

METALWORKS™ TorsionSpan™

Installation Instructions

1. GENERAL

1.1 Product Description

MetalWorks TorsionSpan is a downward accessible aluminum ceiling panel system with 24" wide panels available in 24" to 120" lengths. It is designed to install with SingleSpan™ Prelude® PeakForm® Plus main beams that are pre-slotted to accept the factory-applied panel springs. All non-cut panels are 100% swing down accessible.

1.2 Standard Installation

MetalWorks TorsionSpan is installed using pre-slotted SingleSpan Prelude PeakForm Plus main beams and a 1" x 2" structural wall angle. The installation shall, in all cases, conform to the requirements of the International Building Codes and its referenced standards.

1.3 Surface Finish

MetalWorks TorsionSpan panels are pre-coated aluminum and available in six standard perforations or unperforated in standard Whitelume (WHA), Silverlume (SIA), Gun Metal (MYA), Satin Anodized (SAA), Lacquer Mill (LMA), and Brushalume (BAA) finishes. Reflections™ is printed vinyl bonded to aluminum and provides wood-look finishes in Rock Maple (LRM), Light Cherry (LLC), Wild Cherry (LWC), Pecan (LPC), Arctic Maple (LAM), Walnut (LWN), Mineral Forest (LMF), Natural Oak (LNOIE), and Natural Maple (LNMPIE). The perforated finishes have a black acoustical fleece factory applied to the backside of the panel. Optional BioAcoustic™ (item 5823) and fiberglass (item 8200100) infill panels are available for increased sound absorption.

1.4 Storage and Handling

Ceiling panels shall be stored in a dry interior location and shall remain in the crate prior to installation to avoid damage. Proper care should be taken when handling to avoid damage or soiling. **CAUTION: TorsionSpan panels 6 feet long or more require careful handling by two or more people to avoid kinking the panels. Please use care when handling and installing this product.**

1.5 Site Conditions – Painted Panels

Areas to receive ceilings shall be free of construction dust and debris. Panels should only be installed in closed and acclimatized buildings. Interior systems cannot be used in exterior applications where standing water is present or where moisture will come in direct contact with the ceiling.

1.6 HVAC Design & Operation

Proper design for both supply air and return air, maintenance of the HVAC filters and building interior space are essential to minimize soiling. Before starting the HVAC system, make sure supply air is properly filtered and the building interior is free of construction dust.

1.7 Plenum

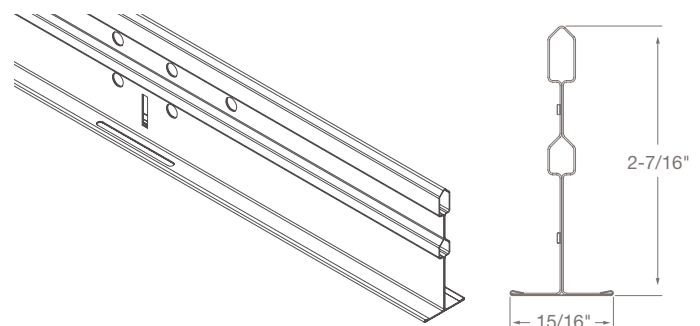
Since panels are installed from below, TorsionSpan panels require minimal clearance above the suspension system. Panels should not need to travel into the plenum space during installation.

NOTE: Light fixtures and air handling systems require more space and will usually determine the minimum plenum height for the installation.

