ₈	1 ⁵ / ₈	1 ¹ / ₂	20	2	4	504	580	623
SJQ26	4 ³ / ₄	1 ⁵ / ₈	1 ¹ / ₂	20	4	6	756	869	945
SJQ28	7	1 ⁵ / ₈	1 ¹ / ₂	20	6	8	1008	1159	1260
SJQ210	7 ⁷ / ₈	1 ⁵ / ₈	1 ¹ / ₂	20	6	10	1260	1449	1575
ALUS26-2	5 ¹ / ₂	3 ¹ / ₈	2	18	4	8	935	935	935
ALUS28-2	7 ¹ / ₄	3 ¹ / ₈	2	18	6	12	1548	1757	1757
ALUS210-2	8 ¹ / ₂	3 ¹ / ₈	2	18	8	14	1806	1983	1983

For SI: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

¹Nails are 10d by 1¹/₂ inch joist hanger nails complying with Section 3.11.3.

²Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.55 (such as Southern Pine) or greater.

³Allowable gravity (bearing) loads have been adjusted by load duration factors, C_D, of 1.0 (100%), 1.15 (115%), and 1.25 (125%), corresponding to the typical durations of occupancy live loads, snow loads and construction loads, respectively. No further increases in allowable loads are permitted.

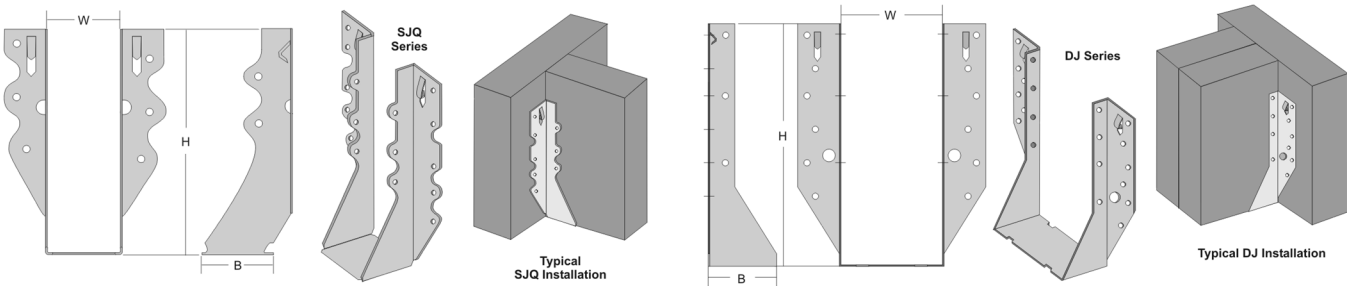


FIGURE 1—SJQ AND ALUS SERIES

TABLE 2—TRIPLE & QUAD JOIST HANGER ALUS & AU SERIES ALLOWABLE LOADS

MODEL	DIMENSIONS (INCHES)			STEEL GAGE NO.	NAIL SCHEDULE ¹		ALLOWABLE LOADS – SYP ² (lbf)		
	H	W	B		Joist	Header	Gravity ³ 100%	Gravity ³ 115%	Gravity ³ 125%
ALUS46	7	3½	2	18	6	12	1548	1780	1870
ALUS410	8¾	3½	2	18	8	14	1806	1842	1842
ALUS210-3	7¾	4½	2	18	8	14	1806	2000	2000
AU410	10	6	3½	18	4	6	774	890	968

For SI: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

¹Nails are 10d by 1½ inch joist hanger nails complying with Section 3.11.3.

²Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.55 (such as Southern Pine) or greater.

³Allowable gravity (bearing) loads have been adjusted by load duration factors, C_D, of 1.0 (100%), 1.15 (115%), and 1.25 (125%), corresponding to the typical durations of occupancy live loads, snow loads and construction loads, respectively. No further increases in allowable loads are permitted.

