

METALWORKS™ Vector®

Assembly and Installation Instructions

1. GENERAL

1.1 Product Description

MetalWorks™ Vector® is a downward accessible galvanized steel ceiling panel available in standard 24" x 24" size. It is designed to install on a conventional 15/16" wide T-Bar suspension system. All full panels can be removed and reinstalled without movement up into the plenum area.

Installed panels are supported by two sides. These edges have specially designed kerf details with springs that allow the panel to move in one direction, disengage from the suspension system flange, and then be lowered out of the ceiling. The other two sides are fitted with rabbeted edges, which work to center the panel within the suspension system opening.

An optional fiberglass infill is available for increased sound absorption (item 8200100).

Use items 6466M1WH2 and 6466M2WH2 for unexposed exterior applications. See section 6 for more detailed information.

These instructions are for flat ceiling installations. For faceted installations of MetalWorks Vector panels, refer to MetalWorks 2' x 2' Faceted installation instructions, BPLA-297074, at armstrongceilings.com/installationinstructions.

1.2 Surface Finish and Directionality

1.2.1 MetalWorks Vector panels are powder-coated (post-coated) and available microperforated or unperforated in standard White (WH), Silver Grey (SG), and Gun Metal Grey (MY) finishes. The perforated finishes have a Black acoustical fleece factory-applied to the back side of the panel. The surface of these panels is washable, scrubbable, soil-resistant, and non-directional.

1.2.2 MetalWorks Vector panels are also available in Effects™ Wood Looks finishes. They are powder-coated (post-coated) using the FX Technology process, and are available extra microperforated or unperforated. The perforated finishes have a black acoustical fleece factory-applied to the back side of the panel. The surface of these panels is washable, scrubbable, and soil-resistant.

These panels are directional with the wood grain pattern. When installing Effects panels, it is important to note the direction of the wood grain patterns and correctly align each panel for the desired visual effect.

Follow the wood grain pattern during installation of all full panels. Refer to section 5.4 for instructions on how to install cut panels along the perimeters for the best visual consistency. Because of the importance of installing these correctly, it is recommended to install the borders first on cut panel installations. Each carton contains 50% vertically oriented grain patterns with spring clips on the side and 50% vertically oriented panels grain patterns with spring clips at the top (*Fig 1 and Fig 2*). This will help provide visual consistency options for cut panel perimeter installations.

1.3 Storage and Handling

The ceiling panels shall be stored in a dry interior location and shall remain in cartons prior to installation to avoid damage. The cartons shall be stored in a vertical position. Proper care should be taken when handling to avoid damage or soiling.

NOTE: MetalWorks Vector panels are packaged with the face of the panel toward the outside of the carton. Exercise care in moving and opening cartons to prevent damage to the panel face.

1.4 Site Conditions

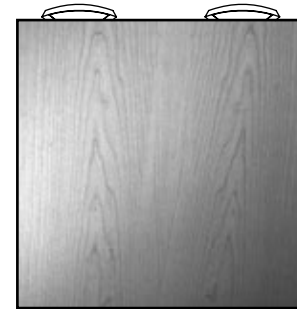
1.4.1 Interior Applications

Building areas to receive ceilings shall be free of construction dust and debris. Products can be installed in conditions between 32°F (0°C) and 120°F (49°C) and in spaces before the building is enclosed, where HVAC systems are cycled or not operating. Products can be used in exterior applications – see section 1.4.2. Products cannot be used where standing water is present or where moisture can come in direct contact with the ceiling. Products cannot be installed over areas such as swimming pools, which provide direct contact with corrosive agents (i.e., chlorine).



50% vertically grained with spring clips on the side

(Fig 1)



50% vertically grained with spring clips at the top

(Fig 2)

1.4.2 Exterior Applications

MetalWorks™ Vector® items 6466M1WH2 (unperforated) and 6466M2WH2 (microperforated) are recommended for non-exposed exterior applications except in geographical areas with high concentrations of acid rain. Other colors are also available, including Effects™ Wood Looks Vector® options.

Only these specific suspension system items and accessories should be used for wind uplift application:

- Prelude® Main Beam – item 7301G90
- Prelude Cross Tee – item XL7321G90
- Angle Molding – item HD7801G90
- Angle Molding – item 7807
- Brace Attachment Clip – item BACG90
- Universal Wall Anchor – item 300140

See section 6 for more detailed information.

1.5 Plenum

Installation of MetalWorks Vector panels requires 2" of clearance above the suspension system to permit deployment of the security clips.

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

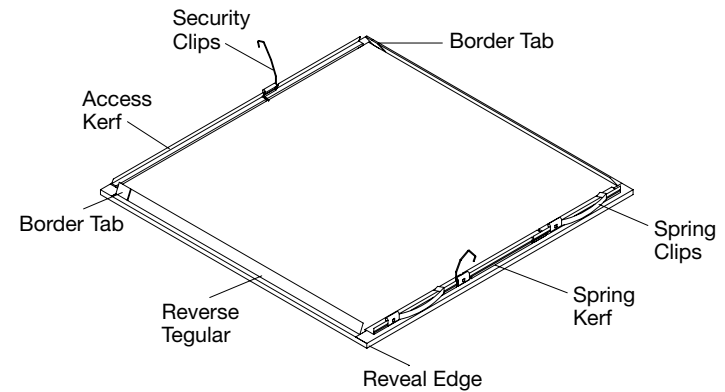
2. PANEL EDGES

2.1 General

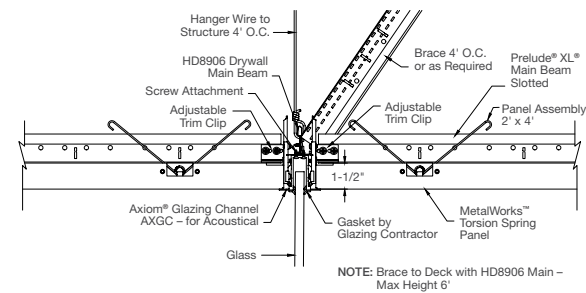
The edges of the MetalWorks Vector panels feature unique detailing (*Fig 3*). The following section is intended to define and explain the function of the edge details.