2. SUSPENSION SYSTEM

2.1 Straight Corridor Installation

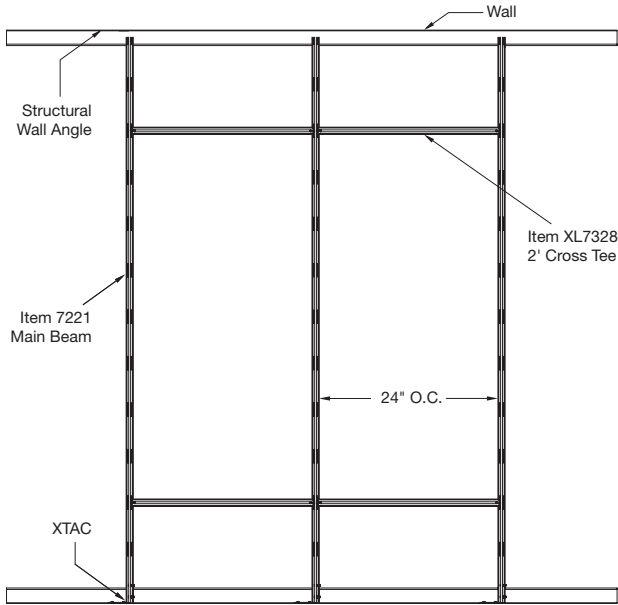
The suspension system shall be 15/16" SingleSpan Prelude PeakForm Plus main beams that are slotted to accept the panel torsion springs (item 7221).



The requirements listed here represent the manufacturer's minimum acceptable installation recommendations, and may be subject to additional requirements established by the local authority having jurisdiction.

For TorsionSpan™ panels, the main beams are installed every 24" on center perpendicular to the corridor walls.

For a corridor with no open ends or 90 degree turns, the first main beam must be positioned 25" from the end wall to accommodate the first panel.



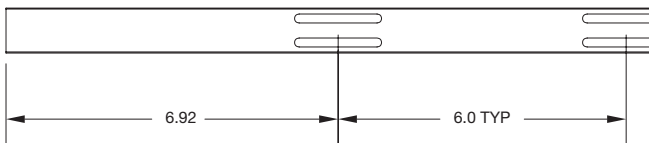
2.2 Wall Molding

Two inch structural wall angle (item SWA9820HRC for White and item SWA9820BL for Black) is to be used around the perimeter. Attach wall angle to studs every 16" or 24" on center with a #8 x 1-1/4" or similar self-drill screw.

2.3 Main Beams

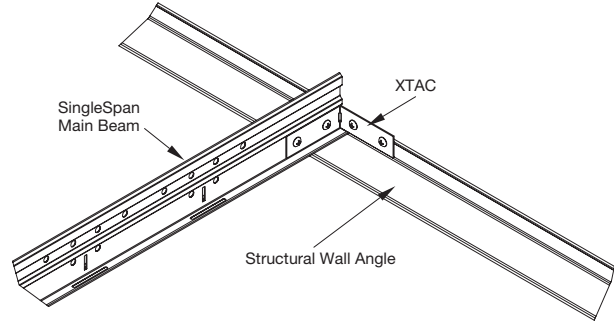
SingleSpan™ Prelude® PeakForm® Plus main beams that have been pre-slotted every 6" (item 7221) are installed every 24" on center perpendicular to the corridor walls. Hanger wire placement will be within 6' of the wall and wires can be spaced 6' apart.

The first slot on the main beam will be 6.92" on center from the end. **NEVER** cut the suspension system from this end. Make all cuts and adjustments to the suspension length at the opposite end and trim leaving 5/8" gap from the end of the main beam to the wall.



Select the straighter of the two walls in the corridor. Install the main beam with the uncut end of the main beam (with the slot 6.92" from the end) against this wall.

Secure the main beam to this wall with a Cross Tee Adapter Clip (XTAC) using a #8 x 3/4" or similar self-drill screw. Secure the XTAC clip perpendicular to the main beam with a #8 x 3/4" screw.



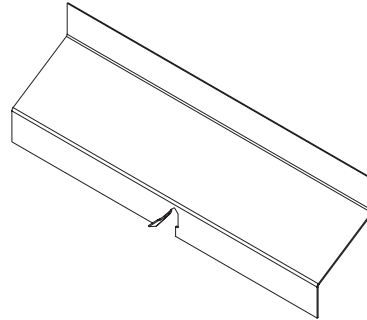
Continue installing all main beams in this manner.