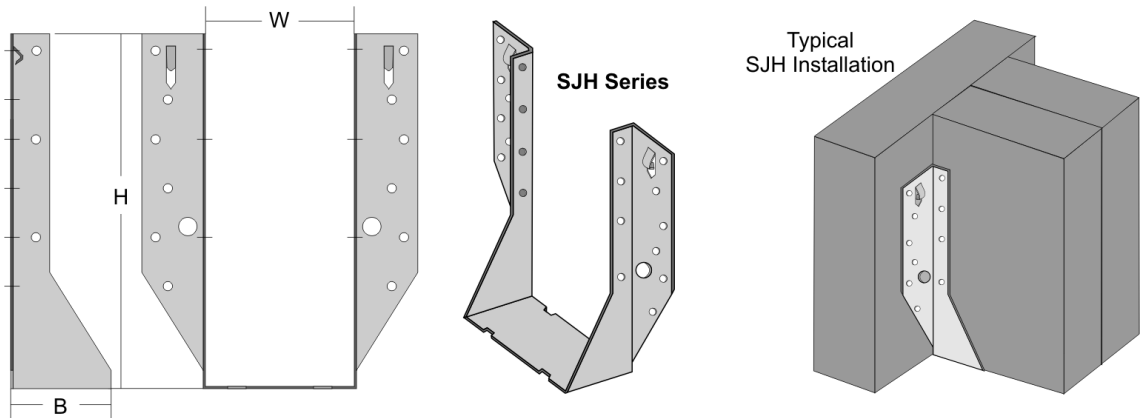


FIGURE 2—ALUS & AU SERIES

TABLE 3—RAFTER TIE RT AND HT SERIES ALLOWABLE LOADS

Model	Connection Achieved	Steel Gauge	H (in)	Nail schedule ¹			Allowable Uplift Loads ⁴ (lbf)	
				To Rafters	To Plates	To Studs	DFL ²	SYP ³
RT1	Stud to double plate	18	4 ³ / ₈		4-10d	4-10d	-	291
RT2L RT2R	Rafter to double plate	18	5 ³ / ₈	5-8d	5-8d	-	221	221
RT2A	Rafter to double plate	18	6	5-10d	5-10d	-	413	413
	Stud to double plate				5-10d	5-10d	650	650
RT9	Rafter to stud (alignment required)	18	9 ⁷ / ₁₆	5-8d	2-8d	5-8d	-	299
RT15	Stud to double plate for high wind	18	5 ¹ / ₄	-	4-10d	4-10d	419	419
RT16	Stud to double plate for high wind	18	6 ¹ / ₄	-	8-10d	8-10d	1369	1369
HT8	Stud to double plate for high wind	18	8	-	5-10d	5-10d	717	717
	Stud to single plate	18	8	-	3-10d	5-10d	342	342
HT12	Stud to double plate	18	12	-	7-10d	7-10d	873	873

For SI: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

¹Nails are 8d or 10d common wire nails or 1¹/₂ inch joist hanger nails complying with Section 3.11.3.

²Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.50 (such as Douglas Fir-Larch) or greater.

³Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.55 (such as Southern Pine) or greater.

⁴Allowable uplift loads have been adjusted by a load duration factor C_D of 1.6 (160%), corresponding to the typical duration of wind and earthquake loads. No further increases in allowable loads are permitted.

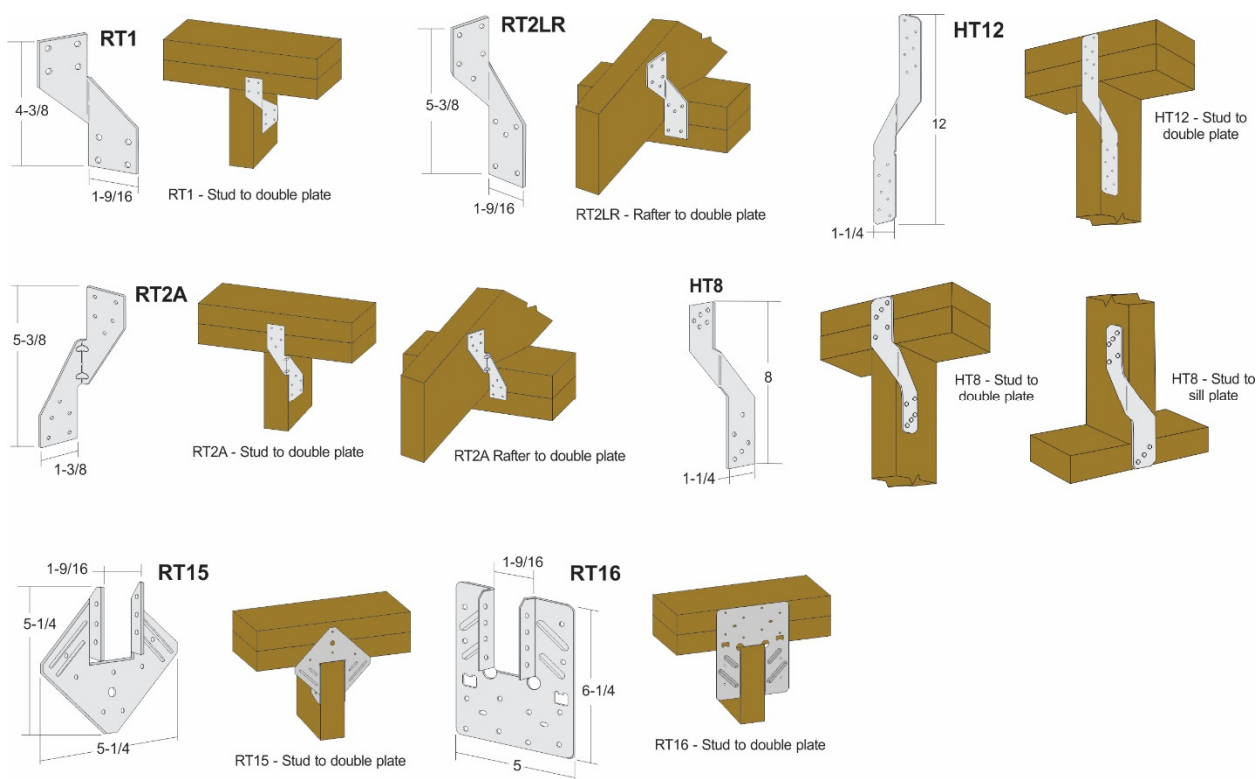


FIGURE 3—RT AND HT SERIES

TABLE 4—TRUSS HANGER TH AND DTH SERIES ALLOWABLE LOADS

MODEL	DIMENSIONS (INCHES)			STEEL GAGE NO.	NAIL SCHEDULE ¹		ALLOWABLE LOADS – SYP ² (lbf)		
	H	W	B		Joist	Header	Gravity ³ 100%	Gravity ³ 115%	Gravity ³ 125%
TH18	18 ³ / ₄	1 ⁵ / ₈	3 ¹ / ₂	18	8	14	1760	1760	1760
DTH18	18 ³ / ₄	3 ¹ / ₂	3 ¹ / ₂	18	8	16	2039	2039	2039

For SI: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

¹Nails are 10d by 1¹/₂ inch joist hanger nails complying with Section 3.11.3.

²Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.55 (such as Southern Pine) or greater.

³Allowable gravity (bearing) loads have been adjusted by load duration factors, C_D, of 1.0 (100%), 1.15 (115%), and 1.25 (125%), corresponding to the typical durations of occupancy live loads, snow loads and construction loads, respectively. No further increases in allowable loads are permitted.

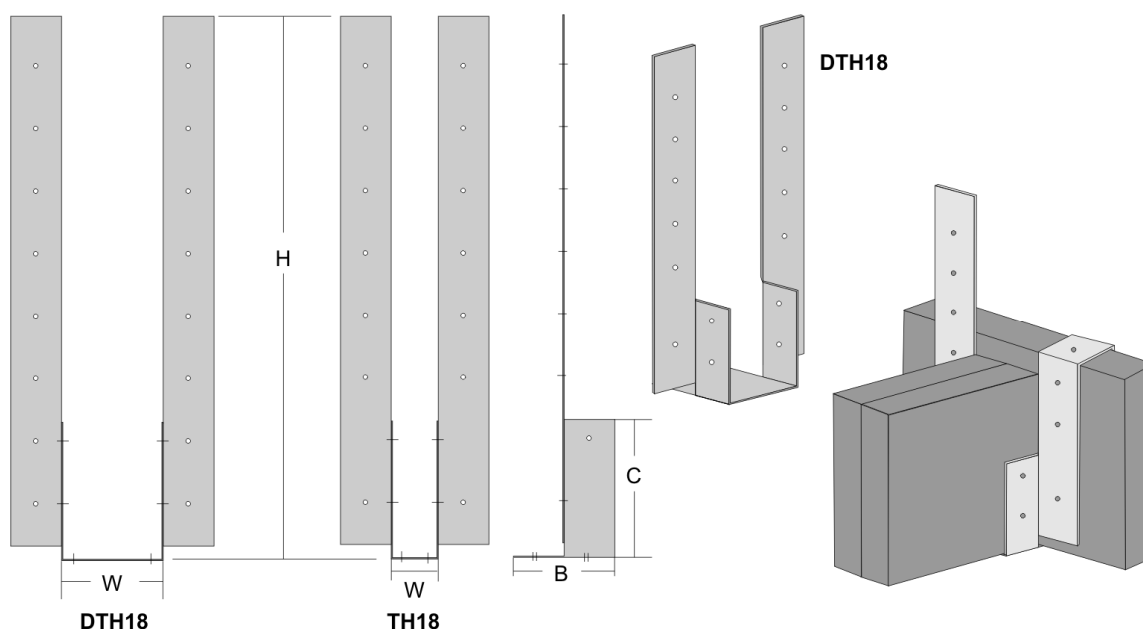


FIGURE 4—TH AND DTH SERIES

TABLE 5—FLAT WALL BRACE WB AND WBT SERIES INSTALLATION^{1,2}

Model	Length	Steel Gauge No.	Width	Angle / Wall Height	Nail Schedule ¹	
					Plate	Stud
WB10 ³	9'3"	16	1 ¹ / ₄	60° / 8 feet	3-10d	1-10d
WB12 ³	11'5"	16	1 ¹ / ₄	45° / 8 feet	3-10d	1-10d
WB14 ³	13'6"	16	1 ¹ / ₄	45° / 10 feet	3-10d	1-10d
WB16 ³	15'6"	16	1 ¹ / ₄	45° / 12 feet	3-10d	1-10d
WBT10	9'6"	22	2	60° / 8 feet	4-8d	1-8d
WBT12	11'4"	22	2	45° / 8 feet	4-8d	1-8d

For SI: 1 inch = 25.4 mm.

¹Nails are 10d by 1¹/₂ inch joist hanger nails complying with Section 3.8.3.

²Wall studs and plates must have an equivalent specific gravity of 0.55 (such as Southern Pine) or greater.

³See Section 3.5 for bracing method requirements.

