WoodWorks® Shapes for DesignFlex® – Grille Tegular & Linear Tegular

Assembly and Installation Instructions

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1. GENERAL

1.1 Product Description

WoodWorks® Shapes for DesignFlex® - Grille and Linear tegular panels feature unique panel designs, incorporating both vertical slats (slats deeper than they are wide) and horizontal slats (slats wider than they are deep). These panels are designed to be installed with standard 9/16" Suprafine® XL® heavy-duty main beams and molding with DesignFlex brackets and clips for 45° shapes. The shaped panels can be mixed and matched to create dynamic patterns in the ceiling. These panels are available in a range of standard finishes – see the data page for detailed finish options. They can be seamlessly integrated with other DesignFlex Shapes panels, including Calla®, Lyra®, Ultima®, and Optima® Shapes, allowing for cohesive and creative ceiling designs. Full-size panels are recommended for the main field of the installation, while perimeter tees are available to accommodate cut panels around the perimeter of the install ***(Fig 1)***.

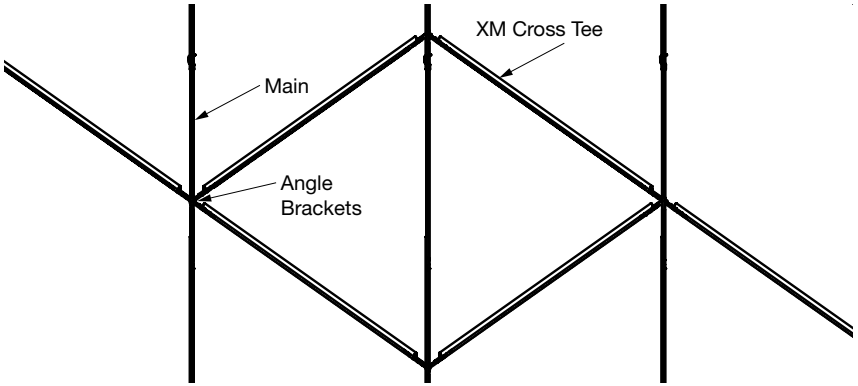


Fig 1

1.2 Storage and Handling

WoodWorks® components should be stored in a dry interior location and should remain in crates prior to installation to avoid damage. The protective foam between panels should not be removed until installation. Proper care must be taken when handling to avoid damage and soiling. Do not store in unconditioned spaces with humidity greater than 55% or lower than 25% RH, and temperatures lower than 50°F or greater than 86°F. Panels must not be exposed to extreme temperatures, for example, close to a heating source or near a window where there is direct sunlight.

1.3 Site Conditions

Areas to receive ceilings must be free of construction dust and debris. Panels should only be installed in closed and acclimatized buildings. WoodWorks ceiling panels are required to reach room temperature and have stabilized moisture content for a minimum of 72 hours before installation. They should not, however, be installed in spaces where the temperature is lower than 50°F or greater than 86°F, or humidity conditions are greater than 55% or lower than 25% RH. Panels must not be exposed to extreme temperatures, for example, close to a heating source or near a window where there is direct sunlight. These products cannot be used in exterior applications.

1.4 HVAC Design and Operation

Please remove the period from the end of these section numbers. 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.

1.5 Temperature and Humidity During Installation

WoodWorks® Shapes for DesignFlex® – Grille and Linear panels are interior finish products designed for installation in temperature conditions between 50°F and 86°F, in spaces where the building is enclosed, and HVAC systems are functioning and will be in continuous operation. Relative humidity must not fall below 25% or exceed 55%. There must be proper ventilation of the plenum in high-moisture areas. All plastering, concrete, terrazzo, or any other wet work should be completely dry. All windows and doors should be in place. The heating, ventilating, and air-conditioning system should be installed and operable where necessary to maintain proper temperature and humidity conditions before, during, and after installation of the WoodWorks panels.

Real wood and wood composite products are natural building materials and will react to humidity changes; Wood tends to contract with lower humidity and expand with higher humidity. Wood could also tend to warp, twist, or bow, due to the natural stresses in the components and these humidity changes. Be aware of these natural tendencies when evaluating the products.

To ensure that the ceiling panels have stabilized to the current building conditions, the panels must be placed in an environmentally stable building location for a minimum of 72 hours before their installation.

1.6 Material and Surface Finish

Panels are constructed of fire-retardant, medium-density fiberboard with real-wood veneer. All visible exposed edges when installed are painted to coordinate with color finish on the face. Panels with FSC®-certified core are also available as a standard option. Backers are constructed from solid poplar wood and have a black factory finish.

Natural variations in color and grain are characteristic of wood products. To maximize visual consistency, panels should be unpacked and examined collectively to determine the most desirable arrangement for installation.

1.7 Fire Performance and Sprinklers

WoodWorks® Shapes panels are tested to ASTM E84 and CAN/ULC S102 surface burning characteristics. Flame Spread Index 25 or less. Smoke Developed Index 50 or less.

As with other architectural features located at the ceiling, WoodWorks Shapes panels may obstruct or skew the planned fire sprinkler water distribution pattern or possibly delay or accelerate the activation of the sprinkler or fire detection systems by channeling heat from a fire either toward or away from the device. Designers and installers are advised to consult a fire protection engineer, NFPA 13, and their local codes for guidance where automatic fire detection and suppression systems are present. A hole may be cut through the panel to allow for sprinkler head and other penetrations, refer to Section 7.4.

1.8 DesignFlex® Installation Safety Considerations

IMPORTANT SAFETY INFORMATION

- This is a custom ceiling design defined by an architectural ceiling plan (provided by others) and installation
- This product cannot be installed on a sloped application
- The final design and installation parameters are the responsibility of your design team
- Project-specific evaluation for compliance with building codes is recommended
- Armstrong® has evaluated certain design configurations; detailed instructions for those designs are available in the DesignFlex Shapes Pattern Gallery located at ww.armstrongceilings.com/patterngallery
- All information provided pertains solely to Armstrong® DesignFlex® ceiling panels and components. Any ceiling panel, grid, component, or accessory substitutions are not covered by these instructions or warranty.

Working with WoodWorks® Products

The product arrives in a crate; make arrangements for safe handling. This product is made of wood fibers. Sawing, sanding, or machining these products can produce wood dust. Airborne dust can cause respiratory, eye, and skin irritation. Respirable wood dust is classified as a carcinogen. Personal protective equipment includes safety glasses or goggles, and impervious gloves. Respiratory protection may be required and depends on how the product is being cut and handled. Job site environmental conditions must be evaluated in determining what type of respiratory protection is required. In all cases, cutting is to be performed in a well-ventilated area and power tools must be equipped with a dust collection system. Refer to the Safety Data Sheet for additional information.

1.9 Cleaning Recommendations

WoodWorks® Shapes for DesignFlex® – Grille and Linear panels can be cleaned with a soft, dry cloth. An abrasive or strong chemical detergent should not be used.

1.10 Warranty

The WoodWorks® Shapes for DesignFlex® system has been tested based on the installation guidelines described in this document. The warranty will be voided if these instructions and guidelines are not followed.

2. DESIGN & INSTALLATION CONSIDERATION

2.1 Layout

This system is engineered to offer maximum design flexibility while utilizing standard heavy-duty Suprafine® main beams spaced 2' O.C. A combination of standard and specially sized cross tees spans between the main beams at various angles, allowing for a variety of uniquely shaped grid openings to accommodate different panel designs.

For detailed layout information, including suspension system components and panel orientation—please refer to the architectural ceiling plans specific to your project (provided by others).

2.2 Directionality

2.2.1 Suspension System

The suspension system must be installed in accordance with the architectural ceiling plans. All grid components are non-directional, except for the Suprafine® Perimeter Cross Tee (Item XM7524), which has an end detail on only one side.

2.2.2 Panel Slat Direction

WoodWorks® Shapes for DesignFlex® – Grille and Linear panels are designed with slats/planks that run either parallel or perpendicular to the main beam. Panels with slats running parallel to the main beam are referred to as panels with “Horizontal Slat”, while those with slats running perpendicular to the main are known as panels with “Vertical Slat”.

Panels with “Horizontal Slat” ***(Fig 2)***

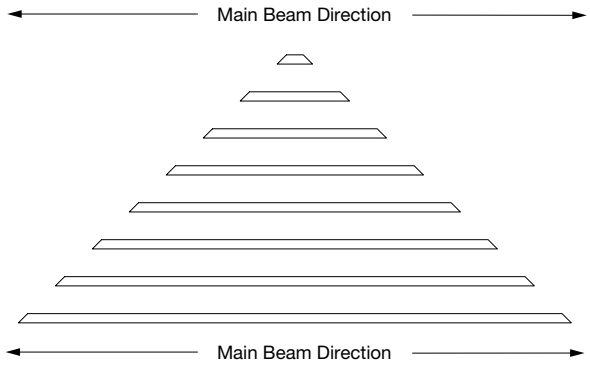


Fig 2

Panels with “Vertical Slat” ***(Fig 3)***

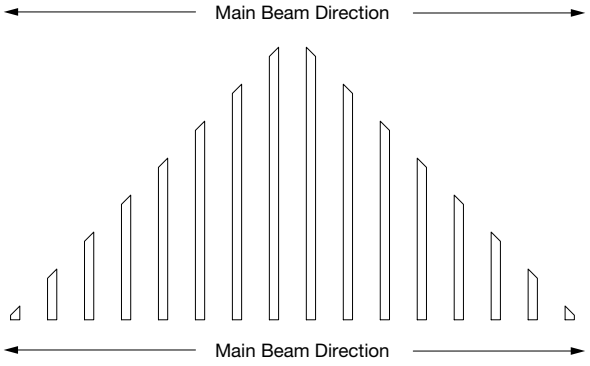


Fig 3

To ensure consistent slat direction on Right Triangle, both the panels with horizontal slats and vertical slats will need to be ordered and alternated ***(Figs 4-6)***. For all other shapes, slat direction will be consistent as long as they have the same slat direction designation.

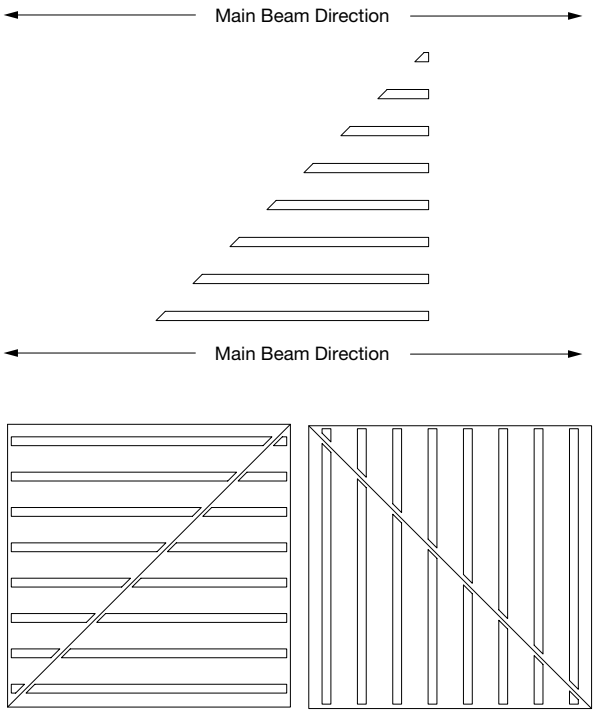
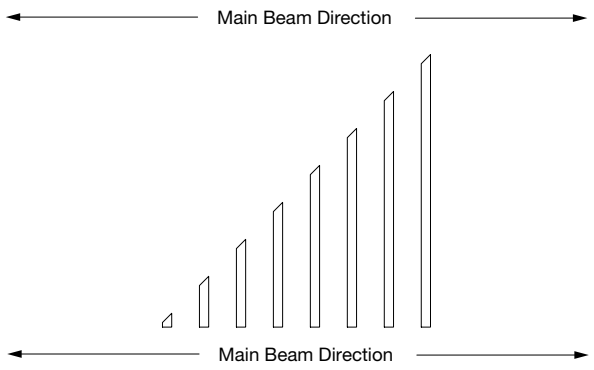


Fig 4 *Inconsistent Slat Direction*



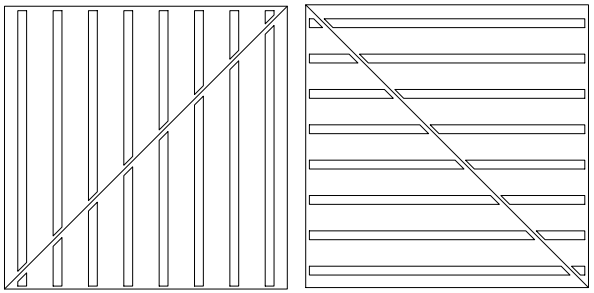


Fig 5 *Inconsistent Slat Direction*

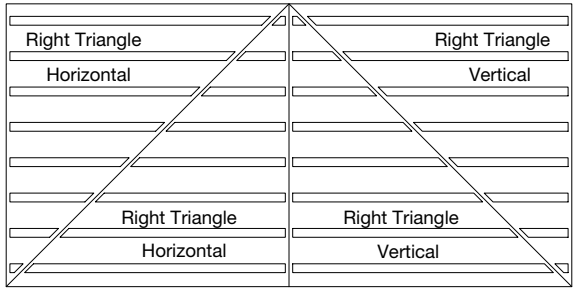


Fig 6 *Consistent Slat Direction*

2.2.3 Panels Shapes

Panels must be installed in a specific orientation to align properly with the grid openings. The layout design determines the direction in which each panel is placed. Each panel has a designated “base” side that runs parallel to the main beams. As a result, all panels—except right triangles—can only be installed in one orientation relative to the main beam direction. Right triangle panels are the only shapes that allow for quarter-turn installation, enabling their “base” side to run perpendicular to the mains. This characteristic must be considered when designing layouts that combine square/rectangular panels.