Caution: Before installing panels, check to ensure the slots at the uncut ends of the suspension system align with each other. Failure to do so may result in a jagged or "saw tooth" appearance at the walls.

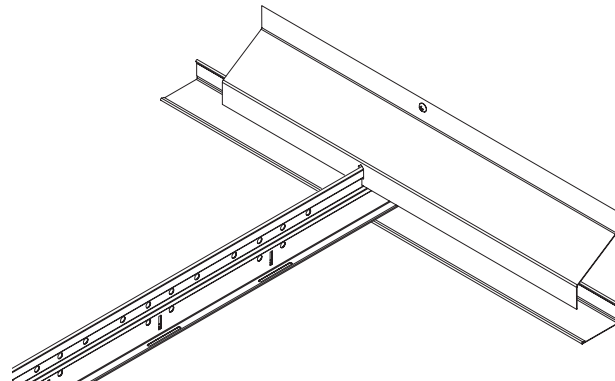
Layouts with intersections or corners are detailed in sections 4.0 – 5.0.

2.4 Lateral Support Bar

Install the lateral support bar (item LSB10HRC) on the opposite wall to support the main beams. Use pliers to bend open the route locations along the length of the lateral support bar.



Fit the lateral support bar over the top bulb of the main beam; the lateral support bar must be screw attached to the wall framing 16" or 24" on center. Bend the route location tab back into place.



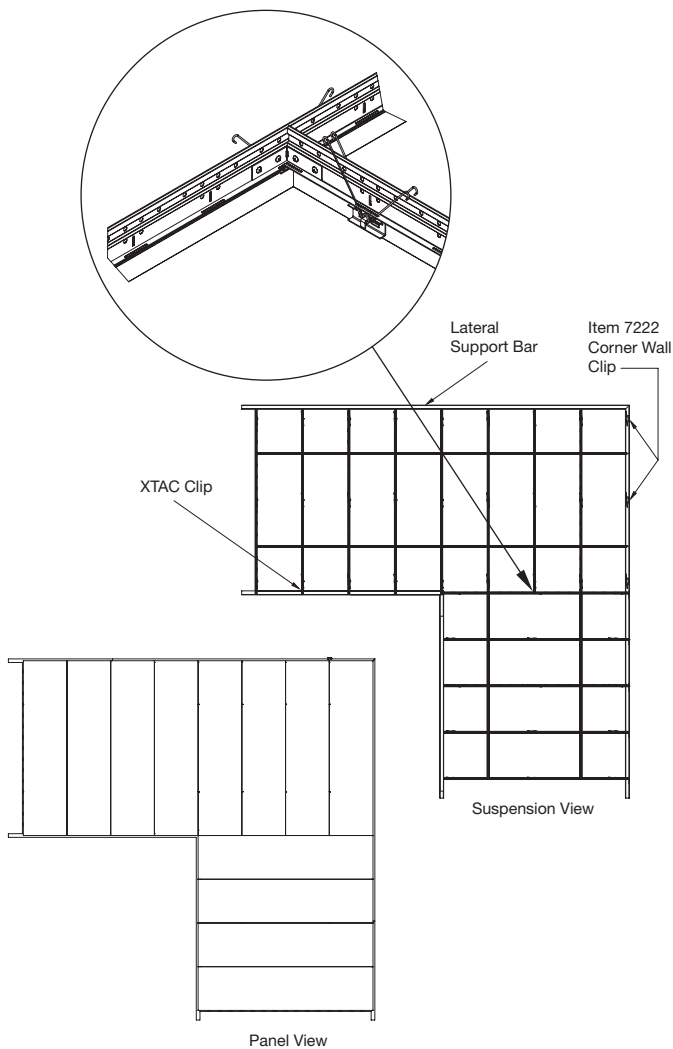
2.5 Cross Tees

24" cross tees (item XL7328) shall intersect the main beams 90 degrees at every 48" if the corridor width allows. For corridors 6 feet wide or less, cross tee spacing is every 24".