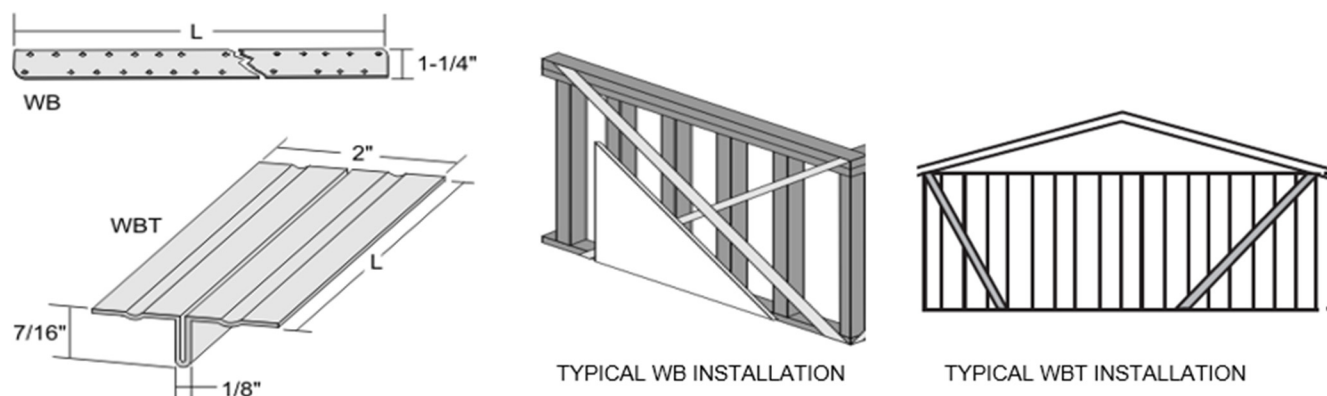


FIGURE 5—WB AND WBT SERIES

TABLE 6—HURRICANE STRAP SS, MSS AND HSS SERIES

MODEL	STEEL YIELD AND TENSILE STRENGTHS (ksi)	STEEL GAGE NO.	DIMENSIONS (inches)	10d NAILS¹ (Quantity Each End)
SS9	F _y = 33 ksi; F _u = 45 ksi	20	1¼ x 10	3, 4
SS9HS	F _y = 48 ksi; F _u = 58 ksi			
MSS9	F _y = 33 ksi; F _u = 45 ksi	18		
MSS9HS	F _y = 48 ksi; F _u = 58 ksi			
HSS9	F _y = 33 ksi; F _u = 45 ksi	16		
HSS9HS	F _y = 48 ksi; F _u = 58 ksi			
SS12	F _y = 33 ksi; F _u = 45 ksi	20	1¼ x 12	3, 4, 5
SS12HS	F _y = 48 ksi; F _u = 58 ksi			
MSS12	F _y = 33 ksi; F _u = 45 ksi	18		
MSS12HS	F _y = 48 ksi; F _u = 58 ksi			
HSS12	F _y = 33 ksi; F _u = 45 ksi	16		
HSS12HS	F _y = 48 ksi; F _u = 58 ksi			
SS18	F _y = 33 ksi; F _u = 45 ksi	20	1¼ x 18	3, 4, 5, 6, 7, 8
SS18HS	F _y = 48 ksi; F _u = 58 ksi			
MSS18	F _y = 33 ksi; F _u = 45 ksi	18		
MSS18HS	F _y = 48 ksi; F _u = 58 ksi			
HSS18	F _y = 33 ksi; F _u = 45 ksi	16		
HSS18HS	F _y = 48 ksi; F _u = 58 ksi			
SS24	F _y = 33 ksi; F _u = 45 ksi	20	1¼ x 24	5, 6, 7, 8, 9, 10, 11
SS24HS	F _y = 48 ksi; F _u = 58 ksi			
MSS24	F _y = 33 ksi; F _u = 45 ksi	18		
MSS24HS	F _y = 48 ksi; F _u = 58 ksi			
HSS24	F _y = 33 ksi; F _u = 45 ksi	16		
HSS24HS	F _y = 48 ksi; F _u = 58 ksi			
SS30	F _y = 33 ksi; F _u = 45 ksi	20	1¼ x 30	7, 8, 9, 10, 11
SS30HS	F _y = 48 ksi; F _u = 58 ksi			
MSS30	F _y = 33 ksi; F _u = 45 ksi	18		
MSS30HS	F _y = 48 ksi; F _u = 58 ksi			
HSS30	F _y = 33 ksi; F _u = 45 ksi	16		
HSS30HS	F _y = 48 ksi; F _u = 58 ksi			
SS36	F _y = 33 ksi; F _u = 45 ksi	20	1¼ x 36	8, 9, 10, 11, 12, 14
SS36HS	F _y = 48 ksi; F _u = 58 ksi			
MSS36	F _y = 33 ksi; F _u = 45 ksi	18		
MSS36HS	F _y = 48 ksi; F _u = 58 ksi			
HSS36	F _y = 33 ksi; F _u = 45 ksi	16		
HSS36HS	F _y = 48 ksi; F _u = 58 ksi			

TABLE 6—HURRICANE STRAP SS, MSS AND HSS SERIES (Continued)