2.3 Panel Offset

The finished face of the Grille panels drops 2-3/16" below the face of the grid ***(Fig 7)***. The finished face of the Linear panels drops 13/16" below the face of the grid ***(Fig 8)***.

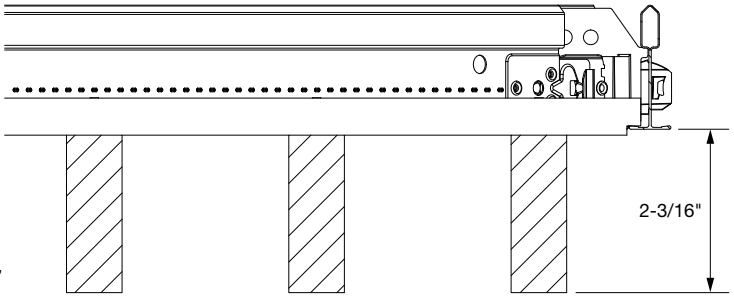


Fig 7

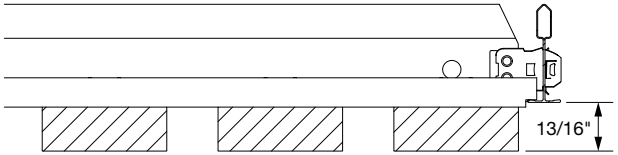


Fig 8

2.4 Plenum

WoodWorks® Shapes for DesignFlex® – Grille and Linear panels travel into the plenum for installation. Panels will require a minimum 12" clearance above the suspension system. This will allow all panel sizes and shapes to be installed without damage. Consider adding additional height to your plenum space if acoustic infill panels are being used in the ceiling system ***(Fig 9)***.

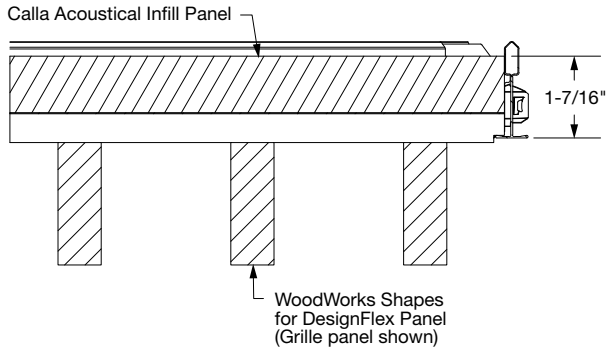


Fig 9

NOTE: Light fixtures and air handling systems require more space and will usually determine the minimum plenum height for the installation. It is required that MEP be independently supported. There must not be weight from any lights, diffusers, speakers, or similar devices supported by the panels or the suspension system.

2.5 Sprinkler

WoodWorks® Shapes for DesignFlex® – Grille panels drop 2-3/16" below the face of the grid. WoodWorks Shapes – Linear panels drop 13/16" below face of the grid. Sprinkler heads need to be installed at the proper height to accommodate this drop. See local building code officials or fire protection engineer when necessary.

Shapes installations can have an assortment of grid layouts resulting in some modules not having an opposite parallel side (triangles). Sprinklers that have brackets that attach to the grid (e.g. FlexHead® sprinklers) must attach to parallel mains.

2.6 Approximate System Weight

Overall system weight will be primarily based on the panel type. For specific weights, please refer to the panel properties table located at the end of these instructions. The grid components required for WoodWorks® panels outlined in Section 4 are required for the entire installation, even if mixing Shapes panels from other product families (i.e. mineral fiber, fiberglass, metal).

- Hanger connections to the structure must follow the manufacturer's instructions and referenced code. Average system weight per square foot will vary based on panel types and layout.
- If panels are installed in conjunction with acoustical infill panels, the weight of the infill panels must also be considered for total system weight.

2.7 Accessibility

Full-size panels without penetrations are accessible. Border panels may not be accessible based on the perimeter interface and the installation method.

2.8 Perimeters

The way that perimeters are addressed will vary based on the design and layout within the space. These different methods for addressing the perimeters may require separate components and additional time to install compared to traditional installations.

2.9 Fixture Integration

Due to the non-standard grid openings that are created for the DesignFlex® system, standard fixtures may not be compatible. For details on fixture integration through TechZone® layouts and integration partners, see Section 8.

2.10 Estimating

For guidance on estimating installed costs, contact your Armstrong® rep, ProjectWorks®, or TechLine.

2.11 Seismic Installation

Ceiling areas over 1,000 SF with back-to-back (opposing) bracket connections to the mains can be braced following standard spacing guidelines. If single bracket connections occur (no opposing bracket occupying the same rout hole) consult a professional engineer for lateral force bracing placement.

3. ACCESSORIES

3.1 Suspension System Accessories

3.1.1 BERC2 Clip *(Fig 10)*

The BERC2 Clip is used to secure grid to the wall molding without the use of pop rivets. When the grid is interfacing the wall at an angle other than 90°, the BERC2 can be field modified to match the angle of the grid.

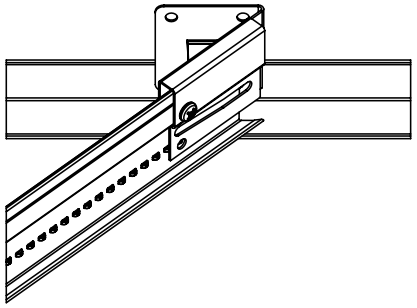


Fig 10

3.1.2 Axiom® Perimeter Corner Clips (PCC) *(Fig 11)*

Installations that interface with Axiom® trim may require the Perimeter Corner Clip (PCC) based on the layout. This clip is used to connect the grid to the Axiom trim where an angle change in the Axiom occurs. The PCC has a tab that can be cut to raise the grid 1/4" so that the cut edge of border panels can rest on the trim flange. The PCC is only compatible with the AX4SPLICEB at a splice location. Refer to Section 5 for full instructions on using the PCC and integration of floating trims with WoodWorks® Shapes for DesignFlex® – Grille and Linear panel installations.

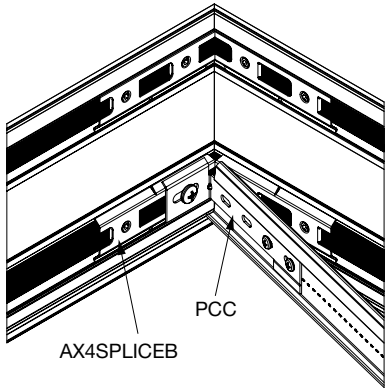


Fig 11

3.1.3 Perimeter Angle Clip (PAC) *(Fig 12)*

The Perimeter Angle Clip (PAC) is used when the layout has grid intersections occurring at the perimeter of the installation (i.e. layouts with full-size panels at perimeters). This clip allows a grid intersection to occur at the perimeter by connecting to a grid component already attached to the perimeter. The PAC is not compatible with the BERC2. When the PAC is required based on the layout, the typical BERC2 connection to the wall will have to be substituted for an XTAC or AS Universal HD Anchor (Item 7100, seismic – unattached walls).

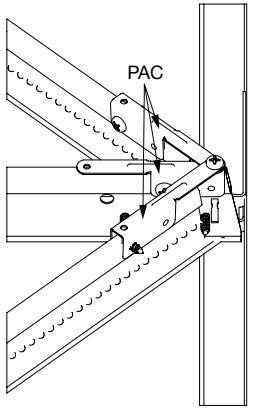


Fig 12

3.2 Panel Accessories

3.2.1 Stabilizer Clip

Stabilizer Clips are used to ensure that panels stay within the suspension system unless intentionally accessed. These clips interface with the suspension system by hooking over the bulb of the grid. They are required for all parallelogram panels, and on all cut border panel regardless of size. Stabilizer clips, and the required #7 × 7/16" sharp point screws are included with the panels. See Section 7.3 and 7.4 for installation details ***(Fig 13)***.

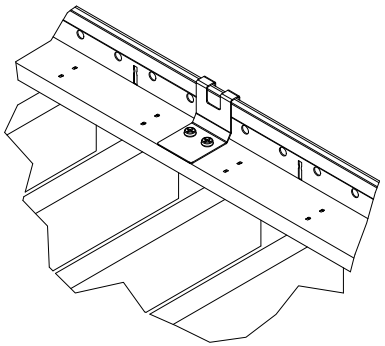


Fig 13

4. SUSPENSION SYSTEM – WALL TO WALL

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.

- All installations should follow ASTM C636
- All references to suspension component duty ratings are per ASTM C635

4.1 System Components

4.1.1 Main Beams

WoodWorks® Shapes for DesignFlex® – Grille and Linear panels are installed on standard heavy-duty Suprafine® main beams. See Section 9 for grid requirements in seismic installations.

4.1.2 Standard Cross Tees

When standard cross tee items are required for a layout, they must be heavy-duty equivalent (16 LBS/LF) or greater and must be the same height as the main beams (1-11/16").

4.1.3 Angle Brackets and Hardware

Angle Brackets are used to set the angles of the special length XM Cross Tees that span between the mains. These brackets are installed at rout hole locations along the mains and attached by a screw connection (hardware included). They feature a stab end detail for connection to the XM Cross Tees ***(Fig 14)***. Fasteners are included in every carton of 10 angle brackets.

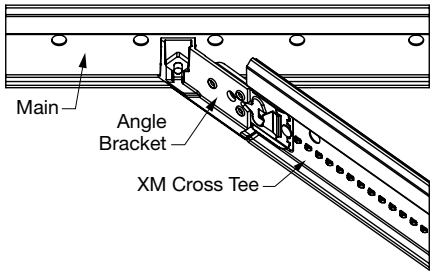


Fig 14

These fasteners include 12 each of the following:

- Low-strength steel square nut (Zinc plated, 6-32 thread size)
- Steel-pan head Phillips screws (6-32 thread, 7/16" long)
- Zinc-plated steel SAE washer for #6 screw size (0.156" ID, 0.375" OD)

These are the only fasteners warranted for use with the Angle Brackets. Additional pieces can be purchased from others, but must be exactly as specified above.

4.1.4 Corner Brackets

Corner Brackets are used to connect XM Cross Tees into a 90° grid intersection. These are screw-attached through pre-drilled holes into the bulb of the intersecting grid component (screws provided by contractor). They feature a stab end detail for connection to the XM Cross Tees ***(Fig 15)***.

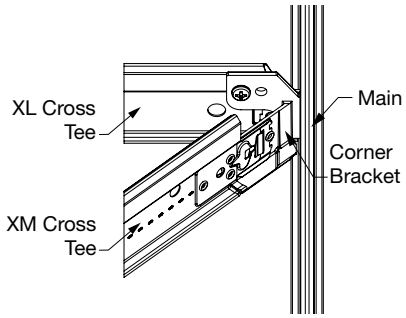


Fig 15

4.1.5 XM Cross Tees

These cross tees are made to specific lengths and feature a stab end detail for connection to Angle or Corner Brackets ***(Fig 16)***.

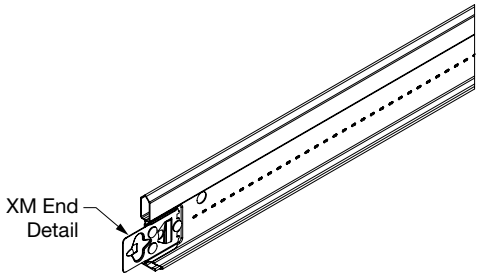


Fig 16

4.2 Suspension Rules

- Main beams must be installed at 24" O.C. per the layout drawing
- Hanger wires must be installed on the mains within 24" of the perimeters and no more than 48" O.C. along the mains

4.3 Layouts

The grid layout will be based on the design from the Architectural Ceiling Plans/Technical Drawing Layouts. However, all possible layouts work of 2' O.C. main beam spacing. Additionally, the standard 6" O.C. rout holes will line up between rows of mains as in a standard grid build ***(Fig 17)***.

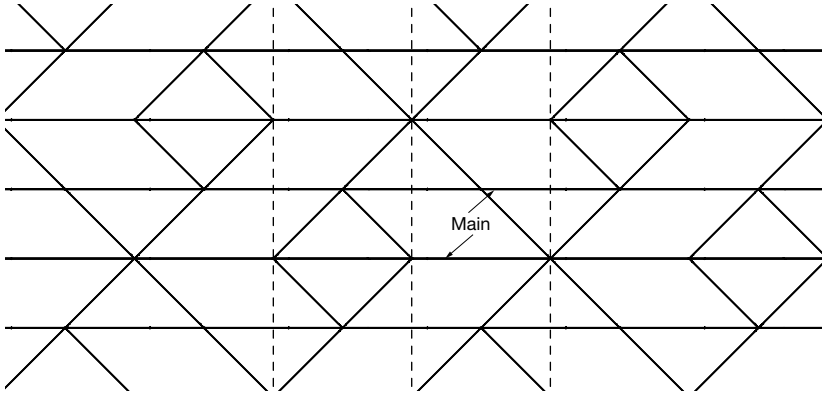


Fig 17

4.4 Squaring and Leveling the Grid

Shapes installations cannot be squared by traditional means of measuring the diagonals of a grid opening. It is recommended to use a 90° laser or known perpendicular lines as control lines set up to run parallel with the mains and perpendicular through a matching row of rout holes. Alignment of the grid to the lines must be within 1/16" over 12'.