3. INTERSECTING CORRIDORS

Using Cross Tee Adapter Clips (XTAC), attach the SingleSpan™ Prelude® PeakForm® Plus main beams to the wall where the corridors intersect. Install the lateral support bar on the long end of the corridor to support the main beams. For additional information on installing main beams and lateral support bars, see sections 2.3 – 2.4.

Keeping the 24" on center spacing, at the opening where the corridors intersect, run a main beam from the wall perpendicular to the corridor opening. Attach one side of the main beam to the wall with the lateral support bar; use an XTAC clip wherever two main beams intersect.



4. MITERED 90 DEGREE CORNERS

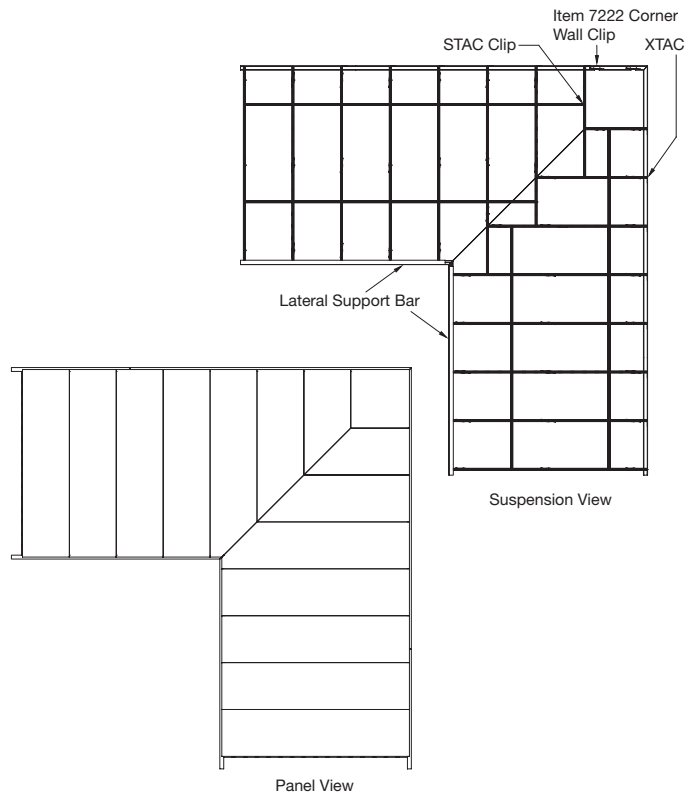
4.1 For mitered corners, the reference wall will always be the outside wall. This is where the XTAC clips will be affixed. **NOTE:** The suspension system should not be cut from this end. The lateral support bar will always be on the inside wall.

4.2 When both corridors are the same width, begin working from the inside corner. The first SingleSpan Prelude PeakForm Plus main beam will sit on the structural wall molding that is attached to the outside wall with an XTAC clip (see section 2.3 for further information). Create a herringbone pattern by alternating sides until reaching the outside corner. Place 24" cross tees to maintain the spacing of the main beams.

To ensure the integrity of the suspension system, a Single Tee Adapter Clip (STAC) will be needed to finish the run where the cross tees do not have another tee.

Push the STAC clip into the route hole on the right side of the cross tee staked-on end detail. Align the top edge flush with the underside of the main beam bulb. Insert one 1/8" aluminum or steel pop rivet into the bottom end detail hole from the staked-on end detail side, opposite the STAC clip. Cut the excess end detail off with metal snips, or bend out of the way for improved panel or fixture clearance.

4.3 When corridors are different widths, install the larger rectangular panel in the corner of the corridor. The first main beams from the corner should be 25" from the walls. This panel should line up with a 45 degree miter from the inside corner. Angled corner panels will differ depending on the width of the corridors. After determining the length of the corner panel, the layout will be 24" on center main beams and 24" cross tees used to keep the appropriate spacing. Refer back to Section 2.0 for further detail.