2.2 Spring Kerf

As the name implies, this edge is fitted with two steel spring clips that serve to hold the panel in position (*Fig 4*). This edge is the first to engage the suspension system.



(Fig 3)



(Fig 4)

2.3 Access Kerf

This edge has a simple kerf detail that serves to locate the panel on the suspension system flange when the springs push in this direction. This edge is opposite the spring kerf, and is the edge that is pressed to disengage a panel for the purpose of attaining “access” to the plenum. (Fig 5)

2.4 Reverse Tegular Edges

The two remaining panel edges are rabbeted to fit between the flanges of the suspension system. These edges center the panel in the suspension system opening and are called reverse Tegular edges. (Fig 6)

3. SUSPENSION SYSTEM

3.1 General

The suspension system shall be standard Prelude® 15/16" Intermediate-duty or Heavy-duty Exposed Tee suspension system. The suspension system, whether new or existing, shall be properly installed and leveled using not less than 12-gauge galvanized steel wire. Suspension system installation shall conform to ASTM C636 requirements.

These instructions are for flat ceiling installations. For faceted installations of MetalWorks™ Vector® panels, refer to MetalWorks 2' x 2' Faceted installation instructions, BPLA-297074, at armstrongceilings.com/installationinstructions.

3.2 Suspension System

MetalWorks Vector panels install in a 24" x 24" module. The main beams shall be spaced 48" O.C. The 48" cross tees shall intersect the main beams at 90° every 24". The 24" cross tees shall be installed at the midpoints of the 48" tees. The suspension system must be leveled to within 1/4" in 10' and must be square to within 1/16" in 2'.

3.3 Panel Face Offset

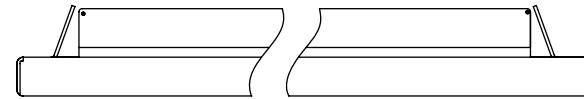
The face of the MetalWorks Vector panel extends 3/8" below the face of the suspension system. The height of components that interface with the ceiling panels, such as sprinkler heads and light fixture trim rings, will have to be adjusted to accommodate this 3/8" offset. (Fig 7)

3.4 Panel Penetrations

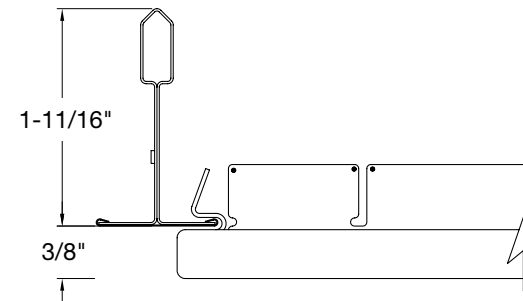
Holes cut for sprinkler heads and other services that penetrate the ceiling panel must be cut slightly oval shaped to allow the panel to move 1/4" in the direction of the spring kerf edge. Additionally, trim rings for these devices must be wide enough to accommodate this 1/4" movement.



(Fig 5)



(Fig 6)



(Fig 7)

4. PANEL INSTALLATION AND REMOVAL

4.1 General

MetalWorks™ Vector® ceiling panels are easily installed and removed from below the suspension system without the aid of tools or special equipment, allowing easy downward access to the plenum.

4.2 Installing Full-Size Panels

The panels are installed in a simple three-step process. *(Fig 8)*

STEP 1: Fully insert the spring kerf onto the exposed suspension system flange.

STEP 2: Raise the panel into the suspension system module until horizontal.

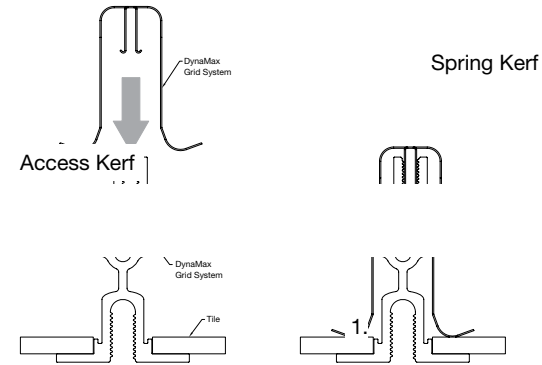
STEP 3: Slide the panel in the direction of the access kerf to fully position and center the panel in the suspension system.

NOTE: The security clips are automatically positioned when the suspension system flanges enter the kerfs.

4.3 Orientation of Full Panels

Install all full-sized panels with the spring kerfs facing in the same direction to provide access consistency, unless Effects Wood Looks Vector panels are being installed, then install all full sized panels with the wood grain facing in the same direction to achieve visual consistency.

NOTE: Since each Effects Wood Looks carton contains 50% each of two different visual orientations of panels (see section 1.2.2), you will not have access consistency as you do with MetalWorks Vector panels since the spring kerfs and clips will be on different sides for half of the panels.



2.

3.

(Fig 8)

4.4 Panel Removal

Removal is simply the reverse of installation. (Fig 9)

STEP 1: Locate the access kerf by pushing on the panel edges until the panel moves.

STEP 2: Push on the access kerf edge until it clears the suspension system flange.

