



WORTHINGTON ARMSTRONG VENTURE (WAVE)

SHORTSPAN DRYWALL STEEL FRAMING SYSTEMS

CSI Section:

05 40 00 Cold-Formed Metal Framing

1.0 RECOGNITION

The ShortSpan Drywall Steel Framing Systems recognized in this report has been evaluated for use as ceiling framing systems. The structural performance properties of the ShortSpan Drywall Steel Framing Systems comply with the intent of the provisions of the following codes and regulations:

- 2015, 2012 and 2009 International Building Code® (IBC)

2.0 LIMITATIONS

Use of the Worthington Armstrong Venture ShortSpan Drywall Framing System recognized in this report is subject to the following limitations:

2.1 The ceiling framing members are fabricated and installed in accordance with this report and the manufacturer's installation instructions. In the event of a conflict, the more restrictive governs.

2.2 Design calculations for loads outside the scope of this report shall be submitted to the code official at the time of permit application. The calculations shall be prepared by a registered professional where required by the statutes of the jurisdiction in which the project is to be constructed.

2.3 When ShortSpan Framing Tees S7708P, S7710P, S7712P, or S7714P are used as shown in [Figure 1](#) of this report, clips shall be used to connect ShortSpan Framing System components to the structure above for spans from 102 inches (2591 mm) to the maximum span of 204 inches (5182 mm). When ShortSpan Framing Tees S7708, S7710, S7712, or S7714 are used as shown in [Figure 2](#) of this report, struts and clips shall be used to connect Short Span Framing System components to structure above for spans from 78 inches to the maximum span of 168 inches (1981 to 4267 mm). Screws shall be used to attach wall supports to a light gage supporting structure. The design of the struts, clips, and screws is outside the scope of this report and applicable construction documents shall be submitted to the code official for approval.

2.4 The ShortSpan Framing system is designed to be installed using light gage steel support materials. Installation to other connection materials and fasteners require design by a registered design professional.

2.5 Use in ceilings required to be of fire-resistance-rated construction is outside the scope of this report.

3.0 PRODUCT USE

3.1 General: The ShortSpan Drywall Steel Framing Systems described in this report are used as ceiling framing systems with light gage steel framing supports for screw-attached gypsum panel products in interior applications permitted under IBC Section 808, and within Risk Categories I, II, III, or IV, as set forth in IBC Section 1604.5. The ShortSpan Drywall Steel Framing Systems described in this report have been qualified for installation at sites with a mapped maximum considered earthquake (MCE), 5 percent damped, spectral response acceleration parameter at short periods (S_s) as indicated in Section 3.2 of this report.

3.2 Design:

3.2.1 Design General: The maximum ShortSpan Framing System supported span shall be 102 inches (2591 mm) for assemblies using ShortSpan Tees S7708P, S7710P, S7712P, and S7714P, unless otherwise specified in this report. Gusset supports shall be used for assemblies using ShortSpan Tees S7708, S7710, S7712 and S7714 for corridor widths from 78 to 102 inches (1981 to 2591 mm). The 8-inch Gusset (LWAGU8) is limited to a maximum corridor width of 94 inches (2387.6 mm). Corridor widths exceeding 102 inches (2591 mm) require a supplemental support system, which shall be designed by others.

3.2.2 ShortSpan Tees S7708P, S7710P, S7712P, S7714P: The ShortSpan Framing System is designed for use with single layer, screw-attached ½ inch (12.7 mm) or ⅝ inch (15.9 mm) thick gypsum board with a maximum board weight of 2.5 psf (12.2 kg/m²). The ShortSpan Framing System is qualified for use in structures assigned to Seismic Design Categories A, B, C, D, E, and F with an S_s of less than 2.75 for supported spans less than 96 inches and 2.5 for spans between 96 and 102 inches (2438 and 2591 mm).

When required, data complying with IBC Section 808 shall be submitted to the code official justifying the vertical load capacities.



3.2.3 ShortSpan Tees S7708, S7710, S7712, S7714: The ShortSpan Framing System is designed for use with single layer, screw-attached ½ inch (12.7 mm) or ⅝ inch (15.88 mm) thick gypsum board with a maximum board weight of 2.5 psf (12.21 kg/m²). The ShortSpan Framing System is qualified for an S_s of 2.75 or less in structures assigned to Seismic Design Categories A, B, C, D, E, and F.