Qty. of 10d nails at each end ¹	Allowable Tension Loads (lbf) 20 Ga Steel ^{2,3,4,5}						Allowable Tension Loads (lbf) 18 Ga Steel ^{2,3,4,5}						Allowable Tension Loads (lbf) 16 Ga Steel ^{2,3,4}					
	A653, FY=48, FU=58 Ksi			A653, FY=33, FU=45 Ksi			A653, FY=48, FU=58 Ksi			A653, FY=33, FU=45 Ksi			A653, FY=48, FU=58 Ksi			A653, FY=33, FU=45 Ksi		
	SYP	DFL	SPF/HF	SYP	DFL	SPF/HF	SYP	DFL	SPF/HF	SYP	DFL	SPF/HF	SYP	DFL	SPF/HF	SYP	DFL	SPF/HF
3	590	547	470	590	547	470	595	552	475	595	552	475	605	557	480	605	557	480
4	787	730	627	787	730	627	794	736	634	794	736	634	806	742	640	806	742	640
5	984	912	784	873	873	784	992	920	792	992	920	792	1008	928	800	1008	928	800
6	1125	1094	941	873	873	873	1190	1104	950	1164	1104	950	1210	1114	960	1210	1114	960
7	1125	1125	1098	873	873	873	1389	1288	1109	1164	1164	1109	1411	1299	1120	1411	1299	1120
8	1125	1125	1125	873	873	873	1500	1472	1267	1164	1164	1164	1613	1485	1280	1455	1455	1280
9	1125	1125	1125	873	873	873	1500	1500	1426	1164	1164	1164	1814	1670	1440	1455	1455	1440
10	1125	1125	1125	873	873	873	1500	1500	1500	1164	1164	1164	1875	1856	1600	1455	1455	1455
11	1125	1125	1125	873	873	873	1500	1500	1500	1164	1164	1164	1875	1875	1760	1455	1455	1455
12	1125	1125	1125	873	873	873	1500	1500	1500	1164	1164	1164	1875	1875	1875	1455	1455	1455
13	1125	1125	1125	873	873	873	1500	1500	1500	1164	1164	1164	1875	1875	1875	1455	1455	1455
14	1125	1125	1125	873	873	873	1500	1500	1500	1164	1164	1164	1875	1875	1875	1455	1455	1455

For **SI**: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

Base-metal thicknesses are 20 gage (0.036 in.), 18 gage (0.048 in.) and 16 gage (0.062 in.)

¹Nails are 10d by 3 inch common nails complying with Section 3.11.3. Allowable tension loads are based on conditions with an equal number of nails on either side of the connection. In cases where this condition is not met, allowable tension loads must be based on the side of the connection having the fewest nails.

²Allowable tension loads include load duration factor of 1.6 per section 2.3.2 of NDS. No further increases in allowable loads are permitted.

³Allowable tension loads are based on Southern Pine (SYP) with a specific gravity of 0.55, Douglas Fir-Larch (DFL) with specific gravity 0.50, and Spruce-Pine-Fir (SPF) or Hem-Fir (HF) with specific gravity of 0.42.

⁴Tabulated loads are for ASTM A653 Steel with $F_y = 33$ ksi and $F_u = 45$ ksi or $F_y = 48$ ksi and $F_u = 58$ ksi.

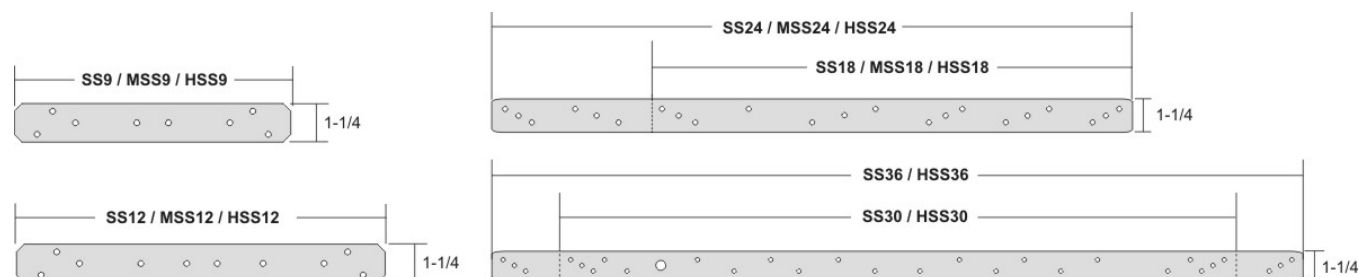


FIGURE 6—SS SERIES

TABLE 7—20 GA NAIL PLATE TNP SERIES ALLOWABLE TENSION LOADS (lbf)^{4,5}

MODEL	DIMENSIONS (INCHES)	STEEL GAGE NO.	NAIL SCHEDULE ¹ (Quantity Each Side of Joint)	TENSION PARALLEL TO SHORT DIMENSION							
				DFL ²				SYP ³			
				100%	115%	125%	160%	100%	115%	125%	160%
TNP35	3x5	20	10-10d	1140	1311	1425	1824	1230	1415	1538	1968
TNP37	3x7	20	14-10d	1596	1835	1995	2554	1722	1980	2152	2755
TNP39	3x9	20	18-10d	2052	2360	2565	3283	2214	2546	2768	3542

MODEL	DIMENSIONS (INCHES)	STEEL GAGE NO.	NAIL SCHEDULE ¹ (Quantity Each Side of Joint)	TENSION PARALLEL TO LONG DIMENSION							
				DFL ²				SYP ³			
				100%	115%	125%	160%	100%	115%	125%	160%
TNP35	3x5	20	10-10d	1140	1311	1425	1824	1230	1415	1538	1831
TNP37	3x7	20	14-10d	1596	1831	1831	1831	1722	1831	1831	1831
TNP39	3x9	20	18-10d	1831	1831	1831	1831	1831	1831	1831	1831

For SI: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

¹Nails are 10d by 1½ inch common nails complying with Section 3.11.3.
²Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.50 (such as Douglas Fir-Larch) or greater.
³Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.55 (such as Southern Pine) or greater.
⁴Allowable tension loads have been adjusted by a load duration factor C_D, of 1.6 (160%), corresponding to the typical duration of wind and earthquake loads. No further increases in allowable loads are permitted.
⁵Allowable tension loads have been adjusted by load duration factors, C_D, of 1.0 (100%), 1.15 (115%), and 1.25 (125%), corresponding to the typical durations of occupancy live loads, snow loads and construction loads, respectively. No further increases in allowable loads are permitted.