STEP 3: Lower the kerfed edge of the panel and locate the security clip.

STEP 4: Hold the panel with one hand while pushing the security clip away from the cross tee.

STEP 5: Slide the panel back and down to remove it from the suspension system module.

NOTE: Do not allow the panels to hang by the security clips while working in the plenum.

5. PERIMETER DETAILS

5.1 General

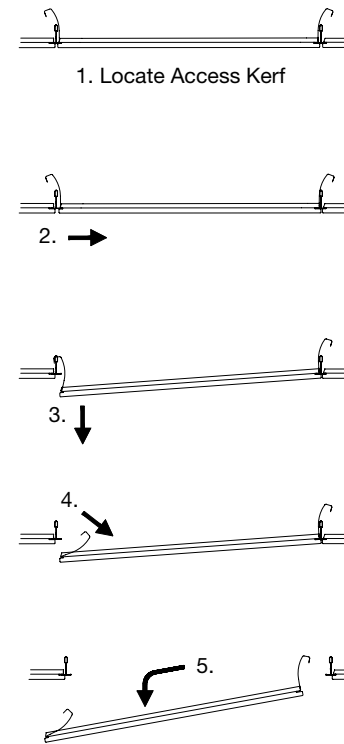
While the actual materials used to trim out the perimeters of a MetalWorks™ Vector® installation are varied, installations will fall into one of two categories; either the panels will all be full size or the cut edges will rest on and be concealed by some form of molding.

If installing Effects™ Wood Looks panels, full size panel installations are recommended due to their directionality. However, cut panel installations are possible and the two different panel types included in each carton will allow you to achieve a consistent visual effect. See section 5.4 for details and important visual considerations.

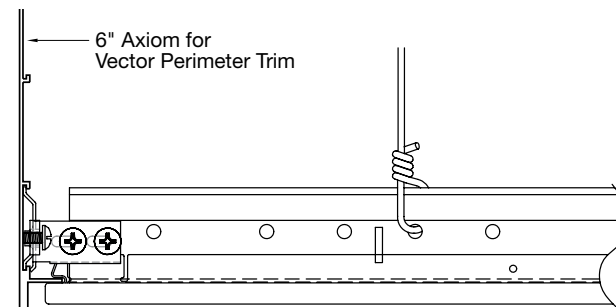
5.2 Full Panel Installations

In all cases, the size of the suspension system opening must be maintained at exactly 23-1/16". Squaring of the suspension system is also important and must be watched carefully when drywall borders are being applied.

Figure 10 at right shows a full-size panel installation of MetalWorks Vector with Axiom® as the perimeter trim.



(Fig 9)



(Fig 10)

5.3 Cut Panel Installations

Another option is to have the suspension system raised above the trim by 3/8". This clearance will allow the face of the panel to pass over, and rest upon the support leg of the trim.

5.3.1 Cut Panels with C Channel

Support the face of the panel on a "C" Channel (item 7835). When this option is used, the face of the suspension system must be held 3/8" above the lower flange of the channel molding.

Insert a spreader channel (item 7835SC) into the "C" Channel and over the cut edge of the ceiling panel to ensure close contact with the molding. (Fig 11)

5.3.2 Measuring the Panel

Measure the distance from the vertical wall surface to the closest edge of the suspension system flange. Transfer this dimension to the face of the panel. (Fig 12)

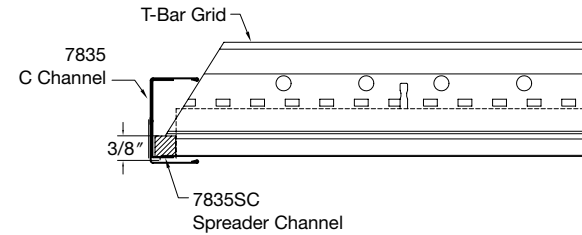
NOTE: It is always the spring kerf panel edge that is cut off of border panels.

5.3.3 Cutting and Installing the Panel

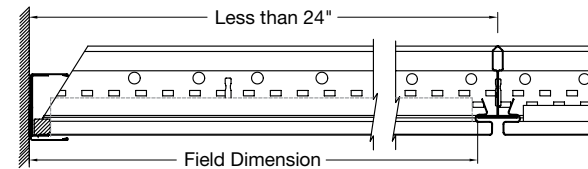
⚠ CAUTION

Cut edges of metal parts can be extremely sharp! Handle metal carefully to avoid injury. Always wear safety glasses and gloves when working with metal. Refer to MetalWorks™ Edge Cap installation instructions below for more information on installing Edge Caps with cut MetalWorks panels.

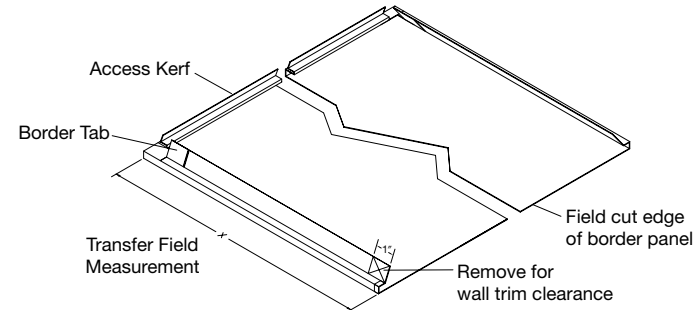
5.3.4 Cut the panel as marked. (Fig 13)



(Fig 11)



(Fig 12)



(Fig 13)

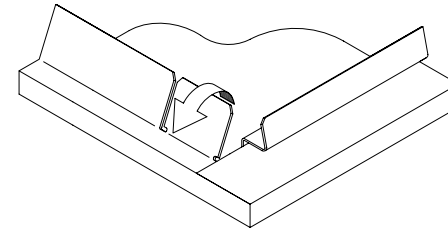
5.3.5 See MetalWorks™ Cutting Instructions below for detailed information about cutting Armstrong metal ceilings. This document discusses the advantages and disadvantages of several types of equipment and how they are used when cutting our products.