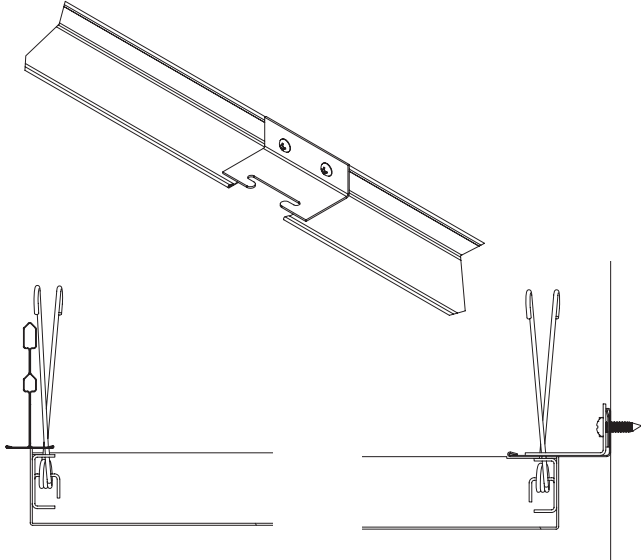


4.4 Start panel assembly from the outside corner, installing mitered panels working out from the corner. As the suspension system creates a herringbone pattern, the panels will create a mitered look from below.

5. PERIMETERS

5.1 Wall Perimeter

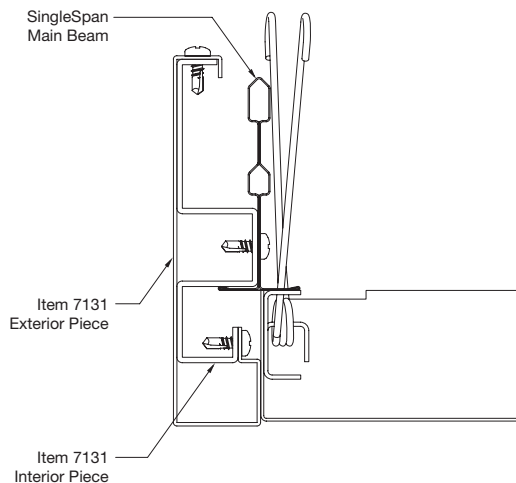
At the perimeter, where the panel spring engages the wall molding, the wall molding must be notched to accept the torsion spring clip (item 7222). Use caution and notch the wall molding no more than 1" for spring clearance. Overcutting could result in the notch being visible from below the 1" reveal.



5.2 Floating Perimeters

The suspension layout for floating end perimeters should be the same as what is detailed in Sections 2.3 – 2.5. Please note that main beams and cross tees need to be in place around the entire perimeter so perimeter trim can be attached to the suspension system.

The perimeter trim (item 7131) is designed for straight perimeters and should not be curved. This trim consists of an inside and an outside piece. The inside piece should be fastened to the suspension system first; these pieces should be installed every 2'. Next, install the exterior 8' piece (trim if necessary) by fastening it to the interior section with two screws. See drawing below.



Contact the Architectural Specialties project management team (1 877 ARMSTRONG, select options 1-1-4) for additional questions.