4.5 Order of Installation

4.5.1 Molding

Secure wall molding to the perimeter with the bottom flange 1/8" lower than the height of the suspension system. Refer to Section 5.3.1 for further details.

4.5.2 Hanging Points

Install hanger wires 4' O.C. across the main beams. Cutting the tail of the wire wrap is recommended to help minimize interference or damage to panels during installation.

4.5.3 Mains

Hang main beams in the same manner as with a traditional grid installation. Stabilizer Bars (Item 7425) can be used as temporary spacers to aid in squaring and aligning the mains in the absence of standard cross tees.

4.5.4 XL Cross Tees (if applicable)

Install any standard cross tees that are perpendicular to the mains at this time to aid with spacing and aligning of the system. Any single cross-tee connections must be addressed per the instructions in Section 8.3.

4.5.5 Angle Brackets (if applicable)

Attach the corresponding Angle Brackets to the mains per the locations specified in the drawings. When two Angle Brackets occupy the same rout hole, a screw and nut are necessary to secure them back-to-back.

- Place one of the Angle Brackets with the tabs registering inside of the rout hole ***(Fig 18)***
- Partially insert a screw from the front side to temporarily hold the bracket in place ***(Fig 19)***
- Insert a nut into the slot of the second Angle Bracket and place the bracket back-to-back with the first bracket, with the tabs registering inside of the rout hole ***(Fig 20)***
- Drive the screw in the first bracket until it pulls the two brackets tight against each other ***(Fig 21)***
- The finished visual should have the overrides of the brackets flush with the main ***(Figs 22 & 23)***

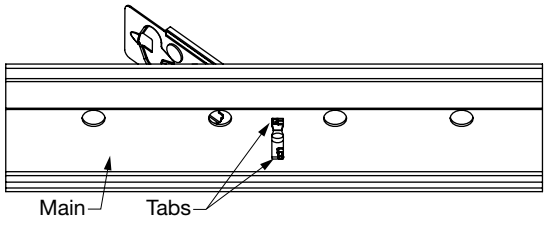


Fig 18

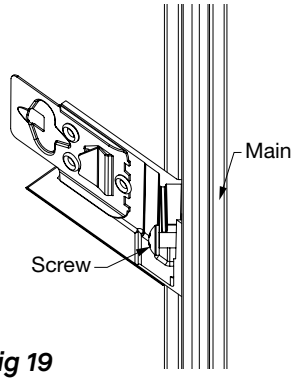


Fig 19

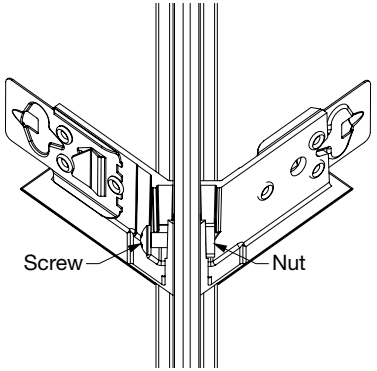


Fig 20

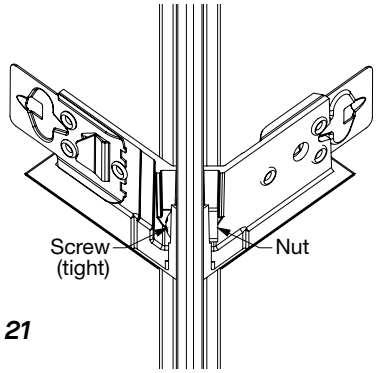


Fig 21

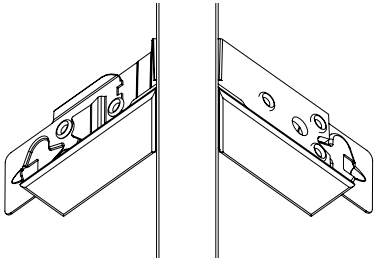


Fig 22

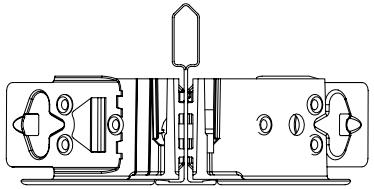


Fig 23

When only one Angle Bracket occupies a rout hole, a screw, washer, and nut are necessary to secure it.

- Insert a nut into the slot on the Angle Bracket and place the Angle Bracket with the tabs registering inside of the rout hole ***(Fig 24)***
- While holding the bracket in place, insert a screw with a washer into the back side of the bracket ***(Fig 25)***
- Drive the screw until it pulls the bracket tight, with the override flush with the main ***(Figs 26-28)***

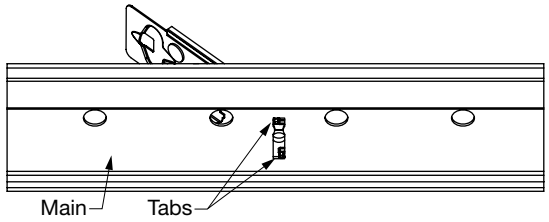


Fig 24

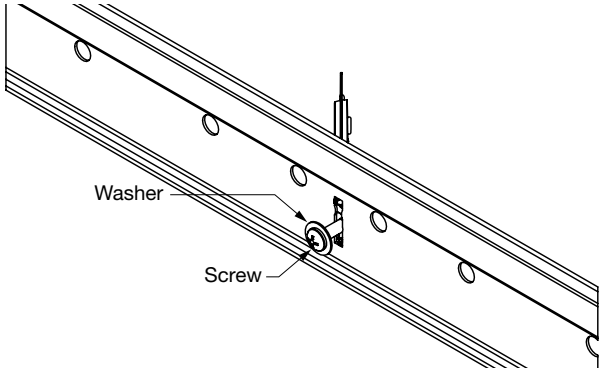


Fig 25

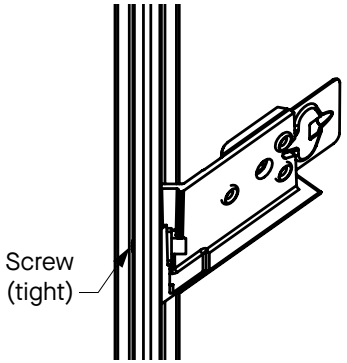


Fig 26

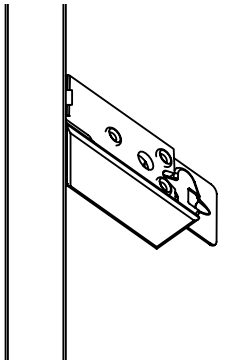


Fig 27

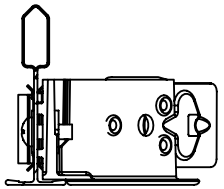
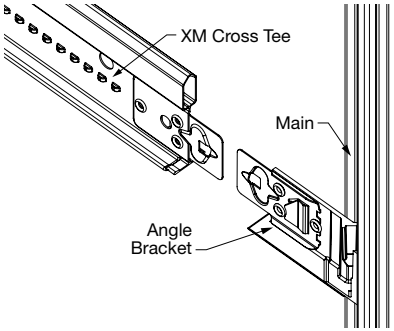


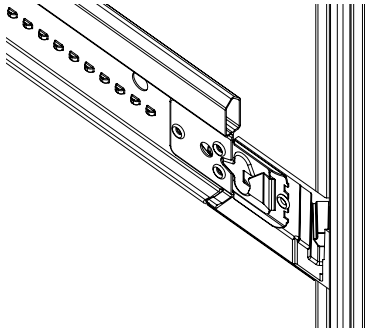
Fig 28

4.5.6 Connect XM Angle Cross Tees

XM Angle Cross Tees are installed with a stab connection to the Angle Brackets. These connections are only compatible with the brackets, ensuring that all non-cut XM cross tees will connect to a bracket on both ends. Installations that create a truss-like layout may require a progressive/directional installation of the cross tees as the system will become very rigid as more cross tees are added ***(Figs 29 & 30)***.



(Fig 29)



(Fig 30)

4.5.7 Corner Brackets (if applicable)

To connect cross tees that require Corner Brackets:

1. Connect the XM end details of the Corner Brackets with the XM end detail of the XM Cross Tees ***(Fig 30)***.

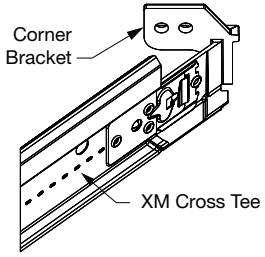


Fig 31

2. Place the cross tee into position, intersecting at a 90° corner. The overrides on the Corner Bracket should be flush with the main and XL Cross Tee ***(Fig 32)***.

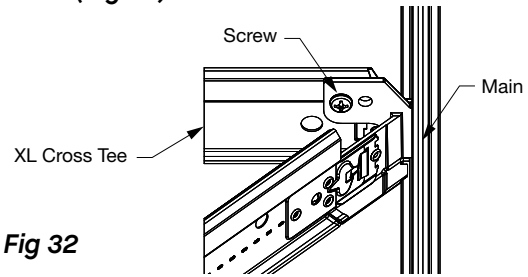


Fig 32

3. Clamp the Corner Bracket to hold in position during screw attachment.

4. Secure in place with a 1/2" framing screw through one of the pilot holes into the bulb of the adjacent grid.

5. The overrides on the Corner Bracket should be flush with the main and XL Cross Tee ***(Fig 33)***

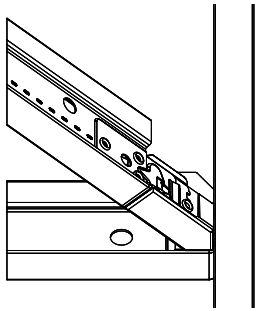


Fig 33

4.6 Perimeter Attachment to Wall Molding

Special care should be taken with layouts that include grid intersections occurring at the wall due to the unevenness of typical wall conditions. For wall-to-wall installations, layouts with full-size panels at the perimeter should be avoided whenever possible. Installations with grid interfacing the wall molding can be installed with the grid raised 1/4" so that the face of the perimeter panels rests on the molding, or with Border Clips that recreate the tegular drop at the perimeter. See Section 7.3 for additional details.

All grid that interface with the perimeter must be secured to it.

As a result of having cross tees at angles other than 90° from the mains, the distance between where perimeter cross tees interface with the trim can vary (not a set 24" O.C.). This is based on the design layout, and distance/angle from the perimeter to the mains. Use of a string line or laser can help with laying out where cross tees will meet the perimeter.

- Main beams interface with the wall molding as in traditional installations and can be secured to the molding by BERC2 Clips
- Cross tees can be cut to length and secured to the wall molding with a BERC2 field modified to match the angle of the cross tee ***(Fig 34)***

Conditions where angled grid intersection occur at the perimeter will require Perimeter Angle Clip (PAC). Refer to Section 4.6.1 for details.

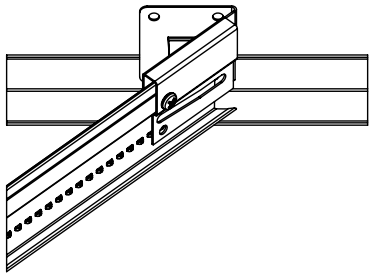


Fig 34

4.6.1 Installation Steps of Perimeter Angle Clip (PAC)
The use of PAC clip allows a grid intersection to occur at the perimeter by connecting to a grid component already attached to the perimeter. Wall connections where the PAC will be used must be made with either the XTAC (non-seismic), or the AS Universal HD Anchor (Item 7100 – seismic).

4.6.1.1 Intersections at mains or standard cross tees perpendicular to mains (90° grid to trim):

- Place a PAC over the bulb of the existing grid with the base side closest to the trim. Place so that the pilot hole on the top of the base end is located at the correct 6" O.C. increment to match the full-size panel dimension. (**NOTE:** With mains, the top pilot hole on the base will align directly above a rout hole). This PAC will provide a location that will act as the connection point for the intersecting grid members ***(Fig 35)***.

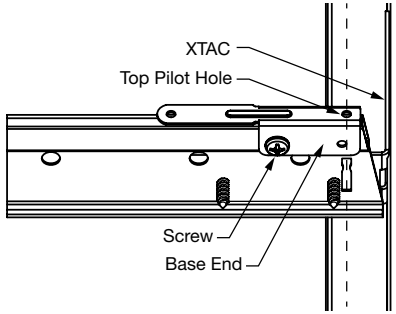


Fig 35

- Cut adjoining XM Cross tees to length, ensuring that they will override the flange of the 90° grid and trim. Cut the face of the grid to match the angle that it interfaces with the 90° grid and trim.
- Place a PAC over the bulb of the cut XM Cross Tees so that the pilot hole on the flat side aligns over the top the pilot hole of the base side of the previously installed PAC ***(Fig 36)***.

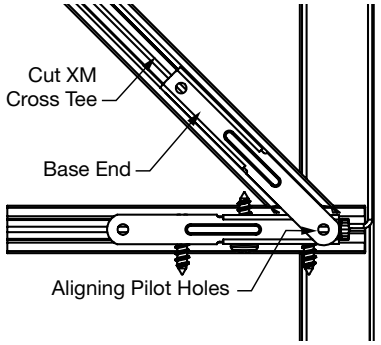


Fig 36

- After the position has been verified, clamp the PAC to the cut XM Cross Tee and attach with one screw through the side of the clip and into the bulb ***(Fig 37)***.