5.3.6 When fiberglass infill is used, it also must be cut to size. This is best done with a large pair of shears or scissors. Reseal the polybag with packing tape prior to installation.

5.3.7 Border Tabs

Border Tabs reach over top of the suspension system and fold the border tabs down to secure the cut panels in the suspension system.

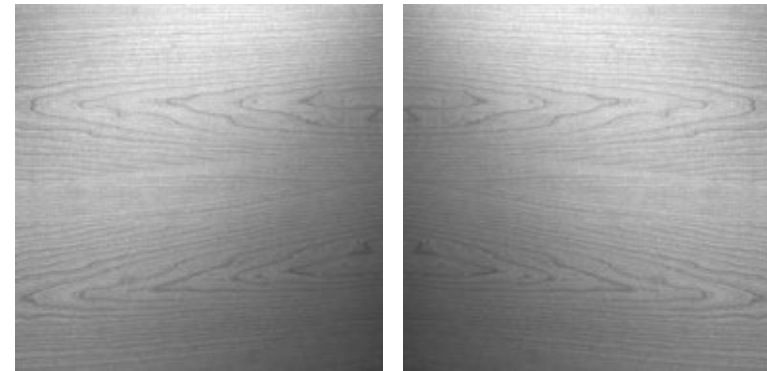
(Fig 14)



(Fig 14)

5.4 Visual Consistency on Cut Effects Wood Looks Panel Installation

It is recommended to install border panels first on cut panel installations. When installing, be sure to check for the wood grain pattern visual consistency. Utilizing all of the panels in the carton, which include two different panel types with one having the spring clips turned 90°, it is possible to achieve consistency in the direction of the wood grain. However, you will see the “point” of the wood grain oriented in opposite directions on two borders. *(Fig 15)*



(Fig 15)

6. EXTERIOR APPLICATIONS

6.1 General

6.1.1 Product Description

MetalWorks™ Vector® items 6466M1 (unperforated) and 6466M2 (microperforated) are recommended for non-exposed exterior applications except in geographical areas with high concentrations of acid rain. This section provides details for the proper application of these products in areas requiring resistance to wind uplift forces. Other colors are also available, including Effects™ Wood Looks Vector options.

6.1.2 Only these specific suspension system items and accessories should be used for wind uplift application:

- Prelude® Main Beam – item 7301G90
- Prelude Cross Tee – item XL7321G90
- Angle Molding – item HD7801G90
- Angle Molding – item 7807
- Brace Attachment Clip – item BACG90
- Universal Wall Anchor – item 300140

6.1.3 The details and descriptions provided in this document for Metalworks™ Vector® exterior installations depict the method used during independent testing conducted according to the “Standard Test For Uplift Resistance of Roof Assemblies” UL580. The results of these tests determined the class rating.

6.2 Installation of the Wall Molding

6.2.1 The recommended molding is Armstrong HD7801G90 angle molding. This product is a 7/8" x 7/8" x 120" angle formed from G90 hot dipped galvanized steel and capped with prefinished G90 steel.

6.2.2 Attachment should be by metal fasteners of a type and size appropriate for the mounting surface. This molding will bear the dead load weight of one-half of the area of ceiling extending from the wall to the nearest suspension system member. The Vector panels and suspension system weigh about 1.5 lbs/SF. In addition to the dead weight, the molding must also resist negative (downward) pressure equivalent to the wind uplift class required for the application. Fasteners should be evenly spaced along the length of the molding and the maximum center spacing should not exceed 16".

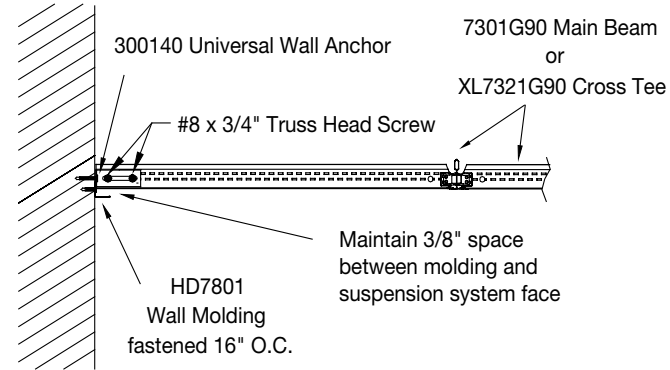
6.3 Installation of the Suspension System

6.3.1 The recommended suspension system consists of Armstrong Prelude main beam #7301G90, spaced 2' O.C. and XL7321G90 2' long cross tees, also spaced 2' O.C. These components are fabricated from G90 hot dipped galvanized steel for superior corrosion resistance, and are finished with a prefinished G90 steel cap. **(Fig 16)**

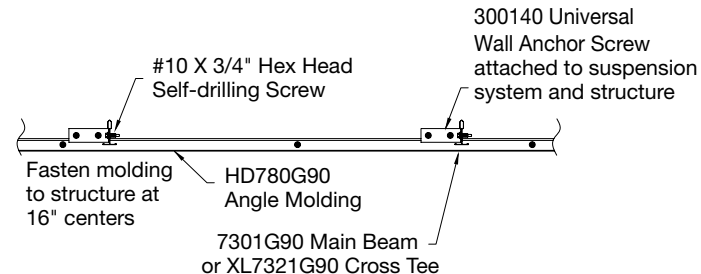
6.3.2 Notice that a space of 3/8" must be maintained between the wall molding and the face of the suspension system. Temporary blocking may be inserted in this space to facilitate the installation of the suspension system.