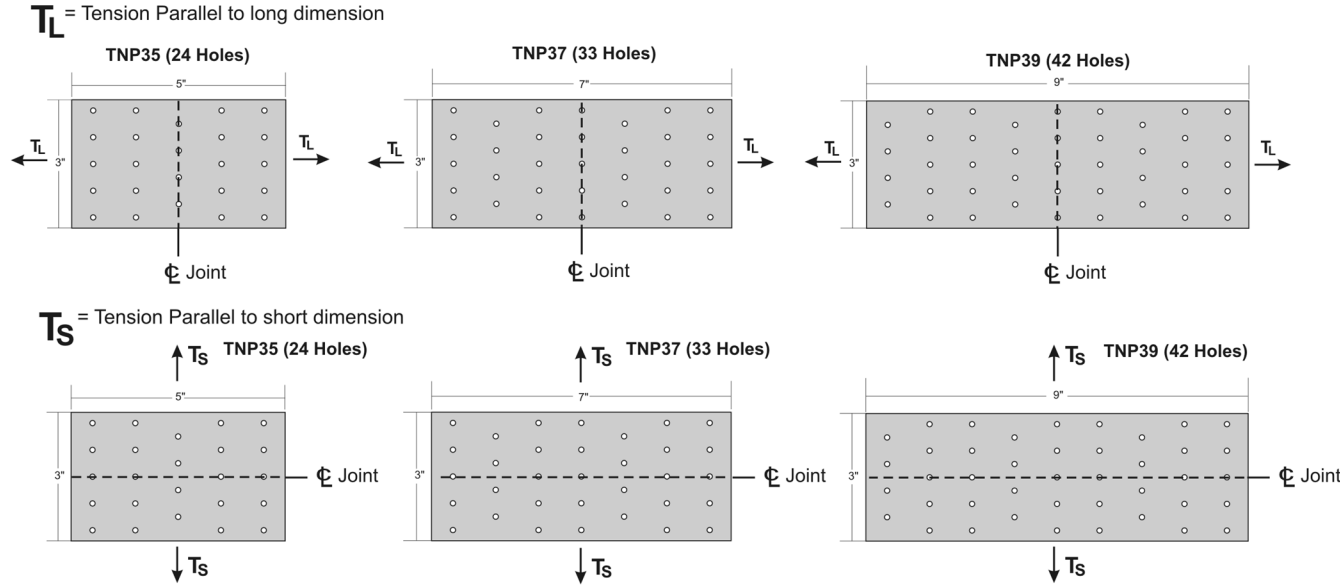


FIGURE 7—TNP SERIES

TABLE 8—CS SERIES COIL STRAPS

MODEL	STEEL ¹ GAGE NO.	TOTAL LENGTH (FEET)	WIDTH (INCHES)	END LENGTH (INCHES)	CUT TO LENGTH	FASTENERS ² (EACH END LENGTH)	ALLOWABLE TENSION LOADS ^{3,4,5} (lbf)		
							SYP	DFL	SPF/HF
CS150	16	150	1 ¹ / ₄	14	CLEAR SPAN + 28"	13 - 8d x 1 ¹ / ₂	1,336	1,336	1,336
				11	CLEAR SPAN + 22"	12 - 8d x 1 ¹ / ₂	1,336	1,336	1,336
CS200	18	200	1 ¹ / ₄	9 ¹ / ₂	CLEAR SPAN + 19"	10 - 8d x 1 ¹ / ₂	1,069	1,069	1,069
				9	CLEAR SPAN + 18"	9 - 8d x 1 ¹ / ₂	1,069	1,069	1,069
CS250	20	250	1 ¹ / ₄	7 ¹ / ₂	CLEAR SPAN + 15"	8 - 8d x 1 ¹ / ₂	801	801	801
				7	CLEAR SPAN + 14"	7 - 8d x 1 ¹ / ₂	801	801	801
CS300	22	300	1 ¹ / ₄	7	CLEAR SPAN + 14"	7 - 8d x 1 ¹ / ₂	668	668	668
				5 ¹ / ₂	CLEAR SPAN + 11"	6 - 8d x 1 ¹ / ₂	668	668	668

For **SI**: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

¹Base-metal thicknesses are 22 gage (0.030 in.), 20 gage (0.036 in.), 18 gage (0.048 in.) and 16 gage (0.060 in.).

²Nails are 8d and 10d by 1¹/₂ inch joist hanger nails complying with Section 3.11.3. Allowable tension loads are based on conditions with an equal number of nails on either side of the connection. In cases where this condition is not met, allowable tension loads must be based on the side of the connection having the fewest nails.

³Allowable tension loads include load duration factor of 1.6 per section 2.3.2 of NDS. No further increases in allowable loads are permitted.

⁴Allowable tension loads are based on Southern Pine (SYP) with a specific gravity of 0.55, Douglas Fir-Larch (DFL) with specific gravity 0.50, and Spruce-Pine-Fir (SPF) or Hem-Fir (HF) with specific gravity of 0.42.