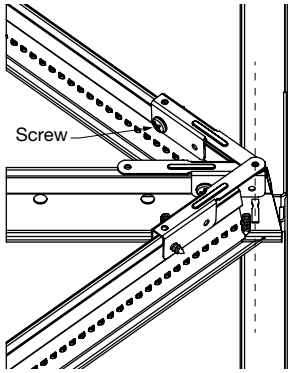


Fig 37

- After all PACs have been screw-attached to the XM Cross Tees, connect them to the first installed PAC by inserting a screw through the aligning holes on the top ***(Fig 38)***.

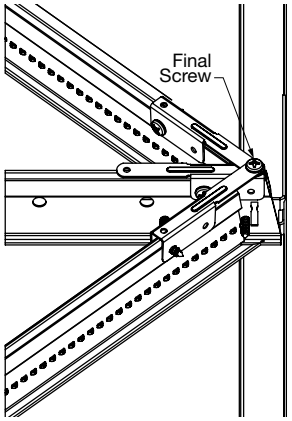


Fig 38

4.6.1.2 Intersection at XM Cross Tees Parallel to Mains

- Place a PAC over the bulb of the existing cross tee with the base side closest to the trim. Place so that the pilot hole on the top of the base end is located at the correct 24" O.C. spacing for full-size panels. This PAC will provide a location that will act as the connection point for the intersecting grid member ***(Fig 39)***.

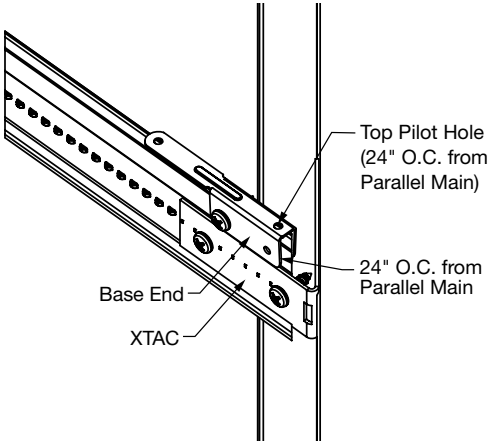


Fig 39

- Cut the adjoining XM Cross Tee to length, ensuring that it will override the bottom flange of the existing grid and trim. Cut the face of the grid to match the angle that it interfaces with the existing XM Cross Tee.

- Place a PAC over the bulb of the cut XM Cross Tee so that the pilot hole on the flat side aligns over the pilot hole on the base side of the previously installed PAC ***(Fig 40)***.

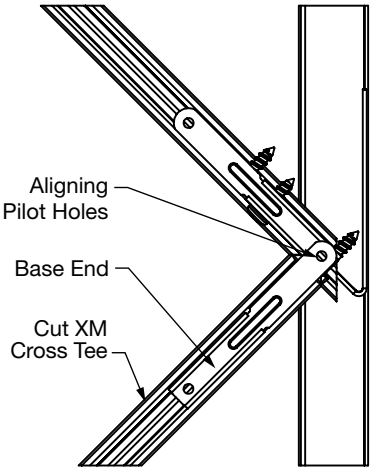


Fig 40

- Once the position has been verified, clamp the PAC to the cut XM Cross Tee and attach with one screw through the side of the clip and into the bulb ***(Fig 41)***.

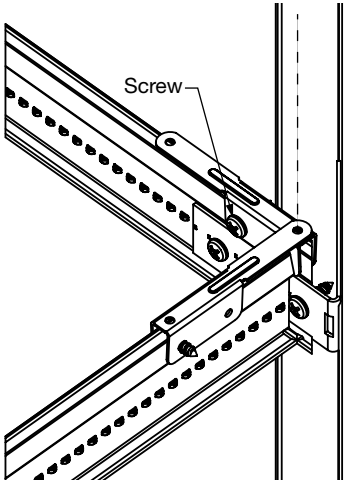


Fig 41

- Once the PAC has been screw-attached to the XM Cross Tee, connect it to the first installed PAC by inserting a screw through the aligning holes on the top ***(Fig 42)***.

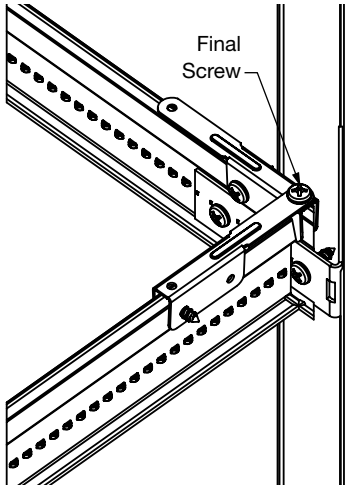


Fig 42

5. FLOATING PERIMETERS/TRIM FOR DISCONTINOUS CEILINGS

Installations with Axiom® trim or WoodWorks® trim with aluminum substrate are better for full-size panel designs and layouts as the overall dimensions of the install and the angles of the trim can be controlled. Main beams and cross tees need to be in place around the entire perimeter so trim can be attached to the suspension system.

Layouts with integrated trim must have grid intersections occurring directly at the trim (full-size panels) or have grid connections to the trim at least 1-3/4" O.C. apart (this is the minimum spacing between AXTBC clips) ***(Fig 43)***.

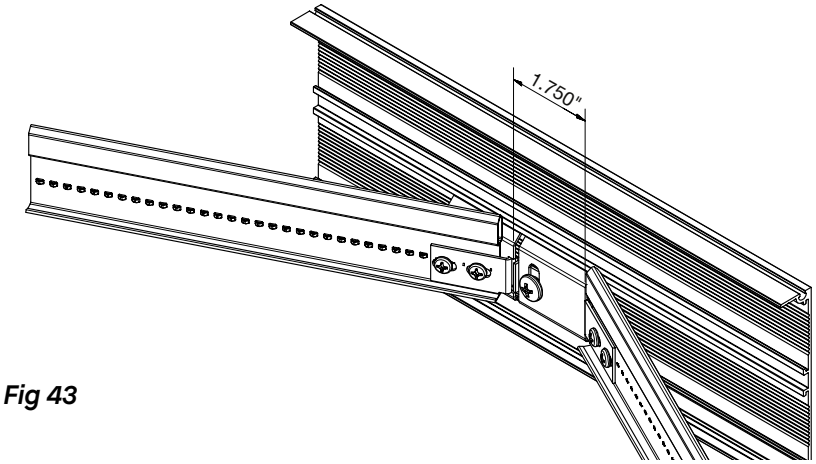


Fig 43

Refer to the installation instructions for the Axiom® product you are using for instructions specific to the trim product. The following sections address rules in addition to the standard Axiom instructions that must be followed for integration with WoodWorks® Shapes for DesignFlex® – Grille and Linear installations.

5.1 Suspension Rules

Based on the layout, this system may require additional suspension points when compared to the Axiom® trim instructions for a traditional grid build.

In consideration of the suspension rules below, the trim can be independently supported to facilitate proper layout.

When the trim is not independently supported, the following suspension rules must be followed:

- All splices (including corners) must be supported by a connecting grid member within 24" on each side of the splice. Situations where there is no grid member that interfaces the trim within 24" of the splice will require supplemental support directly from the trim to structure.
- Axiom trim must be connected to supporting grid members no more than 48" O.C. Layouts in which grid does not interface the trim within 48" require supplemental supports directly from the trim to structure.

- All grid supporting the trim must have a wire at a max distance from the trim that is not greater than half the length of the grid member, up to a max of 12" (up to 8" in seismic installations).
- Refer to Axiom® Classic Trim instructions for additional installation requirements for trim 10" tall or greater

5.2 Grid Attachment

- All main beams are attached to trim by the standard AXTBC/FXTBC connection.
- Single cross tees are attached to Axiom trim by screw attachment to an AXTBC that is field modified to match the angle of the cross tee ***(Fig 44)***.

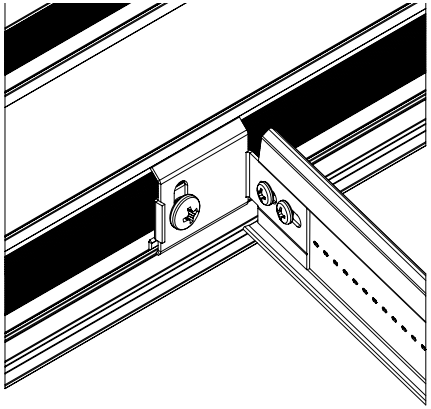


Fig 44

5.2.1 Axiom Perimeter Corner Clip (PCC)

Layouts where grid connects where there is an angle change (corner) in the trim will require the Perimeter Corner Clip (PCC). This clip can be used with inside corners and outside corners not less than 90° when attached to an existing AX4SPLICEB. The PCC is only compatible with the AX4SPLICEB and cannot be used in conjunction with Corner Posts.

NOTE: AX4SPLICEB are included with Axiom trim. This Splice must be ordered separately when using WoodWorks® trim with aluminum substrate.

It is installed by the following steps:

- Install the AX4SPLICEB at the corner location
- Remove the second from the left hex head set screw ***(Fig 45)***

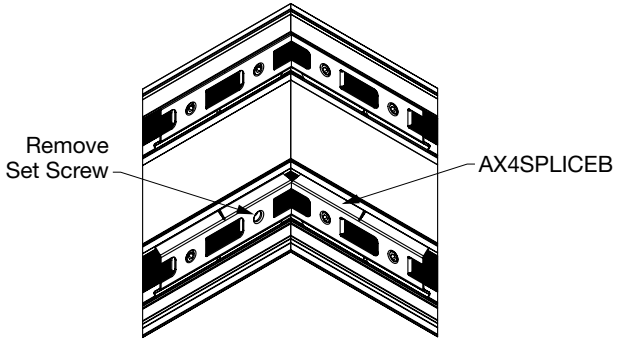


Fig 45

- Place the PCC at the corner location with the slot aligning with the now empty screw hole ***(Fig 46)***

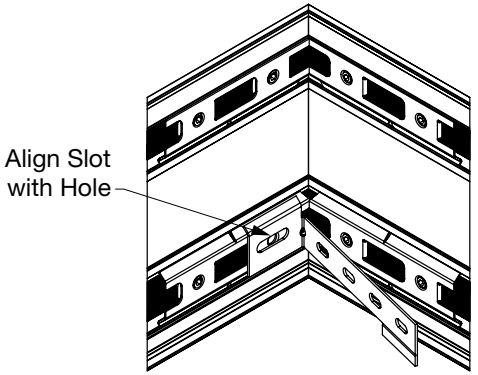


Fig 46

- Insert a screw from an Axiom® T-Bar Connector Clip (Item AXTBC) to secure the PCC in place. The slot allows for adjustment
- Bend the arm of the PCC to match the angle of the grid
- If the installation is not for full-size panels, cut the tab so that the grid can be raised 1/4"

- Clamp and attach the PCC to the grid with two screws ***(Fig 47)***

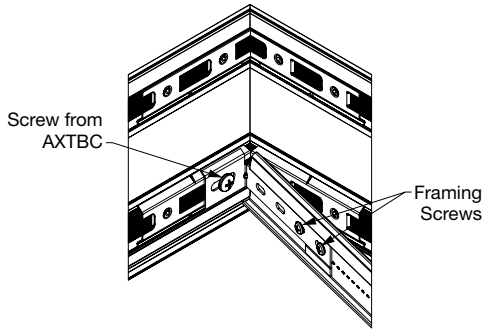


Fig 47

5.2.2 Perimeter Angle Clip (PAC)

Conditions where grid intersections occur at the perimeter will require the Perimeter Angle Clip (PAC). This clip allows a grid intersection to occur at the perimeter by attaching to a grid component already attached to the perimeter.

It is installed by the following steps:

5.2.2.1 Intersections of XM Cross Tees at Mains or XL Cross Tees Perpendicular to Trim (90° Grid to Trim)

- Place a PAC over the bulb of the existing grid with the base side closest to the trim. Place so that the pilot hole on the top of the base end is located at the correct 6" O.C. increment to match the full-size panel dimension. (**NOTE:** with mains, the top pilot hole on the base will align directly above a rout hole). This PAC will provide a location that will act as the connection point for the intersecting grid members ***(Fig 48)***.

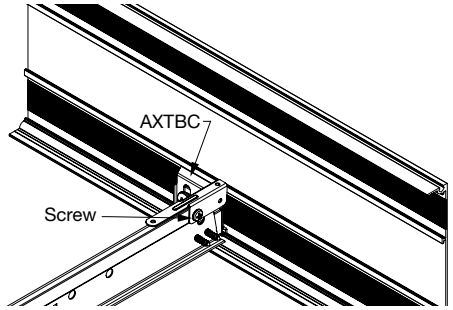


Fig 48

- Cut adjoining XM Cross Tees to length, ensuring that they will override the flange of the 90° grid and trim. Cut the face of the grid to match the angle that it interfaces with the 90° grid and trim.