6.3.3 The Armstrong Universal Wall Anchor is used to secure the suspension system ends to the structure. Attachment of the anchor to the suspension system should be by means of two #10 x 3/4" hex head self-drilling screws. Attachment to the structure shall be by means of metal fasteners of a type and size appropriate for the application, and capable of resisting the upward forces of the design load. **(Fig 17)**

6.3.4 Prelude main beams, item 7301G90, should be installed 2' O.C. The prelude main beams should be hung using soft annealed galvanized #12 gage steel suspension wires at 4 ft. O.C. Insert 2' cross tees, item XL7321G90, at 2' O.C. Please note that the suspension wires are to be installed to support the suspension system and panels; the compression struts that are detailed in the following section are required to brace the system for uplift forces in exterior applications.



(Fig 16)



(Fig 17)

6.4 Installation of the Compression Posts

6.4.1 Compression posts are required to brace the T-Bar main beams of the suspension system. The size and shape of the post material must be designed to meet the requirements of the particular application. Independent testing was successfully conducted to Class 30 and Class 90 using 20 gauge steel stud (CSJ flange measuring 2-1/2" deep, with a 1-5/8" flange width) at a length of 30".

6.4.1.1 Compression post requirements for each Class are listed below:

- UL 580 Class 30 – Compression posts 3' O.C. along T-Bar Main Beam
- UL 580 Class 60 – Compression posts 2' O.C. along T-Bar Main Beam
- UL 580 Class 90 – Compression posts 2' O.C. along T-Bar Main Beam

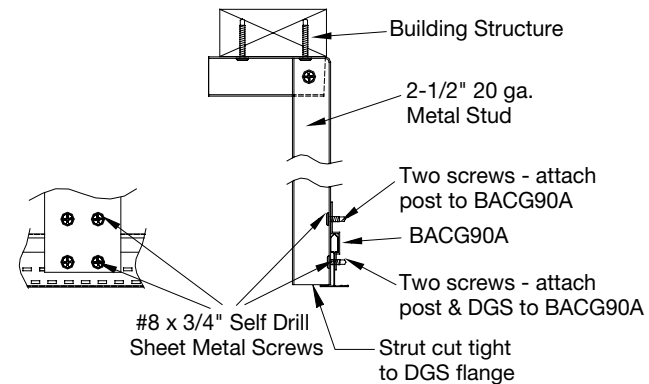
6.4.2 Posts 2' O.C. are to be placed on the main beams adjacent to the intersections of the cross tees. Posts 3' O.C. should have the first post adjacent to the first cross tee intersection and then 3' O.C.

Additionally, posts must be installed at the location of the main beam splices. These posts shall be secured by screws placed on either side of the splice detail.

6.4.3 Note that the bottom end of the post should extend approximately 3/8" below the bottom of the bulb of the main beam for attachment to the main beam and clip. Trim the sides of the post at an angle to ease panel insertion.

6.4.4 The top end of the post is fashioned by cutting through the flanges of the post and folding over a short horizontal leg of approximately 3" add a screw to secure the folded stud. The top end of the post shall be attached to the structure by means of at least two metal fasteners of a type and size appropriate for the application.

6.4.5 Attachment to the suspension system shall be by means of the Armstrong BACG90A clip. Begin by clamping the post and BACG90A clip in position. Then use four #8 x 1/2" self-drilling sheet metal screws to fasten the post to the BACG90A clip. The top screws will fasten the post to the clip and the bottom screws will fasten the post and suspension system to the clip. *(Fig 18)*



(Fig 18)

6.5 Installation of the Border Panels

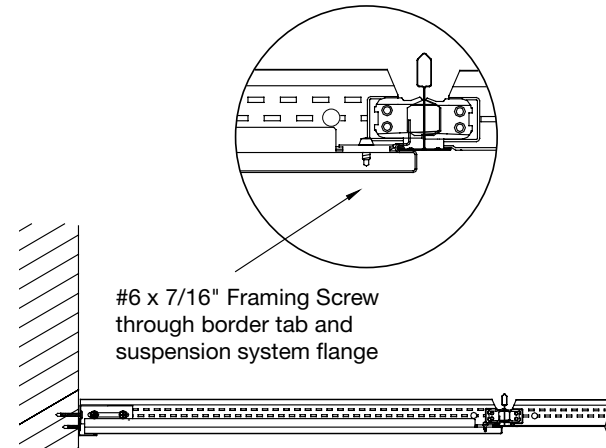
6.5.1 See section 5 and the MetalWorks™ Cutting Instructions following section 7 for information regarding sizing and cutting of the panels that are applied above or within the lower section of the Profiled Axiom®. Profiled Axiom drywall trim sections are factory-formed to fit into the Profiled Axiom.

6.5.2 Perimeter panels must be secured to resist both the upward forces at the wall angle and lateral forces that may dislodge the panel edge detail from the suspension system.