⁵Tabulated loads are for ASTM A653 Steel with $F_y = 33$ ksi and $F_u = 45$ ksi.

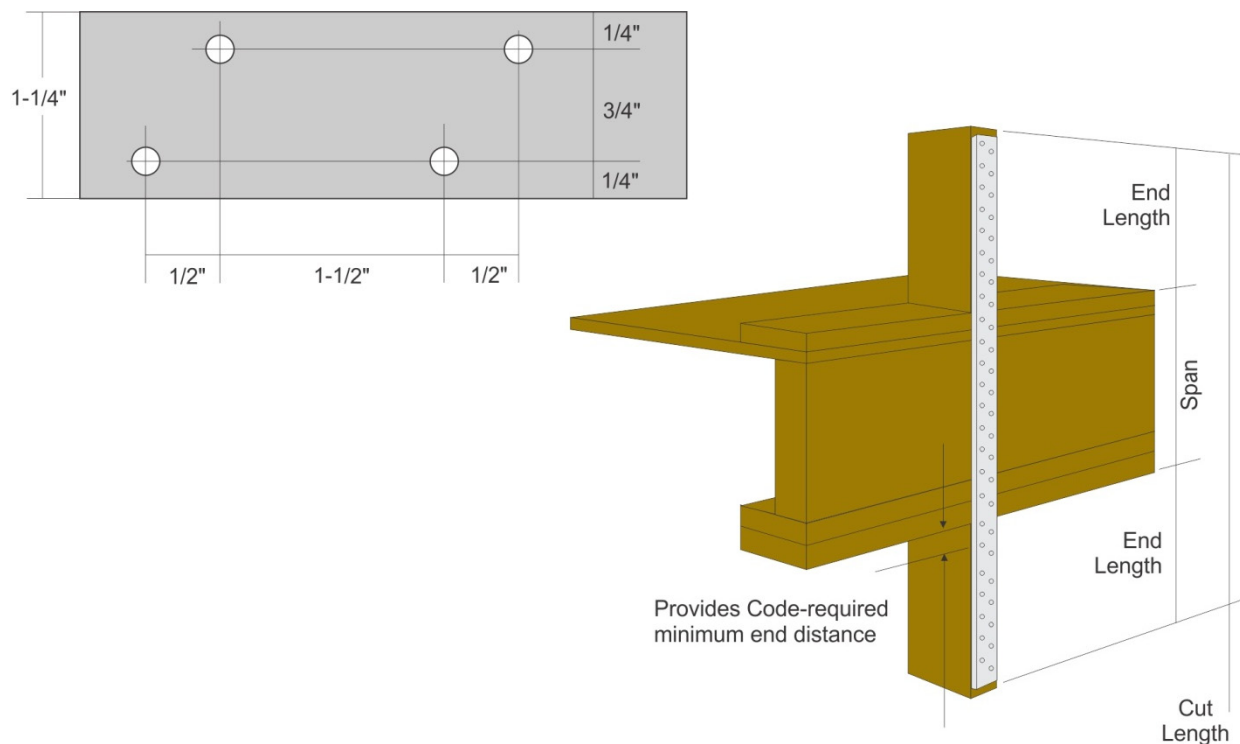


FIGURE 8—CS SERIES

TABLE 9—POST CAP ALLOWABLE LOADS (lbf)

MODEL	DIMENSIONS (INCHES)			STEEL GAGE NO.	NAIL SCHEDULE ^{1,4}		ALLOWABLE LOADS – DFL ² (lbf)		
	H	W	B		BEAM ⁴	POST ⁴	UPLIFT ³	LATERAL H1 ³	LATERAL H2 ³
TLCE4	5 ³ / ₈	5 ³ / ₈	1 ¹ / ₄	20	14	10	1835	1894	1180

For SI: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

¹Nails are 16d by 3¹/₂ inch common nails complying with Section 3.11.3.

²Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.50 (such as Douglas Fir Larch) or greater.

³Allowable loads have been adjusted by a load duration factor C_D, of 1.6 (160%), corresponding to the typical duration of wind and earthquake loads. No further increases in allowable loads are permitted.

⁴Loads are for each connector and apply only when used in pairs, 7-16d nails in beam and 5-16d nails in post for one connector each side of beam & post

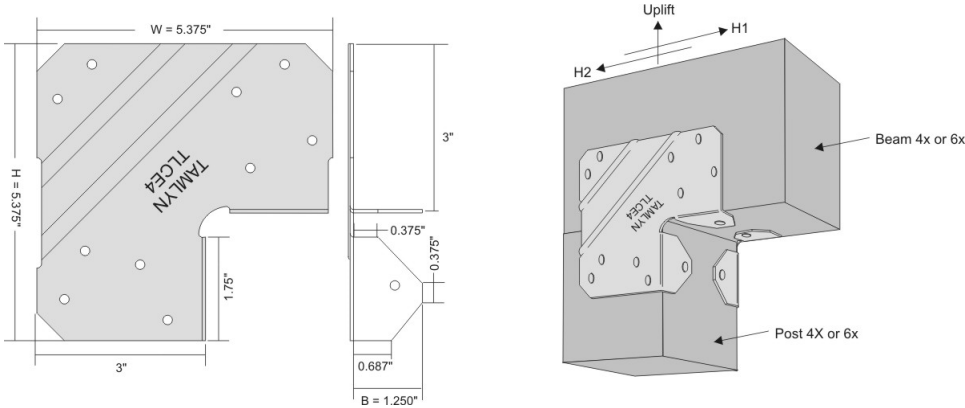


FIGURE 9—TLCE4

TABLE 10—STUD PLATE TIE ALLOWABLE LOADS (lbf)