- Place a PAC over the bulb of the cut XM Cross Tees so that the pilot hole on the flat side aligns over the top pilot hole on the base side of the previously installed PAC ***(Fig 49)***

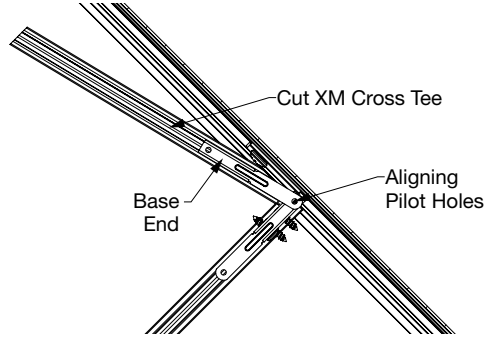


Fig 49

- Once the position has been verified, clamp the PAC to the cut XM Cross Tee and attach with one screw through the side of the clip and into the bulb ***(Fig 50)***

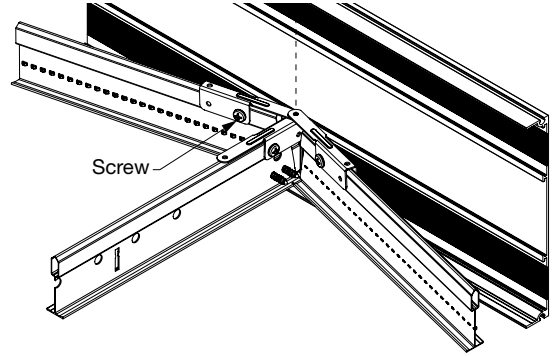


Fig 50

- Once all PACs have been screw-attached to XM Cross Tees, connect them to the first installed PAC by inserting a screw through the aligning holes on the top ***(Fig 51)***

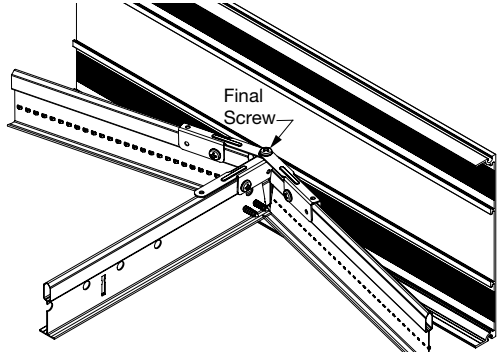


Fig 51

5.2.2.2 Intersections of XM Cross Tees Only (trim parallel to mains)

- Place a PAC over the bulb of the existing cross tee with the base side closest to the trim. Place so that the pilot hole on the top of the base end is located at the correct 24" O.C. spacing for full-size panels. This PAC will provide a location that will act as the connection point for the intersecting grid member.
- Cut the adjoining XM Cross Tee to length, ensuring that it will override the bottom flange of the existing grid and trim. Cut the face of the grid to match the angle that it interfaces with the existing XM Cross Tee.
- Place a PAC over the bulb of the cut XM Cross Tee so that the pilot hole on the flat side aligns over the pilot hole on the base side of the previously installed PAC
- Once the position has been verified, clamp the PAC to the cut XM Cross Tee and attach with one screw through the side of the clip and into the bulb
- Once the PAC has been screw-attached to the XM Cross Tee, connect it to the first installed PAC by inserting a screw through the aligning holes on the top

6. AXIOM® TRANSITIONS

6.1 Suspension Rules

Suspension of Axiom® transitions must follow the same rules outlined in Section 5.1 for Axiom trim.

6.2 Grid Attachment

- Grid attachment rules are to be determined based on floating perimeter attachment solutions
- Grid attachment to Axiom transitions must follow the same rules outlined in Section 5.2 Grid Attachment for Axiom Trim
- All main beams are attached to Axiom transitions by the standard AXTBC or AXCCLT connection (refer to the Axiom Transitions instructions)
- Single cross tees are attached to Axiom transitions by screw attachment to an AXTBC or AXCCLT that is field-bent to match the angle of the cross tee
- Conditions where grid intersections occur at the transition will require the Perimeter Angle Clip (PAC). This clip allows a grid intersection to occur at the transition by connecting to a grid component already attached to the transition. See Section 4.6 for installation steps and details.

7. PANELS

WoodWorks® Shapes for DesignFlex® – Grille and Linear panels are specifically designed for a proper fit into Shapes grid openings. Cutting other panels or materials to fit into the grid openings is not recommended and not warranted.

7.1 Edge Details

WoodWorks Shapes for DesignFlex – Grille and Linear panels have a tegular edge detail that is supported on 9/16" Suprafine® grid.

All panels are for 9/16" Suprafine grid only. The finished face of the Grille panels extends 2-3/16" below the grid face. The Linear panels extend 13/16" from the grid face ***(Figs 53 & 53)***.

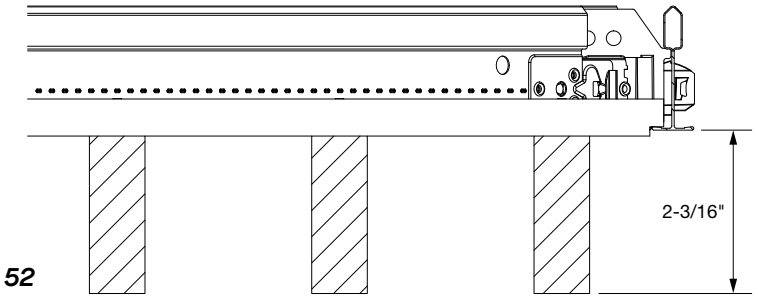


Fig 52

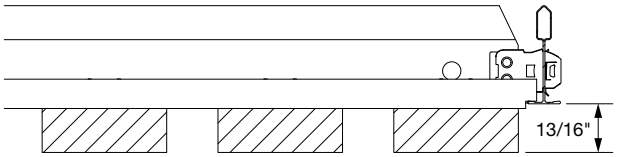


Fig 53

7.2 Directionality

7.2.1 Panel Shapes Directionality

Each panel must be installed in a specific orientation to align with the grid openings and follow the designated layout. Panels have a defined “base” side that must run parallel to the main beams. Right triangle panels are the only exception; they can be quarter-turned to allow the base side to run perpendicular to the main beam if the layout requires it.

7.2.2 Panel Slat Direction

WoodWorks® Shapes Grille and Linear panels are designed with slats that run either parallel or perpendicular to the main beam. Panels with slats running parallel to the main beam are referred to as panels with “Horizontal Slat”, while those with slats running perpendicular to the main are known as panels with “Vertical Slat”.

Panels with “Horizontal Slat” ***(Fig 54)***

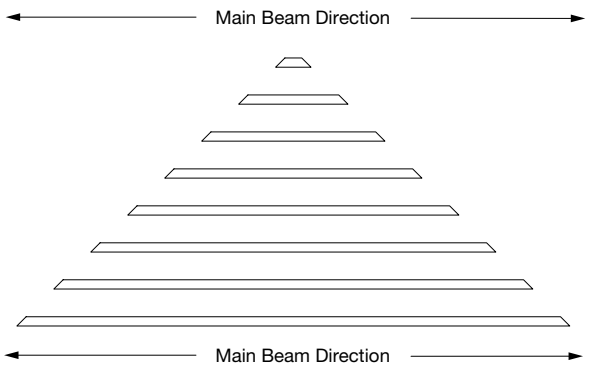


Fig 54

Panels with “Vertical Slat” ***(Fig 55)***

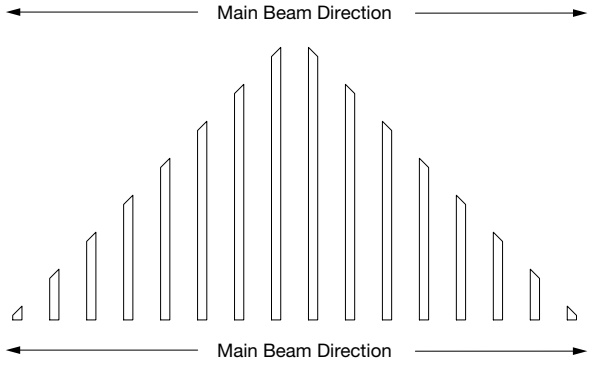


Fig 55

To ensure consistent slat direction on Right Triangle, both the panels with horizontal slats and vertical slats will need to be ordered and alternated ***(Fig 56)***. For all other shapes slat direction will be consistent as long as they have the same slat direction designation.

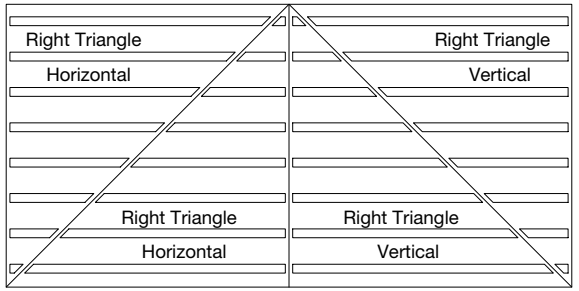


Fig 56 *Consistent Slat Direction*

7.3 Stabilizer Clips

Stabilizer Clips are used to ensure that panels stay within the suspension system unless intentionally accessed. These clips interface with the suspension system by hooking over the bulb of the grid. They are required for all parallelogram panels, and on all cut border panel regardless of size. Stabilizer clips, and the required #7 × 7/16" sharp point screws are included with the panels.

7.3.1 Stabilizer Clips on Parallelogram Panels

Each parallelogram panel requires two (2) Stabilizer Clips. The clips should engage the mains on both sides of the panel and are recommended to be installed diagonally opposite one another, as shown. These panels include pre-drilled holes to ensure proper clip placement. Install the clips using the screws provided ***(Figs 57 & 58)***.

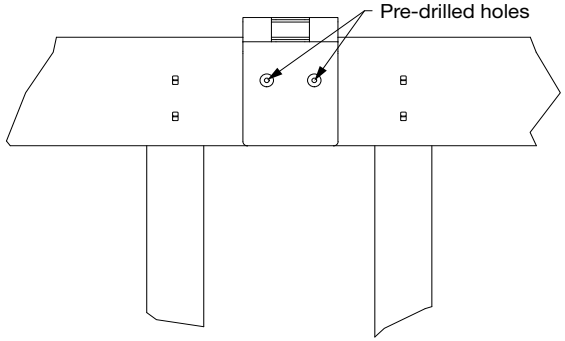


Fig 57

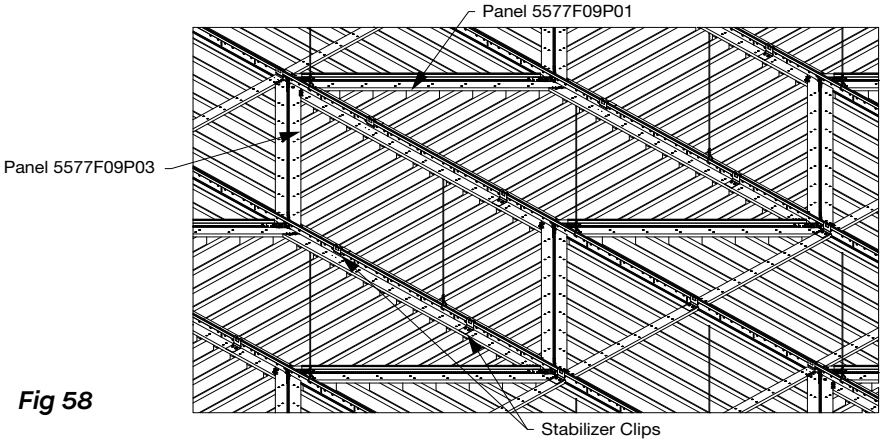


Fig 58

7.3.2 Stabilizer Clips on Border Panels

Stabilizer Clips are required on all cut border panels as a safety measure to ensure that panels remain securely within the suspension system. One clip is required at each panel edge that rests on the grid. Clips must be screw-attached, with the edge of the clip aligned with the edge of the backer to ensure the clip captures the bulb of the grid ***(Figs 59 & 60)***.

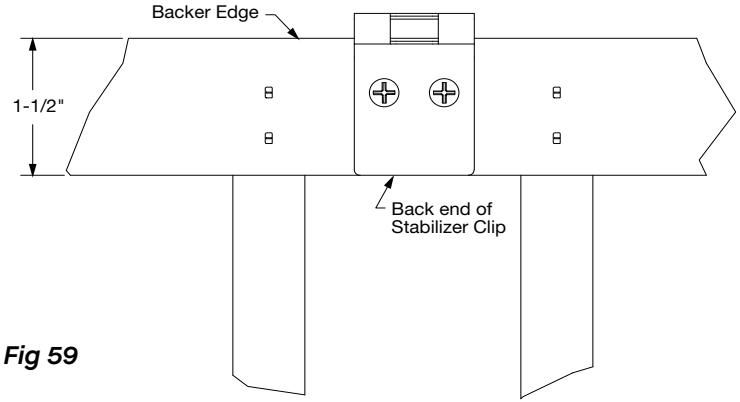


Fig 59

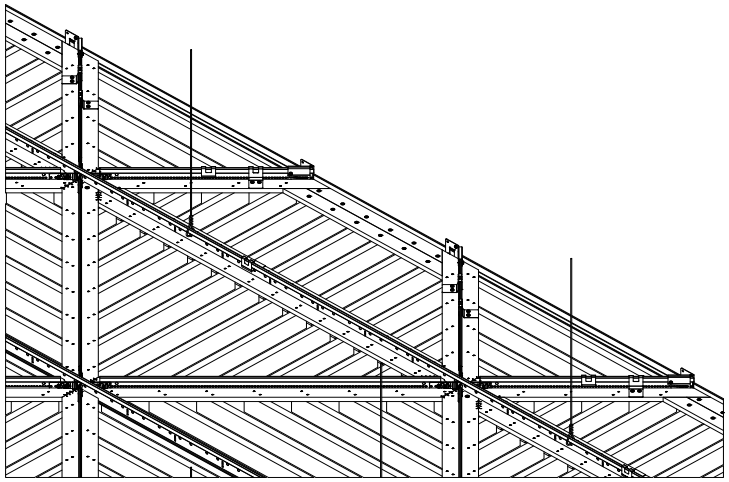


Fig 60

7.4 Border Panels

To properly address cut panels at the border of an installation, it is recommended to account for the 1/8" tegular edge of the panel backer by raising the grid system by 1/8". This adjustment allows the cut edge of the panel backer to rest directly on the perimeter trim or molding, ensuring the panel sits flush with the rest of the ceiling system.