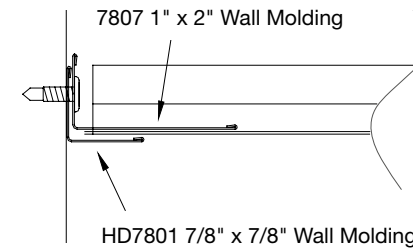
6.5.3 Begin by properly positioning the panel into the suspension system, then fold the border tabs over the suspension system flanges and secure with #6 x 7/16" self-drilling screws inserted through the border tabs and the suspension system flange. (Fig 19)

6.5.4 Secure the cut side by using a 23-1/4" long piece of #7807, 1" x 2" angle molding as a hold-down. Trim the ends of the 1" side at a 45-degree angle and fit the 2" side against the cut panel edge. Secure the hold-down through the 1" side using four #8 x 1/2" truss head screws to the wall molding. A screw should be near both ends and then spaced equally across the hold-down. This hold-down must be used to resist upward forces anticipated by the design criteria. (Fig 20 and Fig 21)

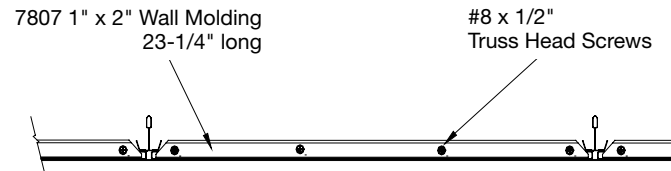
6.5.5 The installation described to this point was successfully tested to a rating of Class 60. However, the extreme forces encountered at the Class 90 level may require additional blocking over the ends of the suspension system members. When the suspension system ends cannot be fastened directly to structure as noted in section 6.3.3, the following additional blocking is required for Class 90. Position a 2-1/2" or larger 20 gauge steel stud at the top of the suspension system along the perimeter wall. Keep the stud tight against the bulb of the suspension system and secure it to the wall structure with appropriate fasteners. (Fig 22)



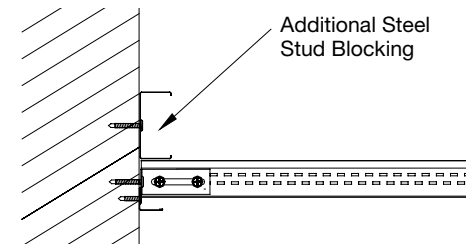
(Fig 19)



(Fig 20)



(Fig 21)



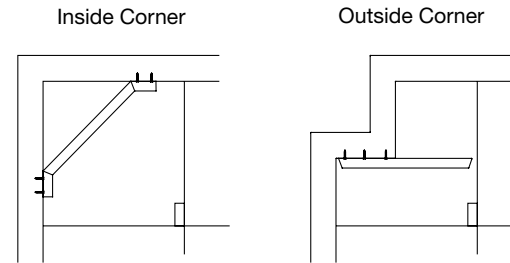
(Fig 22)

6.6 Installation of Corner Panels

6.6.1 Corner panels, or any other perimeter panel that has two or more factory edges cut, will require additional support after the panel is installed. Use the #7807 angle hold-downs as described in section 6.5.4 plus a 2-1/2" 20 gauge metal stud to create a diagonal brace on inside corners. Insert the brace tight against the panel and secure the ends to the wall molding. For outside or notched corners, fasten the brace along a side wall to provide support to the cut panel. *(Fig 23)*

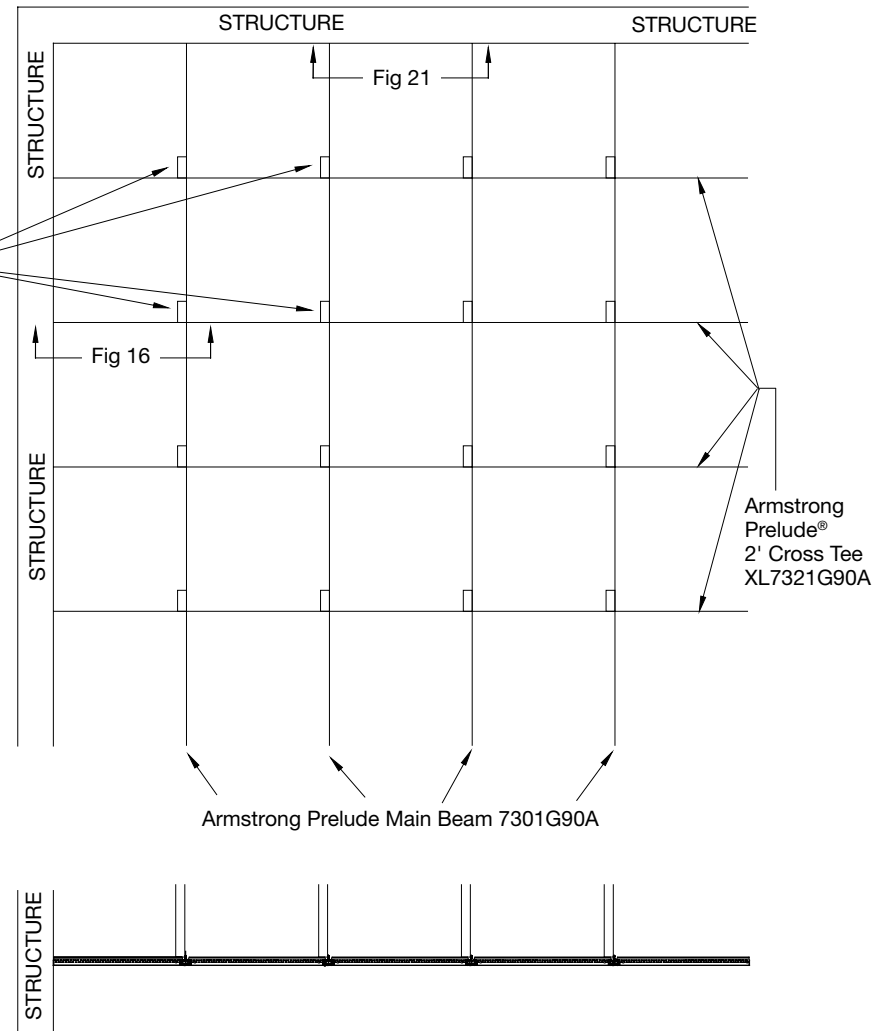
6.7 Installation of Field Panels

6.7.1 Full-size panels are installed as described in section 4. No special techniques are required for applications through a rating of Class 90. Full accessibility through these full-size panels is maintained. *(Fig 24)*



(Fig 23)

Compression Post
2-1/2" Metal Stud, 20 ga.
UL Class 60 and 90
Posts 2 O.C.