When required, data complying with IBC Section 808 shall be submitted to the code official justifying the vertical load capacities.

3.3 Installation:

3.3.1 Installation General: The ceiling system shall be installed in accordance with this report and the manufacturer's published installation instructions. Where conflicts occur, the more restrictive shall govern. [Figures 1, 2, 2A](#) and [2B](#) of this report provide installation details. Gypsum boards shall be installed in accordance with IBC Section 2508.

3.3.2 Locking Angle Molding (LAM12): The angle molding shall be attached to wall structure with fasteners spaced a maximum of 16 inches (406.4 mm) on center. No. 8 by 1¼-inch (31.75 mm) long, self-piercing, tapping screws shall be used for direct attachment to Nos. 20 to 25 gage steel framing.

3.3.3 ShortSpan Framing Tees (S7708P, S7710P, S7712P, S7714P): The tees shall be installed at a maximum spacing of 16 inches (406.4 mm) on center between members and up to a 102-inch (2591 mm) supported span for ⅝ inch (15.9 mm) thick gypsum board. The tees shall be installed at a maximum spacing of 24 inches (609.6 mm) on center between members and up to a 90-inch (2286 mm) supported span for ⅝ inch (15.9mm) thick gypsum board.

3.3.4 ShortSpan Framing Tees (S7708, S7710, S7712, S7714): The tees shall be installed at a maximum spacing of 16 inches (406.4 mm) on center between members and up to a 78 inch (1981.2 mm) supported span ([Figure 2 of this report](#)). Spans may be extended to 102 inches (2591 mm) using Gusset supports. Ends shall be cut to within ¼ inch (3.175 mm) of the vertical leg of the LAM12 and engaged into the locking tab.

3.3.5 Gusset (LWAGU12, LWAGU8): Gussets shall be installed at terminal ends of S7708, S7710, S7712 and S7714 ShortSpan Framing Tees for spans from 78 inches to 102 inches (1981.2 to 2590.8 mm) as required in Section 3.3.4 and [Figure 2B](#) of this report. The gusset shall be connected to the ShortSpan T connection using No. 7x7/16 inch (11.11 mm) long pan framer screws.

3.3.6 Gusset Support Channel (LWAWT12): The Support Channel shall be mounted parallel to and 11 inches (279.4 mm) above the locking angle molding when using the 12-inch Gussets (LWAGU12). When using the 8-inch Gusset (LWAGU8), the Support Channel shall be mounted 7 inches (177.8 mm) above the molding. The Gusset Support Channel shall be directly attached to No. 20 to 25 gage steel wall framing spaced a maximum of 16 inches (406.4 mm) on center, with No. 8 by 1¼-inch (31.75 mm) long, self-piercing, tapping screws.

3.3.7 Locking Pocket Main Beam (QSLPM12): Locking Pocket Main Beams shall be used where the corridor width is greater than 102 inches (2591 mm). Locking Pocket Main Beam shall be supported to above structure a maximum of 36 inches (914.4 mm) on center using the QSUTC or No. 12 SWG galvanized steel hanger wires. The Locking Pocket Main Beams shall be installed parallel to each other a maximum of 102 inches (2591 mm) on center when ShortSpan Framing Tees S7708P, S7710P, S7712P, or S7714P are used as shown in Figure 1 of this report. The Locking Pocket Main Beams shall be installed parallel to each other a maximum of 78 inches (1981.2 mm) on center when ShortSpan Framing Tees S7708, S7710, S7712, or S7714 are used, as shown in [Figure 2](#) of this report.

3.3.8 QuickStix Uptight Clip (QSUTC): QSUTC clips shall be used as support points for the ShortSpan Framing system to a maximum supported span of 102 inches (1981.2 mm) on center when ShortSpan framing Tees, S7708P, S7710P, S7712P, S7714P are used and 78 inches when ShortSpan framing Tees, S7708, S7710, S7712, S7714 are used. Quickstix Uptight clip shall be connected to the structure above using No. 8 sheet metal screws for the connection to the ShortSpan tee or Locking Pocket Main Beam and fasteners corresponding to the supporting material for connection to supporting structure. Four or more screws per each leg shall be used to fasten to framing members and structure above. Calculations for the type, size, and quantity of fasteners to the supporting structure shall be submitted to the code official for approval.