Recommended Molding & Accessories:

- Item 7804 & 7800 (Seismic): “L” Angled Molding
- BERC2: Beam End Retaining Clip

The suspension system should be installed 1/8" above the bottom flange of the trim/molding. This clearance allows the cut panel backer to rest on the flange, maintaining a consistent elevation across the installation and removing the need to replicate the tegular edge. The standard “L” angle molding is held at this height using the BERC2 clip ***(Figs 61 & 62)***.

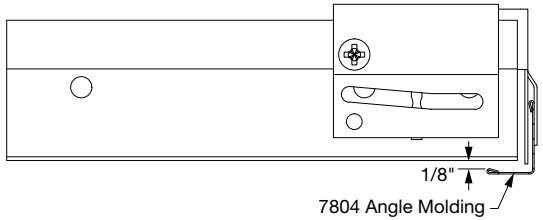


Fig 61

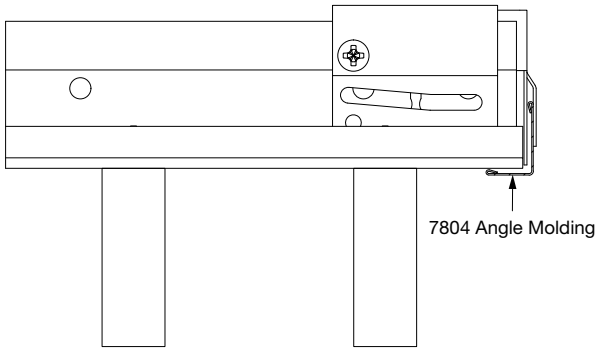


Fig 62

7.5 Cutting the Panel

WoodWorks® Shapes for DesignFlex® – Grille and Linear panels can be cut using standard woodworking tools and techniques. For straight cuts, a table saw is recommended; for curved cuts, a band saw is preferred. Alternatively, a circular saw with a 6" fine-toothed blade may be used for finish cuts to achieve the best results.

Depending on the cut and field modifications being made, the Backer Kit (Item 8270L96GBL) may be required. The Backer Kit can be used to provide reinforcement and support after cuts are made—whether for MEP integration or to recreate tegular edges on border-cut panels.

CAUTION: WOOD DUST. Sawing, sanding, and machining wood products can produce dust. Airborne wood dust can cause respiratory, eye, and skin irritation. The International Agency for Research on Cancer (IARC) has classified wood dust as a nasal carcinogen in humans.

PRECAUTIONARY MEASURES: If power tools are used, they should be equipped with a dust collector. If high dust levels are encountered, use an appropriate NIOSH-designed dust mask. Avoid dust contact with eyes and skin.

FIRST AID MEASURE IN CASE OF IRRITATION: Flush eyes or skin with water for at least 15 minutes.

7.5.1 Cutting Rules & Guidelines for Perimeters

Fastening Requirements

- All slats must be fastened at both ends
- If a cut leaves slat unsupported:
  - Use the Backer Kit (Item 8270L96GBL) to add support
  - Slats must be fastened within 3" of the cut. Pre-drill with 3/32" drill bit and fasten with #6 × 1-1/4" bugle head hi-lo drywall screw (for Grille) or #6 × 1" bugle head hi-lo drywall screw (for Linear).

Cutting Requirements

- Cutting along the length of the slat is only permitted on Linear panels (not Grille panels). Half or more of the slat must remain, otherwise slat must be removed.
- Cuts through the smallest slats (3" in size or smaller) on the panel is not recommended, slat should be removed.

7.5.2 Cutting Panel Steps

STEP 1: Measure & Mark the Panel

1. Measure the grid opening from a fixed point (Example: triangle tip of the grid) to the wall angle flange ***(Fig 63)***.

2. Mark the dimensions to the front of the panel, then transfer them to the back. This becomes the CUT LINE ***(Figs 64 & 65)***.

NOTE: Your reference point may not align with a visible feature on the panel face. Keep this in mind when transferring measurements.

STEP 2: Identify Slat Orientation

Before cutting, determine if the cut is:

- **(A)** - Perpendicular to the slats ***(Fig 66)***
- **(B)** - Parallel to the slats ***(Fig 67)***

This affects how the panel is cut and supported. Follow the correct method based on direction of the cut in relation to panel slat orientation.

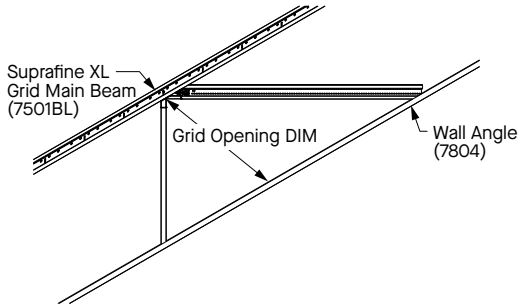


Fig 63

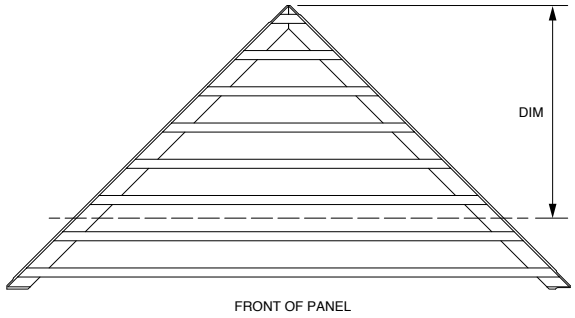


Fig 64

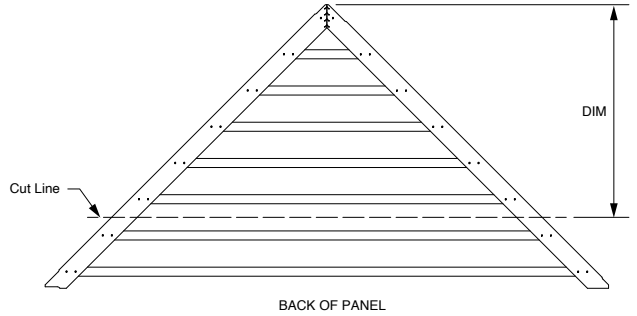


Fig 65

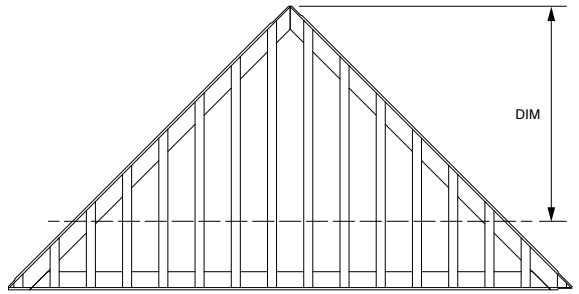


Fig 66

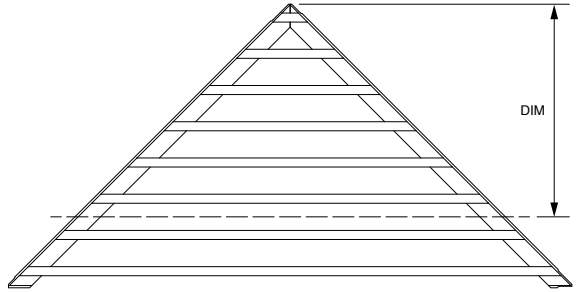


Fig 67

STEP 3: Cutting Procedure Based on Slat Orientation

A. Cuts Perpendicular to Slats

1. Measure 1-1/8" from the **CUT LINE** towards the keep side of the panel; this is the **BACKER LINE** ***(Fig 68)***.

2. Using backer kit (Item 8270L96GBL), install a backer along the BACKER LINE ***(Fig 69)***:

- **a.** Miter cut ends if needed to align with existing backers.
- **b.** Pre-drill 3/32 hole and fasten backer to slat with screws (refer to Section 7.4.1 for screw length). All slats should be fastened at both ends and within 3" of the cut.
- **c.** Use wood joining hardware (by others) such as V-nails or plate to join backers.

3. Cut along the **CUT LINE** ***(Fig 70)***.

4. Install a second backer along the **BACKER LINE** ***(Fig 71)***:

- **a.** Butt it against the first backer, and fasten in place.
- **b.** Backer should extend 3/8" past the slat ends to re-create the tegular edge ***(Fig 72)***.

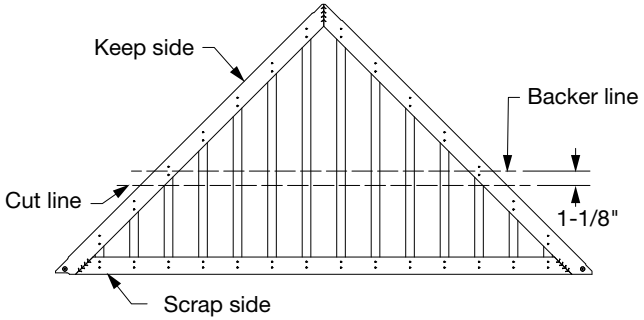


Fig 68

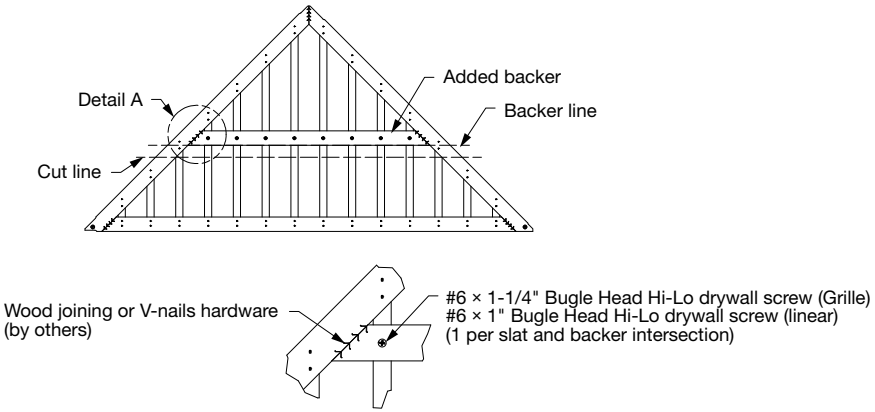


Fig 69

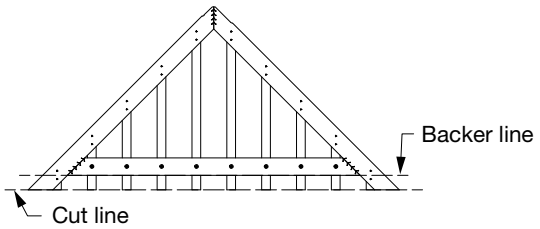


Fig 70

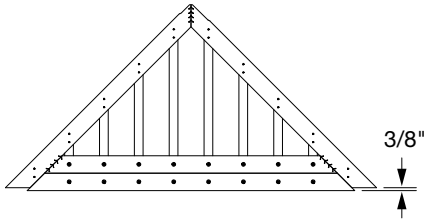


Fig 71

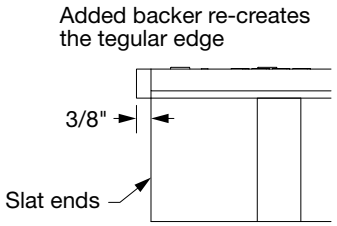


Fig 72

B. Cuts Parallel to Slats

1. Add 3/8" to the **CUT LINE**, this is the **TEGULAR CUT LINE** ***(Fig 73)***.

2. If the cut runs through the length of a slat:

a. Grille Shape Panels: Remove the entire slat ***(Fig 74)***.

b. Linear Shape Panels:

- If less than half of the slat remains, remove the slat ***(Fig 75)***.
- If half or more of the slat remains, keep it. Backer will extend 3/8" beyond the slats following the steps in 3-b to form the tegular edge ***(Fig 76)***.
- Add screws as necessary and secure slat if it seems unstable or in need of support.

3. Cut the panel:

a. Cut backers at the **TEGULAR CUT LINE**.

b. For Linear panels requiring backer and slat cuts: Cut slats at the original CUT LINE and backers at TEGULAR CUT LINE. Take caution not to cut through the backers when cutting the slats ***(Fig 77 & 78)***.

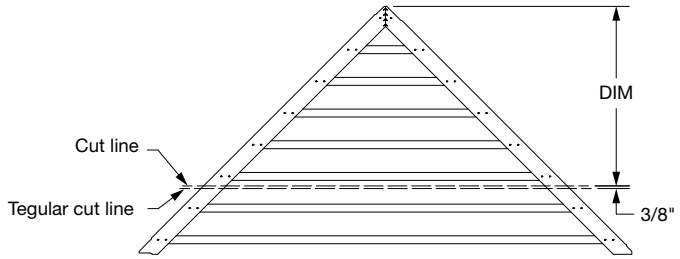


Fig 73

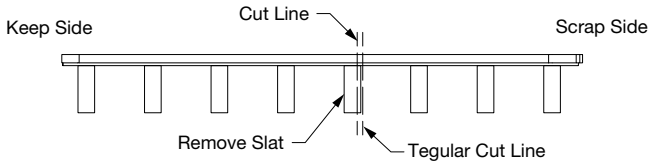


Fig 74

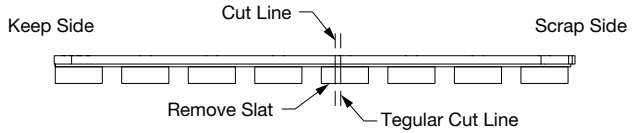


Fig 75

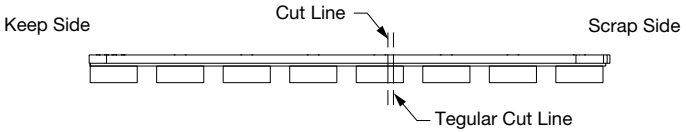


Fig 76

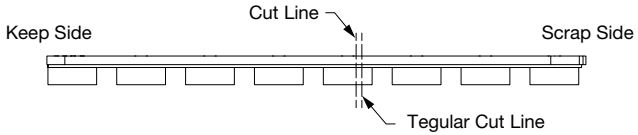


Fig 77

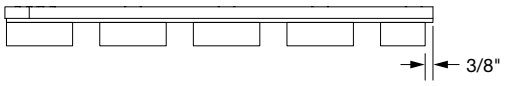


Fig 78

STEP 4: Panel Integrity & Support
Double check to ensure all modified panels remain stable. Add fasteners as needed, no loose slats, racking or instability.