(Fig 24)

7. SEISMIC INSTALLATIONS (C, D, E, AND F)

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

7.1 General

The installation shall, in all cases, conform to the requirements of the International Building Code and its referenced standards. 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.

Seismic Rx Cat C, D, E, and F

- The installation must conform to basic minimums established in ASTM C636.
- Minimum 7/8" wall molding.
- Suspension system must be attached on two adjacent walls.
- The opposite pair of adjacent walls require BER2 with 3/4" clearance.
- BER2 maintains main beam and cross tee spacing; no other components required.
- Heavy-duty systems as identified in ICC-ESR-1308.
- Safety wires required on light fixtures.
- Perimeter support wires within 8".
- Ceiling areas over 1,000 SF must have horizontal restraint wire or rigid bracing.
- Ceiling areas over 2,500 SF must have seismic separation joints or full-height partitions.
- 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.

- Suspension layouts are the same as described in section 4: Suspension System. Alternate grid layouts (cross-hatched) are not recommended.
- Connection to wall – See BPCS-4141 Seismic Design: What You Need to Know – Code Requirements Seismic Rx[®] Tested Solutions – Seismic Rx Approaches To Category C And D, E, And F Installations.
- Special bracing required – See BPCS-4141 Seismic Design: What You Need to Know – Code Requirements Seismic Rx Tested Solutions – Bracing and Restraint for Seismic Installations.
- Seismic separation joints – See BPCS-4141 Seismic Design: What You Need to Know – Code Requirements Seismic Rx Tested Solutions – Seismic Separation Joints.

METALWORKS™

Cutting Instructions

1. GENERAL

1.1 Product Description

MetalWorks™ is a collection of metal ceiling panels. The collection consists of steel and aluminum ceiling panels with a variety of edge details. Cutting procedures will be similar regardless of panel material or edge configuration.

1.2 Cutting Options

Four different types of equipment are recommended for cutting these metal panels. Each has its own set of advantages and limitations, and will be presented in order of preference based on speed.

⚠ CAUTION

Cut edges of metal parts can be extremely sharp! Handle metal carefully to avoid injury. Always wear safety glasses and gloves when working with metal.

1.2.1 Band Saw

An electric band saw equipped with a fine-toothed blade (14-18 tpi) is the fastest method for cutting border panels. For 24" x 24" panels, the saw must have a throat depth of at least 12" to allow a cut anywhere on the face of the panel. Practicality for other size panels will depend on size and required direction of cut. Price is about \$700.00 for a 12" saw.

1.2.1.1. Procedure

Mark the cut line on the face of the panel and feed through the saw face up. Shimming the back of hollow panels is not normally required.

1.2.1.2. Disadvantages

Band saws are not part of the normal "tool kit" of an acoustical installer. Although readily available, they tend to be more expensive than the other options listed here. Band saws are less portable than the other options and will require that the panels be moved to the saw, cut, and then moved back to the installation site. This distance may not be great, but labeling of the panels may be necessary to ensure that they return to the correct location.

1.2.2. Electric Shears

These electric shears resemble a drill motor attached to a pair of scissors blades. There are actually three blades; one movable centered between two stationary. When used, the tool removes a strip of material about 1/4" wide. They produce a clean cut, and are more portable than the band saw. Price is about \$200.00.

1.2.2.1. Procedure

Mark the cut line on the face of the panel. Use aviation snips to remove a section of the edge material on the waste side of the cut line. This step is required to provide access to the face for the shears. Cut the panels face up.

NOTE: To prevent scratching the face of the panel, observe the direction that the 1/4" band of waste material takes as it coils up in front of the cut. Position successive panels so that this coil moves across the scrap portion of the panel.

1.2.2.2. Disadvantages

Shears are not quite as fast as the band saw. Cordless models are not yet available, so the typical headaches and safety issues associated with corded tools apply.

1.2.3. Duct Snips

The duct snip is essentially a manual version of the electric shears, and sells for about \$18.00.

1.2.3.1. Procedure

Follow the procedures described in section 1.2.2.1.

1.2.3.2. Disadvantages

The duct snip is extremely slow and laborious. It is the tool of last choice, and is listed here for consideration only when other options are not available and only for a very limited number of cuts.

1.2.4. Duct Snips

Both left cut and right cut aviation snips will be required for notching operations and for cutting holes for penetrations through the panel face. Standard aviation snips cost about \$12.00 a pair.

1.2.4.1. Procedure

Snips are used as needed to cut through the edge detailing on panels to provide clearance for shears or to ease corners. Application will vary depending on edge detail.

1.2.4.2. Disadvantages

Cutouts in the center of the panel are created by first drilling or punching a hole near the center and then cutting in a spiral pattern to the finished size and shape. Exercise caution during this procedure as the hand will be in close proximity to the cut edge of the panel.