MODEL	CONNECTION ACHIEVED	STEEL GAGE NO.	HEIGHT (INCHES)	WIDTH (INCHES)	NAIL SCHEDULE ¹		ALLOWABLE UPLIFT LOADS ⁴ (lbf)	
					To Plate	To Stud	DFL ²	SYP ³
TRSPT6-2	Stud to double plate for high wind	18	5 ¹ / ₂	2 ³ / ₄	6-10d	8-10d	652	837
	Stud to single plate				6-10d	8-10d	394	394

For SI: 1 inch = 25.4 mm, 1 lbf = 4.5 N.

¹Nails are 10d common wire nails or 1¹/₂ inch joist hanger nails complying with Section 3.11.3.

²Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.50 (such as Douglas-fir-Larch) or greater.

³Allowable loads are for hangers nailed into wood or structural composite lumber having an effective specific gravity of 0.55 (such as Southern Pine) or greater.

⁴Allowable uplift loads have been adjusted by load duration factor C_D, of 1.6 (160%), corresponding to the typical durations of wind and earthquake loads. No further increases in allowable loads are permitted.

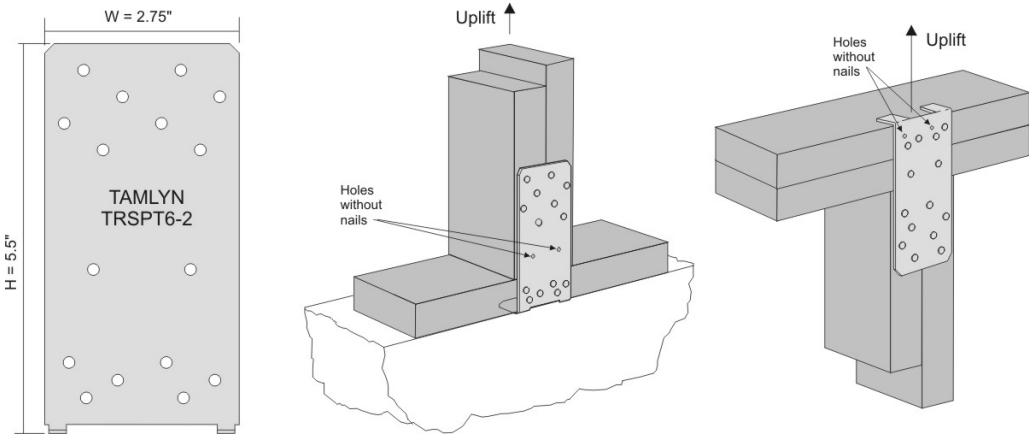


FIGURE 10—TRSPT6-2

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

Section: 06 05 23—Wood, Plastic, and Composite Fastenings

REPORT HOLDER:

R. H. TAMLYN AND SONS, LP

EVALUATION SUBJECT:

TAMLYN AND SONS WOOD STRUCTURAL CONNECTORS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that R. H. Tamlyn and Sons, LP Wood Structural Connectors, described in ICC-ES evaluation report ESR-1347, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2019 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 *California Residential Code* (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The R. H. Tamlyn and Sons LP Wood Structural Connectors, described in Sections 2.0 through 7.0 of the evaluation report ESR-1347, comply with CBC Chapter 23, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16, 17 and 23, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The R. H. Tamlyn and Sons, LP Wood Structural Connectors, described in Sections 2.0 through 7.0 of the evaluation report ESR-1347, comply with CRC Chapters 3 and 6, provided the design and installation are in accordance with the 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued May 2023.

ICC-ES Evaluation Report

ESR-1347 FBC Supplement

Reissued May 2023

This report is subject to renewal May 2024.

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Purpose:

The purpose of this evaluation report supplement is to indicate that the Tamlyn and Sons Wood Structural Connectors, described in ICC-ES evaluation report ESR-1347, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 *Florida Building Code—Building*
- 2020 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The Tamlyn and Sons Wood Structural Connectors, described in Sections 2.0 through 7.0 of the evaluation report ESR-1347, comply with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-1347 for the 2018 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable, with the following conditions:

- a. Hangers in Tables 1 and 2 and Table 4 must not be used in connections required to resist uplift loads.

Use of the Tamlyn and Sons Wood Structural Connectors has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building*, and the *Florida Building Code—Residential*, and the following conditions apply:

- a. Ties having an assigned allowable uplift capacity of less than 700 pounds (3114 N), in Table 3 and Table 10, shall be used such that two or more of the ties are installed so that the total allowable uplift capacity exceeds the code-prescribed minimum of 700 pounds (3114 N).
- b. The number of nails chosen in accordance with Table 6 and Table 8 must be such that the allowable tension capacity exceeds the code-prescribed minimum of 700 pounds (3114 N).
- c. Nails must be galvanized or corrosion resistant.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued May 2023.