3.3.9 Lighting Fixtures: Lighting fixtures shall be supported independently from the ShortSpan System in accordance with the IBC and the fixture manufacturer's installation instructions. In the event of a conflict, the more restrictive governs.

4.0 PRODUCT DESCRIPTION

4.1 Product Information Definitions:

Span is referred to in this report as the total width between walls of the corridor or space framed.

Supported Span is referenced in this report as the distance



between points of support to structure for the ShortSpan Framing System.

4.2 Material Information

4.2.1 ShortSpan Tees

4.2.1.1 ShortSpan Tee Sizes: S7708P, S7710P, S7712P, S7714P: The ShortSpan framing Tees, S7708P, S7710P, S7712P, S7714P have a 1¹³/₁₆-inch (45.8 mm) high inverted T-shape, with a rotary stitched double web, a PeakForm® bulb and knurled lower flange that has a reverse hem along the entire length of the 1½ inch (38.1 mm) wide bottom flange. Lengths include 8, 10, 12, or 14 feet (2438, 3048, 3658, or 4267 mm). The steel used to form the tees complies with ASTM C645 with a minimum steel thickness of 0.0179 inch (0.45 mm), and has a G40 galvanized coating designation in accordance with ASTM A653.

4.2.1.2 ShortSpan Tee Sizes S7708, S7710, S7712, S7714: The ShortSpan framing Tees, S7708, S7710, S7712, S7714, have a 1½ inch (38.1 mm) high inverted T-shape, with a square bulb, rotary stitched double web and knurled lower flange that has a reverse hem along the entire length of the 1½ inch (38.1 mm) wide bottom flange. Lengths include 8, 10, 12, or 14 feet (2438, 3048, 3658, or 4267 mm). The steel used to form the tees complies with ASTM C645 with a minimum steel thickness of 0.0179 inch (0.45 mm), and has a G40 galvanized coating designation in accordance with ASTM A653.

4.2.2 Locking Angle Molding (LAM-12): The locking angle molding has a 1.25 inch by 1.25 inch by 0.0179 inch (31.75 mm by 31.75 mm by 0.45 mm) thick flanges. Both flanges have knurled surfaces and reverse hems along edges. The LAM-12 angle molding is 12 feet (3657.6 mm) long, with locking tabs punched into the bottom flange at 8 inches (203.2 mm) on center. The steel used to form the angle molding complies with ASTM C645 with a minimum steel thickness of 0.0179 inch (0.45 mm), and a G40 galvanized coating designation in accordance with ASTM A653.

4.2.3 Locking Pocket Main Beam (QSLPM12): The Locking Pocket Main Beam has a 1½ inch (38.1 mm) high inverted T-shape, with a rotary stitched double web and capless 1½ inch (38.1 mm) wide lower flange. The underside of flange is knurled with a reverse hem along the edges. The top side of the flange contains locking tabs punched 8 inches (203.2 mm) on center. The length of the Locking Pocket Main Beam is 12 feet (3048 mm). The steel used to form the Locking Pocket main beam complies with ASTM C645 with a minimum steel thickness of 0.0179 inches (0.45 mm) and has G40 galvanized coating designation in accordance with ASTM C653.

4.2.4 Gypsum Board: Gypsum panel products shall comply with ASTM C1396, and shall be a maximum of 5/8 inch (15.88 mm) thick.

4.2.5 Gusset (LWAGU12, LWAGU8): The 2½ inch (63.5 mm) wide Gusset is available in lengths of 12 and 17 inches (304.8 and 431.8 mm). The top side has a hook detail to fasten onto Gusset Support Channel. The lower side contains a 0.125-inch (3.175 mm) diameter hole. The bottom flange contains a slot 1.50 inches (41.5 mm) long to fasten the Gusset to grid sections for Seismic Design Category D, E, and F installations. Long sides of the Gusset contain 0.20-inch (5.08 mm) stiffening bead flanges. The Gussets may be used to support ShortSpan Tee.