7.5.3 Final Installation
Once all cuts are made, install panel securely into the grid.

7.5.4 Complex Cuts
For special shape cuts, such as those required around columns, curves, tight angles or MEP cutouts, use the following approach:

- Assess each panel individually
- Add extra backers or use 1/2" black-painted plywood backing (by others) where necessary
- Ensure all slats are securely fastened and the panel is safe for installation

7.6 Treating Exposed Edges

A matching paint should be used to touch up the exposed cut edge using touch-up kit (Item 6776QT1). Touch-up paint is available in coordinating finishes and can be ordered separately through Armstrong.

7.7 Cut Panels Within the Field

Only full-size panels are permitted within the field of the installation. Penetrations can be made in panels following instructions in Section 8, but panels cannot be field-cut to sizes that are not full module within the field. Instructions for the integration of MEP is addressed in Section 8.1.

7.8 Acoustic Infill Panels

Enhance the acoustics of a space by installing acoustic infill panels behind the WoodWorks® Shapes for DesignFlex® – Grille and Linear panels. Calla® Shapes acoustic infill panels have the same shape and dimension as the back of the WoodWorks Shapes panel. Place the acoustic panel on top of the panel and then position both panels on the grid flange. Refer to the panel property table on the last page of these instructions for acoustic panel details ***(Fig 79)***.

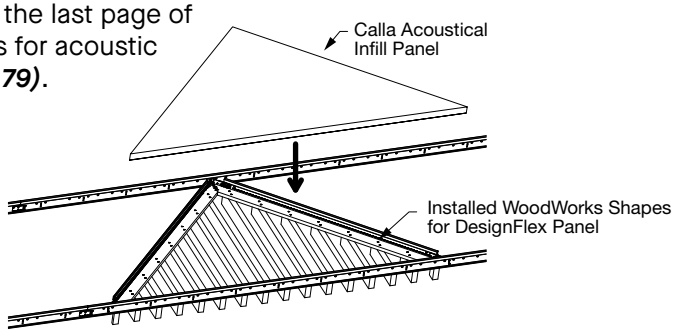


Fig 79

8. SPECIAL CONSIDERATIONS

8.1 Modifications to Grid Related to MEP

8.1.1 TechZone ® Ceiling System Integration
TechZone ceiling systems are recommended to integrate linear fixtures into a WoodWorks® Shapes installation. This is achieved by building technical zones with mains that run parallel with the standard mains in the system ***(Fig 80)***.

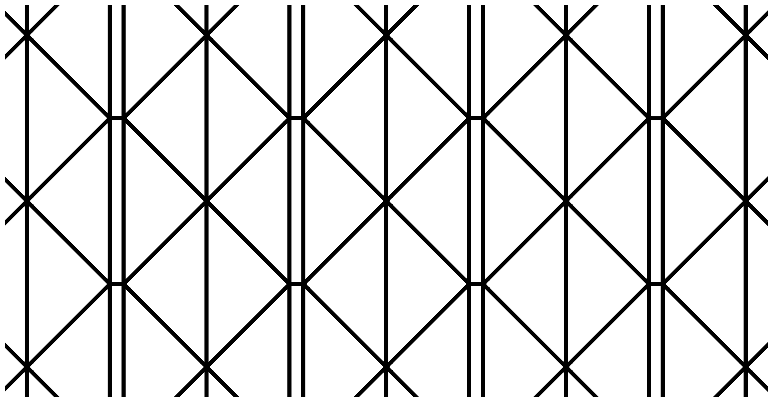


Fig 80

TechZone Ceiling System Limitations
When an Angle Bracket and TechZone cross tee are installed at the same rout hole location, the TechZone cross tee must be secured with a 3-Way Grip Clip (Item GC3W). This is because the screw connection for the Angle Bracket will occupy the rout hole and the XL end detail on the TechZone cross tee must be cut off ***(Figs 81 & 82)***.

Continuous fixture installations utilizing the TechZone Yoke (TZYK) cannot have Angle Brackets or Corner Brackets and the TZYK occupy the same rout hole.

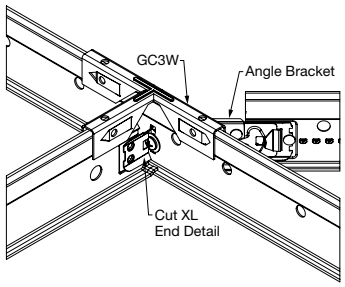


Fig 81

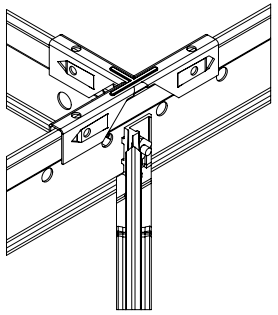


Fig 82

8.1.2 Lights

Compatible lighting fixtures and drivers should be installed by a qualified electrician. Please refer to the lighting partner manufacturer (JLC-Tech) for instructions. The suspension systems are designed and tested to support the weight of the light and driver. Subject to local code requirements for slack or additional support wires.

8.1.3 Standard Light Integration

WoodWorks® Shapes installations can have an assortment of grid layouts resulting in some modules not having an opposite parallel side (triangles). This must be taken into consideration for light fixtures that require parallel grid components (e.g. bar hangers). Due to the variable grid layouts, it may be necessary to independently support all light fixtures. Please note, if acoustic infill panels are being used, light bracing arms (outriggers) may have interference with the height of the panels.

8.2 Slopes

Sloped installations of WoodWorks® Shapes for DesignFlex® – Grille and Linear panels are not recommended or warranted.

8.3 Single Tee Insertion

Design layouts that include single cross tee insertions of XL end details (i.e. TechZone® layouts) will require use of a Single Tee Adapter Clip (Item STAC) or a 3- Way Grip Clip (Item GC3W) to secure the grid connection. Refer to STAC document for full instructions on the use of this clip ***(Fig 83)***.

Use of a Cross Tee Plug Clip (Item ARPLUG) is required where two Corner Brackets attach to the same cross tee and main intersection due to interference with the STAC. This will limit seismic application for layouts that require this.

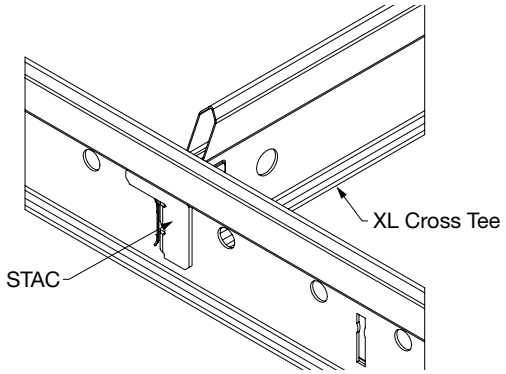


Fig 83

8.4 Exterior Applications

WoodWorks Shapes for DesignFlex – Grille and Linear panels are designed for interior installations only and cannot be installed in any exterior applications.

9. SEISMIC INSTALLATION

9.1 General

For more details on seismic installations please see our brochure: Seismic Design: What You Need to Know.

9.2 Suspension System

All seismic installations of WoodWorks Shapes panels must be installed per seismic design categories D, E, and F due to the lack of perpendicular grid intersections. This is regardless of the total system weight. Heavy-duty grid is required per ASTM E580.

9.2.1 Seismic Rx® Suspension System Cat C, D, E, and F

Ceiling installation should conform to basic minimums established in ASTM C636, with the following exceptions:

- Minimum 7/8" wall molding
- Suspension system must be attached on two adjacent walls
- Opposite walls require BERC2 and allow 3/4" movement at the wall
- BERC2 maintains main beam and cross tee spacing; no other components required
- BERC2 may need to be field modified to match grid angles at the perimeter
- Duty Rating of suspension systems are classified per ASTM C635
- Safety wires required on light fixtures
- Perimeter support wires within 8" of the perimeter angle molding
- Ceiling areas over 1,000 SF with back-to-back (opposing) bracket connections to the mains can be braced following standard spacing guidelines. If single bracket connections occur (no opposing bracket occupying the same rout hole) consult a professional engineer for lateral force bracing placement.
- Ceiling areas over 2,500 SF should have separation by bulkhead or partition wall
- Ceilings without rigid bracing must have 2" oversized trim rings for sprinklers and other penetrations
- Changes in ceiling plane must have positive bracing

- Cable trays and electrical conduits must be independently supported and braced
- Suspended ceilings will be subject to special inspection
- Special bracing may be required and should be specified by the seismic engineer on the project

9.3 Perimeter Attachment

For wall-to-wall installations, special attention should be paid to layouts that include grid intersections occurring at the wall due to the unevenness of typical wall conditions.

- Main beams interface with the wall molding as in traditional installations and are secured to the molding by the typical BERC2 connection
- Cross tees can be cut to length and secured to the wall molding with a field-modified BERC2 to match the angle of the cross tee ***(Fig 84)***

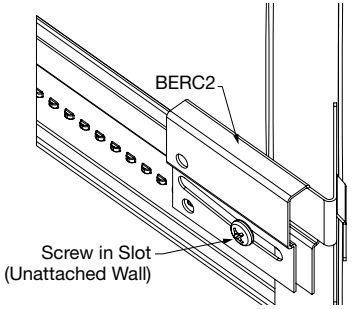


Fig 84

9.3.1 Perimeter Angle Clip (PAC)

Conditions where grid intersections occur over the flange of the perimeter trim will require the Perimeter Angle Clip (PAC) and the AS Universal HD Anchor (Item 7100). This clip allows a grid intersection to occur at the perimeter by connecting to a grid component already attached to the perimeter. Because this clip connects cross tees to a grid component already connected to the perimeter (attached or unattached), it is always installed following the same steps.

Installation Steps

9.3.1.1 Intersections of XM Cross Tees at Mains or XL Cross Tees perpendicular to wall (90° grid to wall):

- Secure the main or XL cross tee to the perimeter with the Universal HD Anchor, using a screw through the slot at unattached walls or a screw through a hole at attached walls. Place a PAC over the bulb of the grid with the base side closest to the perimeter. Place so that the pilot hole on the top of the base end is located at the correct 6" O.C. increment to match the full-size panel dimension. (**NOTE:** with mains, the top pilot hole on the base will align directly above a rout hole). This PAC will provide a location that will act as the connection point for the intersecting grid members ***(Fig 85)***.

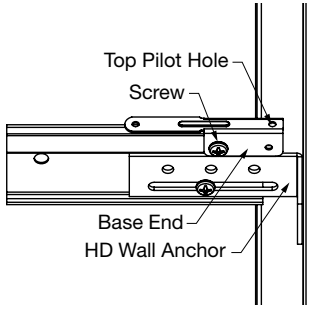


Fig 85

- Cut adjoining XM Cross Tees to length, ensuring that they will override the flange of the 90° grid and trim. Cut the face of the grid to match the angle that interfaces with the 90° grid and trim.
- Place a PAC over the bulb of the cut XM Cross Tees so that the pilot hole on the flat side aligns over the top pilot hole on the base side of the previously installed PAC ***(Fig 86)***

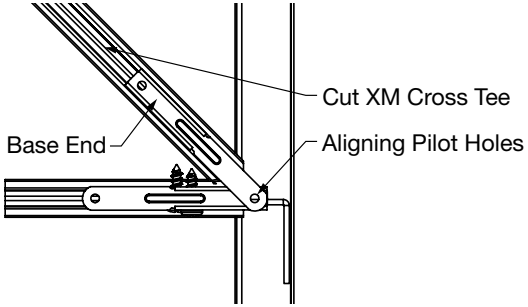


Fig 86

- Once the position has been verified, clamp the PAC to the cut XM Cross Tee and attach with one screw through the side of the clip and into the bulb ***(Fig 87)***

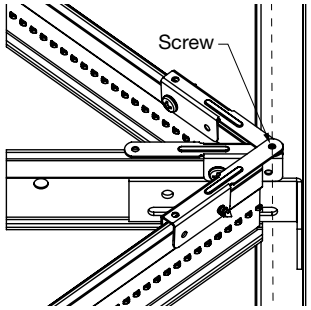


Fig 87

- Once all PACs have been screw-attached to XM Cross Tees, connect them to the first installed PAC by inserting a screw through the aligning holes on the top ***(Fig 88)***

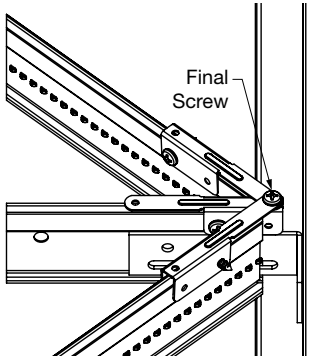


Fig 88

9.3.1.2 Intersections of XM Cross Tees Only (wall parallel to mains):

- Secure the first XM cross tee to the perimeter with the Universal HD Anchor, using a screw through the slot at unattached walls or a screw through a hole at attached walls. Place a PAC over the bulb of this cross tee with the base side closest to the perimeter. Place so that the pilot hole on the top of the base end is located at the correct 24" O.C. spacing for full-size panels. This PAC will provide a location that will act as the connection point for the intersecting grid member.
- Cut the adjoining XM Cross Tee to length, ensuring that it will override the bottom flange of the existing grid and trim. Cut the face of the grid to match the angle that interfaces with the existing XM Cross Tee.
- Place a PAC over the bulb of the cut XM Cross Tee so that the pilot hole on the flat side aligns over the pilot hole on the base side of the previously installed PAC.
- Once the position has been verified, clamp the PAC to the cut XM Cross Tee and attach with one screw through the side of the clip and into the bulb.
- Once the PAC has been screw-attached to the XM Cross Tee, connect it to the first installed PAC by inserting a screw through the aligning holes on the top.