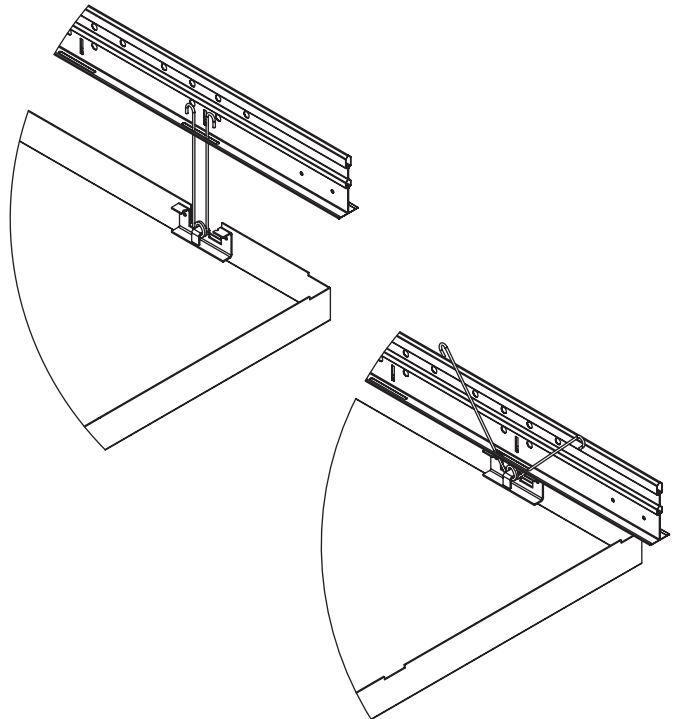
6. PANEL INSTALLATION

HANDLE PANELS WITH CARE! TorsionSpan™ panels require two or more people to handle the panels to avoid damage during installation. Keep the panel level while carrying and installing to avoid kinking.

Panels are mechanically directional. Two opposite sides feature a set amount of springs that engage the main beam and retain the panel.

6.1 Take panels out of the crate and gently unhook the springs taking care not to let the spring release and dent the panel.

Align the springs with the slots in the flange of the main beam. Compress the spring and insert it into the corresponding slot. Follow this same process for each spring on the panel. Then press up into place with the palm of the hand. The springs should spread apart in the slots of the suspension system and set the panel into place.



Panels will be 1" short of the wall on both sides. This gives a reveal between the panel and the wall to allow for inconsistency in the walls.

6.2 Cut Panels

Cut panels should never occur within the field of the ceiling. All ceiling mounted services must either replace a full panel, install into a hole that is cut into a panel, or be mounted through the face of a panel.

6.2.1 See MetalWorks™ Cutting Instructions LA-295518 for detailed information about cutting Armstrong metal ceilings. This document discusses the advantages and disadvantages of several types of equipment and how they are used when cutting our products.

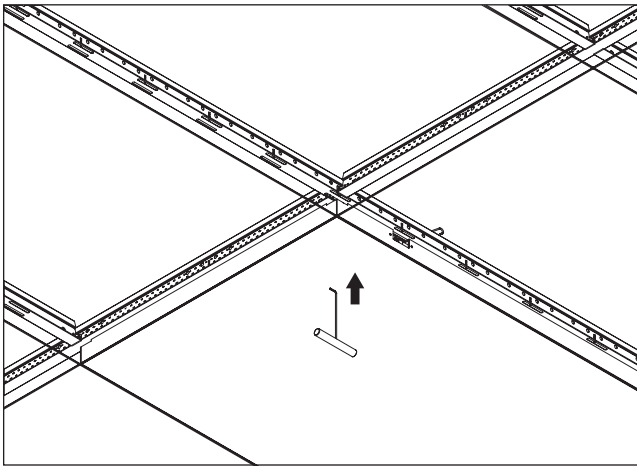
6.2.2 When BioAcoustic™ (item 5823) or fiberglass (item 8200100) infill is used, it also must be cut to size. This is best done with a large pair of shears or scissors. Reseal the poly bag with packing tape prior to installation.