The Gusset is produced from 0.034 inch (0.86 mm) thick steel complying with ASTM C645, and has G40 hot dipped galvanized coating designation in accordance with ASTM A653.

4.2.6 Gusset Support Channel (LWAWT12): The Gusset Support Channel is fabricated from 0.024 inch (0.61 mm) thick steel complying with ASTM C645. The Gusset Support Channel has G40 galvanized coating designation in accordance with ASTM A653. The profile of the Gusset Support Channel is U-shaped, measuring 1¾ inches x 7/16 inches x 144 inches (34.93 x 11.11 x 3657.6 mm) long. The top leg has 0.375 inch (9.53 mm) wide flange along length of the gusset support channel. The valley contains punched slots spaced 4 inches (101.6 mm) on center along length of the Gusset Support Channel.

4.2.7 QuickStix Uptight Clip (QSUTC): The Quickstix Uptight Clip is an L-shaped clip. The long leg contains eight (8) 0.125-inch (3.175 mm) diameter holes spaced evenly while short leg contains four (4) 0.125 inch (3.175 mm) diameter holes spaced evenly. The legs are 4.42 inch (112.27 mm) and 1.42 inch (36.07 mm) in length by 1.75 inch (44.45 mm) in width. Each leg contains a 0.11 inch (2.79 mm) wide lip along the ends. The QSUTC is fabricated from 0.046 inch (1.17 mm) thick steel complying with ASTM C645 and has G40 galvanized coating designation in accordance with ASTM A653.

5.0 IDENTIFICATION

A permanent label bearing the name and address of the manufacturers, the model number, IAPMO ES Mark of Conformity, and this evaluation report (ER-163) identifies the products listed in this report.



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Valid Through: 01/31/2019



or
IAPMO UES ER-163

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with ICC-ES Acceptance Criteria for Seismic Certification by Shake-Table Testing of Nonstructural Components (AC156) approved October 2010 (editorially revised May 2015).

7.0 CONTACT INFORMATION

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8.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on The ShortSpan Drywall Steel Framing Systems to assess conformance to the codes shown in Section 1.0 of this report, and serves as documentation of the product certification.

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For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



TABLE 1
SHORTSPAN FRAMING SYSTEM COMPONENTS

PART NUMBER(S)	STEEL THICKNESS (INCH)	PROFILE
S7708, S7710, S7712, S7714	0.018	
S7708P, S7710P, S7712P, S7714P	0.018	
LAM 12	0.018	
QSUTC	0.046	
LWAWT12	0.024	
LWAGU12 LWAGU8	0.034	