9.4 Panel Installation

Panel installation will follow the same installation instructions detailed in Section 7.

9.4.1 Border Panels

All field cut border panels will follow the cutting recommendations and guidelines detailed in Sections 7.3 and 7.4.

WOODWORKS® SHAPES for DESIGNFLEX® – GRILLE TEGULAR & LINEAR TEGULAR						
Item No.◆	**Description - Shape and Slat Orientation**	**Ordered Separately/ Included with**	**Required for Install**	**Sold By The**	**% Open Area**	**LBS/SF**
Grille Tegular Panels						
5577F09T01_ _ _	Triangle with Vertical Slats	Ordered Separately	Based on Design	Piece	53	2.57
5577F09T02_ _ _	Triangle with Horizontal Slats	Ordered Separately	Based on Design	Piece	59	2.29
5577F09T03_ _ _	Right Triangle with Vertical Slats	Ordered Separately	Based on Design	Piece	51	2.55
5577F09T04_ _ _	Right Triangle with Horizontal Slats	Ordered Separately	Based on Design	Piece	51	2.55
5577F09P01_ _ _	Left Parallelogram with Vertical Slats	Ordered Separately	Based on Design	Piece	59	2.48
5577F09P02_ _ _	Left Parallelogram with Horizontal Slats	Ordered Separately	Based on Design	Piece	61	2.44
5577F09P03_ _ _	Right Parallelogram with Vertical Slats	Ordered Separately	Based on Design	Piece	59	2.48
5577F09P04_ _ _	Right Parallelogram with Horizontal Slats	Ordered Separately	Based on Design	Piece	61	2.44
FSC®-Certified Grille Tegular Panels						
5577F10T01_ _ _	Triangle with Vertical Slats	Ordered Separately	Based on Design	Piece	53	2.57
5577F10T02_ _ _	Triangle with Horizontal Slats	Ordered Separately	Based on Design	Piece	59	2.29
5577F10T03_ _ _	Right Triangle with Vertical Slats	Ordered Separately	Based on Design	Piece	51	2.55
5577F10T04_ _ _	Right Triangle with Horizontal Slats	Ordered Separately	Based on Design	Piece	51	2.55
5577F10P01_ _ _	Left Parallelogram with Vertical Slats	Ordered Separately	Based on Design	Piece	59	2.48
5577F10P02_ _ _	Left Parallelogram with Horizontal Slats	Ordered Separately	Based on Design	Piece	61	2.44
5577F10P03_ _ _	Right Parallelogram with Vertical Slats	Ordered Separately	Based on Design	Piece	59	2.48
5577F10P04_ _ _	Right Parallelogram with Horizontal Slats	Ordered Separately	Based on Design	Piece	61	2.44
Linear Tegular Panels						
5579F09T01_ _ _	Triangle with Vertical Planks	Ordered Separately	Based on Design	Piece	20	2.57
5579F09T02_ _ _	Triangle with Horizontal Planks	Ordered Separately	Based on Design	Piece	22	2.29
5579F09T03_ _ _	Right Triangle with Vertical Planks	Ordered Separately	Based on Design	Piece	19	2.55
5579F09T04_ _ _	Right Triangle with Horizontal Planks	Ordered Separately	Based on Design	Piece	19	2.55
5579F09P01_ _ _	Left Parallelogram with Vertical Planks	Ordered Separately	Based on Design	Piece	23	2.48
5579F09P02_ _ _	Left Parallelogram with Horizontal Planks	Ordered Separately	Based on Design	Piece	23	2.44
5579F09P03_ _ _	Right Parallelogram with Vertical Planks	Ordered Separately	Based on Design	Piece	23	2.48
5579F09P04_ _ _	Right Parallelogram with Horizontal Planks	Ordered Separately	Based on Design	Piece	23	2.44
FSC-Certified Linear Tegular Panels						
5579F10T01_ _ _	Triangle with Vertical Planks	Ordered Separately	Based on Design	Piece	20	2.57
5579F10T02_ _ _	Triangle with Horizontal Planks	Ordered Separately	Based on Design	Piece	22	2.29
5579F10T03_ _ _	Right Triangle with Vertical Planks	Ordered Separately	Based on Design	Piece	19	2.55
5579F10T04_ _ _	Right Triangle with Horizontal Planks	Ordered Separately	Based on Design	Piece	19	2.55
5579F10P01_ _ _	Left Parallelogram with Vertical Planks	Ordered Separately	Based on Design	Piece	23	2.48
5579F10P02_ _ _	Left Parallelogram with Horizontal Planks	Ordered Separately	Based on Design	Piece	23	2.44
5579F10P03_ _ _	Right Parallelogram with Vertical Planks	Ordered Separately	Based on Design	Piece	23	2.48
5579F10P04_ _ _	Right Parallelogram with Horizontal Planks	Ordered Separately	Based on Design	Piece	23	2.44

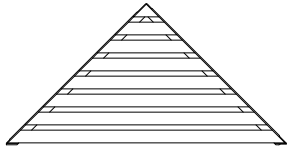
◆ When specifying or ordering, include the appropriate 3-letter color suffixes (e.g. 6776QT1 N W M).

* These items come standard in white finish, however black is recommended for WoodWorks installations. Request black finish via ASQuote@armstrong.com
** Order when WoodWorks trim is specified, it is required for PCC.
*** Order when angle tees intersect with corner of Axiom or WoodWorks Trim.

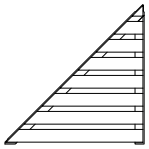
WOODWORKS® SHAPES for DESIGNFLEX® – GRILLE TEGULAR & LINEAR TEGULAR				
Item No.◆	**Description**	**Ordered Separately/ Included with**	**Required for Install**	**Sold By The**
SUSPENSION SYSTEM				
Main				
7501BL	Suprafine® XL® 12' Heavy-duty Main Beam	Ordered Separately	Yes	20 PCS
Cross Tee				
XL7520BL	24" Suprafine Cross Tee	Ordered Separately	Based on Design	60 PCS
XM754524*	Suprafine 45° Cross Tee - 24" Main Beam Spacing	Ordered Separately	Based on Design	60 PCS
XM7524*	Suprafine Perimeter Cross Tee - 24" Main Beam Spacing	Ordered Separately	Based on Design	60 PCS
Brackets				
75AB45L*	Suprafine 45° Left Angle Bracket	Ordered Separately	Based on Design	10 PCS
75AB45R*	Suprafine 45° Right Angle Bracket	Ordered Separately	Based on Design	10 PCS
75AB45D*	Suprafine 45° Double Angle Bracket	Ordered Separately	Based on Design	10 PCS
75CB45*	Suprafine 45° Corner Bracket	Ordered Separately	Based on Design	10 PCS
Perimeter Trim				
7804BL	Angle Molding	Ordered Separately	Based on Design	30 PCS
7800BL	7/8" Angle Molding (seismic)	Ordered Separately	Based on Design	30 PCS
AX_VESTR_ _ _	Axiom® Vector Straight Trim	Ordered Separately	Based on Design	10 LF
AX_VECUR_ _ _	Axiom Vector Curved Trim	Ordered Separately	Based on Design	10 LF
5344BL	WoodWorks 4" Trim Aluminum Substrate	Ordered Separately	Based on Design	6 PCS
5346BL	WoodWorks 6" Trim Aluminum Substrate	Ordered Separately	Based on Design	6 PCS
AX4SPLICEB**	Splice Plate with Set Screws	Ordered Separately	Based on Design	1 PC
Accessories				
PCC***	Axiom Perimeter Corner Clip	Ordered Separately	Based on Design	10 PCS
PAC	Perimeter Angle Clip	Ordered Separately	Based on Design	50 PCS
BERC2	2" Beam End Retaining Clip	Ordered Separately	Based on Design	200/50 PCS
GC3W	3-Way Grip Clip	Ordered Separately	See Section 8.1	250 PCS
8270L96GBL	WoodWorks Shapes Tegular Backers 96 × 1-1/2 × 1/2"	Ordered Separately	Based on Design	6 PCS
6776QT1_ _ _	WoodWorks End Paint For Cut Border Panels	Ordered Separately	Based on Design	1 QUART
6776GAL1_ _ _	WoodWorks End Paint For Cut Border Panels	Ordered Separately	Based on Design	1 GALLON
Infill Panels				
8260T01BL	Calla® Shapes – Triangle	Ordered Separately	Based on Design	12 PCS
8260T03BL	Calla Shapes – Right Triangle	Ordered Separately	Based on Design	24 PCS
8260P01BL	Calla Shapes – Left Parallelogram	Ordered Separately	Based on Design	6 PCS
8260P03BL	Calla Shapes – Right Parallelogram	Ordered Separately	Based on Design	6 PCS

◆ When specifying or ordering, include the appropriate 3-letter color suffixes (e.g. 6776QT1 N W M).

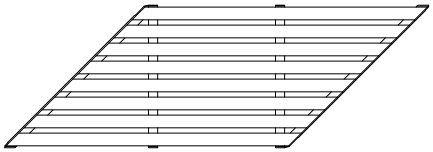
* These items come standard in white finish, however black is recommended for WoodWorks installations. Request black finish via ASQuote@armstrong.com
** Order when WoodWorks trim is specified, it is required for PCC.
*** Order when angle tees intersect with corner of Axiom or WoodWorks Trim.



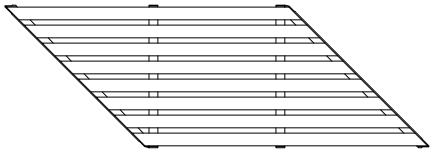
WoodWorks Shapes for DesignFlex
4' Triangle
(Linear horizontal slats shown)



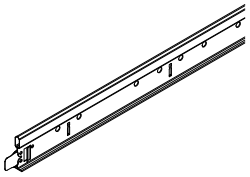
WoodWorks Shapes for DesignFlex
Right Triangle
(Linear horizontal slats shown)



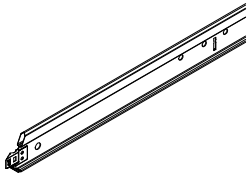
WoodWorks Shapes for DesignFlex
Right Parallelogram
(Linear horizontal slats shown)



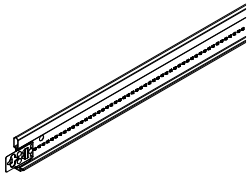
WoodWorks Shapes for DesignFlex
Left Parallelogram
(Linear horizontal slats shown)



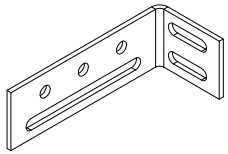
Suprafine XL 12' HD Main Beam
(7501BL)



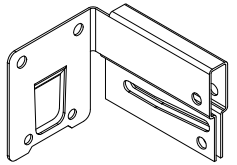
Suprafine XL 2' Cross Tee
(XL7520BL)



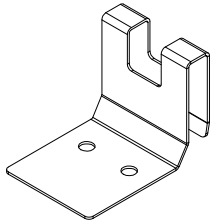
Suprafine XM Cross Tee
(XM7524 & XM754524)
Scale 1:4



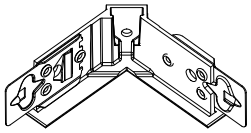
Heavy Duty Wall Anchor
(7100)



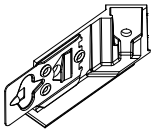
BERC2



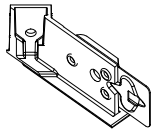
Stabilizer Clip
(7199PGC002BL)



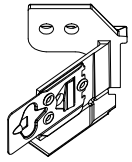
Suprafine 45° Double Angle Bracket
(75AB45D)
Scale 3:4



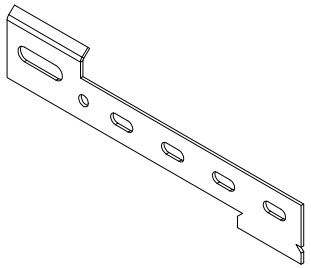
Suprafine 45° Left Angle Bracket
(75AB45L)



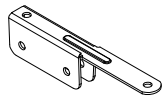
Suprafine 45° Right Angle Bracket
(5AB45R)



Suprafine 45° Corner Bracket
(75CB45)



Axiom Perimeter Corner Clip
(PCC)



Perimeter Angle Clip
(PAC)

MORE INFORMATION

For more information, or for an Armstrong Ceilings representative, call 877 276-7876.
For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 877 276-7876.

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