6.3 Panel Removal

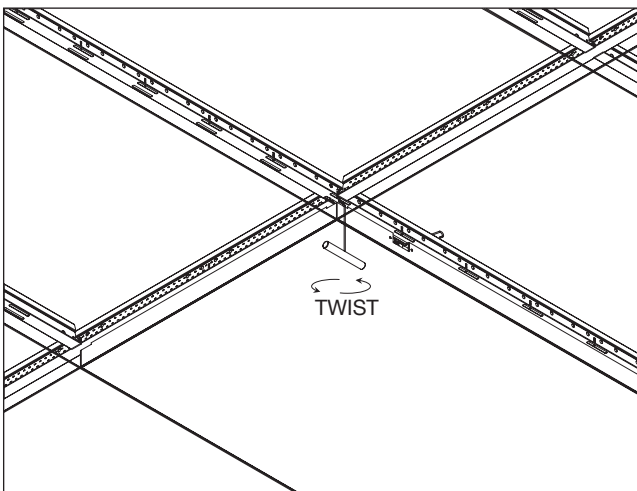
All panels are removable without moving up into the plenum.

6.3.1 The hook panel removal tool (item 7129) is inserted into the joint between two panels. Make sure you insert the tool within 1" from the wall molding to grab the correct part of the panel. Twist the tool 90 degrees to hook the top of the panel. Then pull the tool downward, slowly, until the spring catches on the flange of the suspension system and can be seen. Now that the spring has become accessible, push the spring together, slide it down through the slot, and pull down gently.

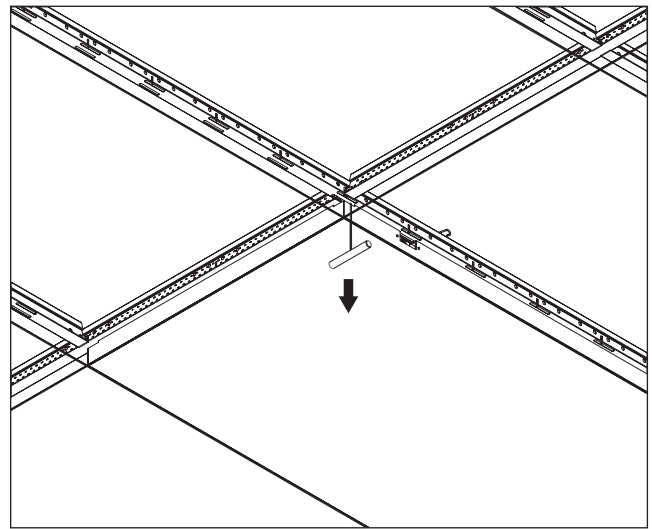
STEP 1



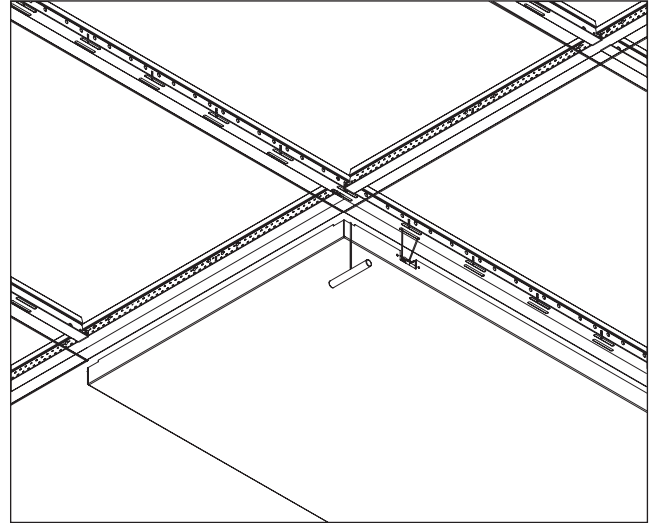
STEP 2



STEP 3



STEP 4



7. SEISMIC

MetalWorks™ TorsionSpan™ has been engineered and tested for application in all seismic areas, if installed per these instructions.

MORE INFORMATION

For more information, or for an Armstrong representative, call 1 877 276 7876.

For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLineSM services at 1 877 276 7876 or FAX 1 800 572 TECH.

For the latest product selection and specification data, visit armstrongceilings.com/metalworks.

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