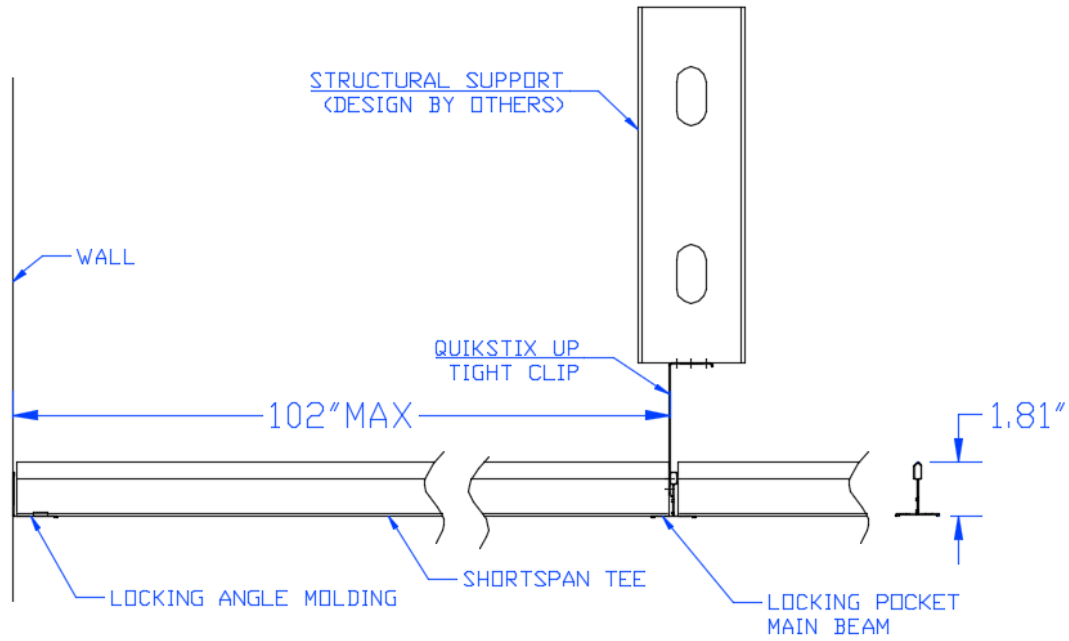


FIGURE 1
S7708P, S7710P, S7712P, S7714P

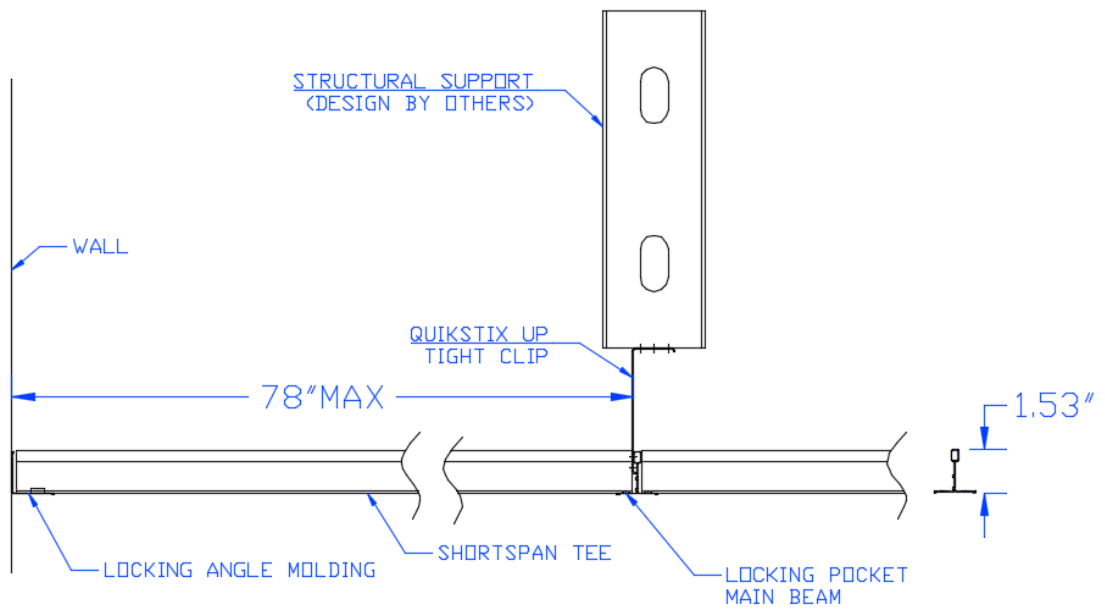


FIGURE 2
S7708, S7710, S7712, S7714

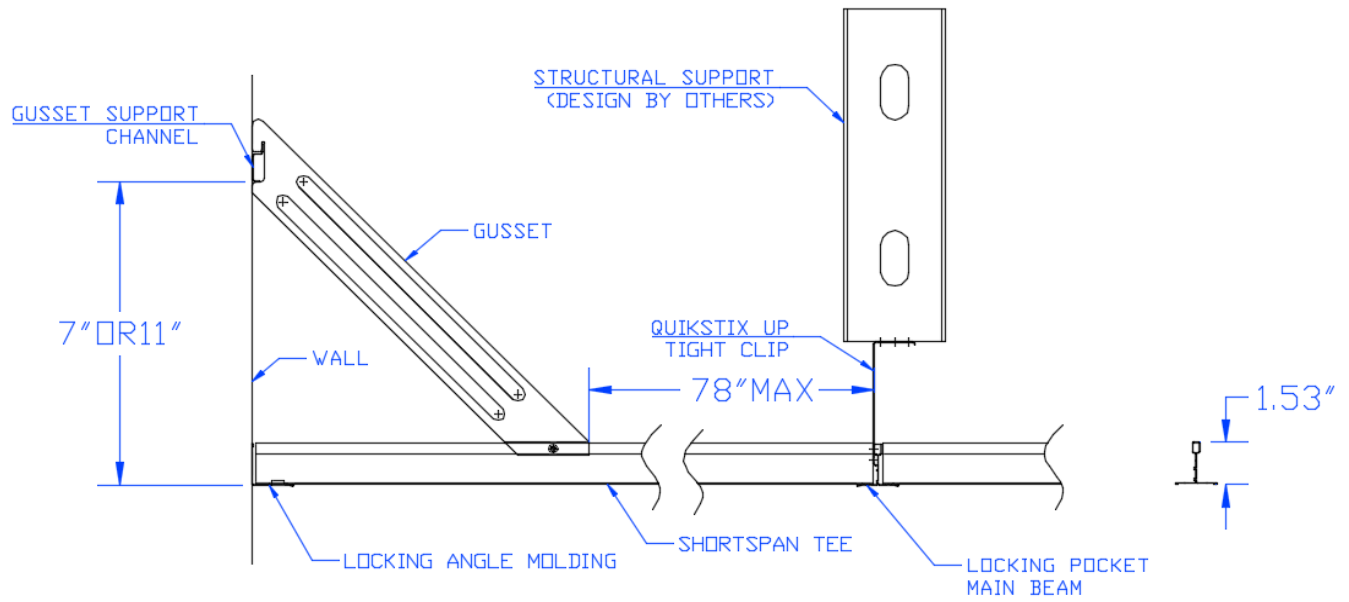


FIGURE 2A
S7708, S7710, S7712, S7714

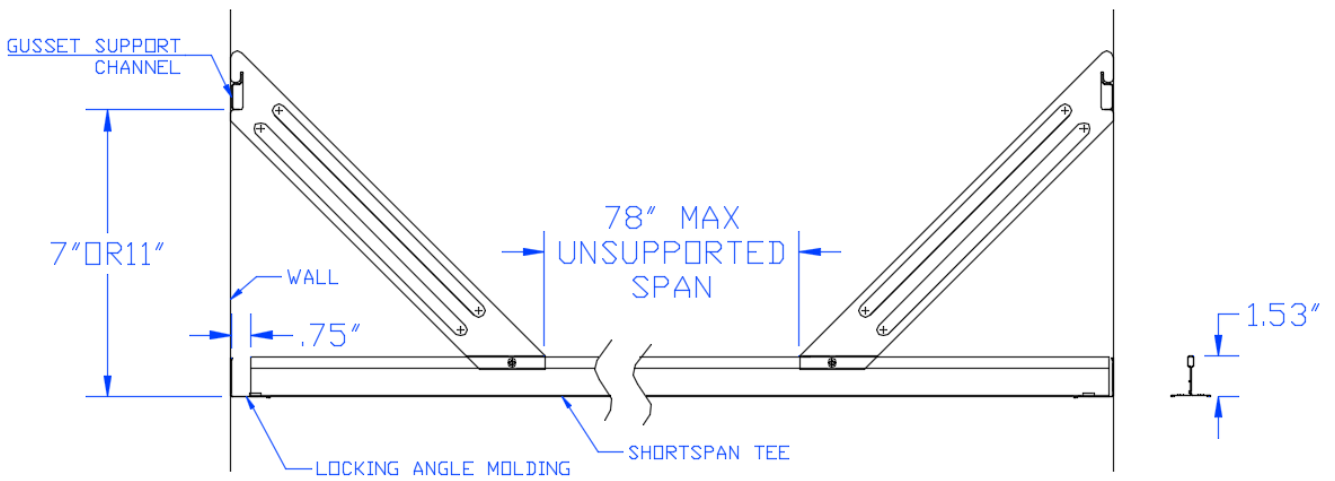


FIGURE 2B
S7708, S7710, S7712, S7714