METALWORKS™ Edge Cap

Assembly and Installation Instructions

1. DESCRIPTION

MetalWorks™ Edge Caps are break-formed steel sections that are used to finish edges of panels that have been cut to fit grid openings that are less than 2' x 2'. Caps are available for use with 5/16" Square Tegular MetalWorks panels sized for 15/16" wide grid and 9/16" wide grid or for use with MetalWorks Vector® panels. Edge Caps are available in White (WH), Silver Grey (SG), Gun Metal Grey (MY) and Black (BL) for use with MetalWorks Effects™ Finishes.

2. DESIGN LIMITATIONS

MetalWorks Edge Caps are sized to match the factory length of the panel edge. They are most appropriate for use on installations where the cut edge of the panel is parallel to the factory edge, either at the perimeters of an installation or where a panel in the field of the ceiling is reduced in size.

Edge Caps are not to be used at curved wall conditions.

3. PANEL PREPARATION

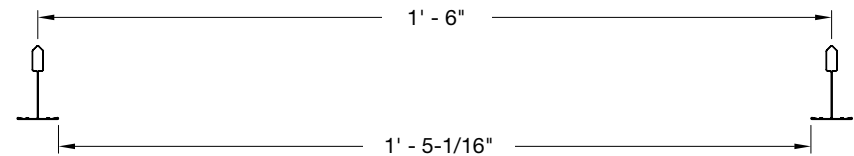
3.1 Measure the size of the grid opening at both sides. *(Fig 25)*

3.2 For Tegular panels, mark the panel face 1/16" shorter than the dimensions measured.

3.3 For Vector panels, mark the panel face 5/8" greater than the dimensions measured.

3.3.1 Note that the perforation pattern may be directional.

3.3.2 When working with Vector panels, the side with the springs attached is always the first side to be removed.



(Fig 25)

3.4 Cut the panel as marked. Be sure to closely follow the line. If any portion of the cut edge extends beyond the cut line, the edge cap will not seat properly.

3.5 For Vector panels only – cut away about 1/2" of the reverse Tegular edges at the cut side of the panel. (Fig 26)

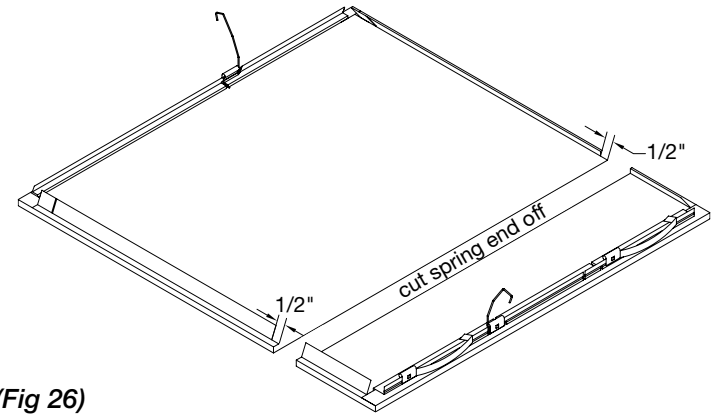
4. EDGE CAP APPLICATION

4.1 Slide the Edge Cap onto the cut panel.

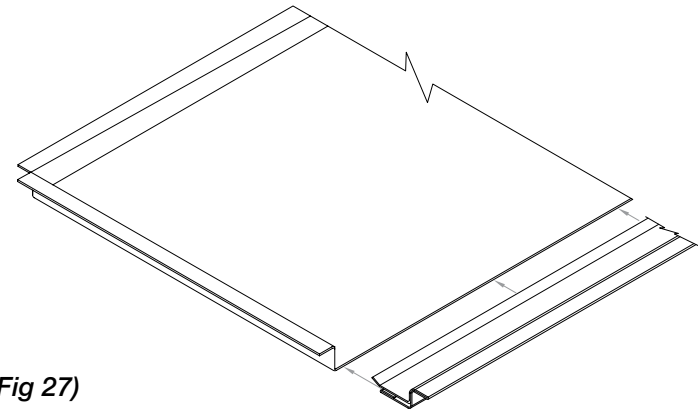
4.2 Install the panel into the ceiling grid. (Fig 27)

4.2.1 For vector panels only – bend the locking tabs to engage the grid or wall molding flange. (Fig 28)

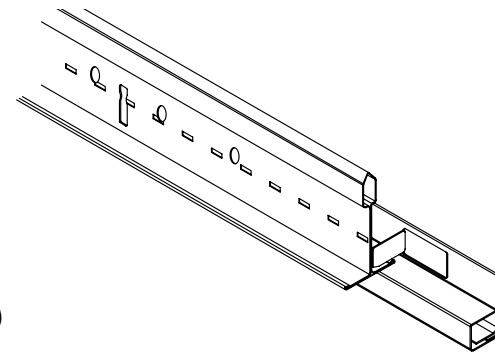
4.3 Where panels are cut to match angled walls, two edge caps would have to be used, and they would need to be altered to properly finish the cut panel condition.



(Fig 26)



(Fig 27)



(Fig 28)

EFFECTS™ Wood Looks Perimeter Trim

Installation Instructions

1. GENERAL

1.1 Product Description

Effects™ perimeter trim is a unique perimeter trim system designed specifically for use with Effects™ Wood Looks Tegular and Vector™ ceiling panels from Armstrong. It is designed for full panel installations, but may also be used for field cut border panels.

The finned edge on the Effects perimeter trim duplicates the 1/4" panel reveal at the edges of Effects Vector installation. This option is for full panel installations only.

The flat edge on the Effects perimeter trim is used for Tegular full panel installations and must be used for all cut Tegular and Vector panels

Three profile heights are available. 2" Effects PT with a nominal 2" profile height, 4" Effects PT with a nominal 4" profile height, and 6" Effects PT with a nominal 6" profile height. **(Fig 29)**

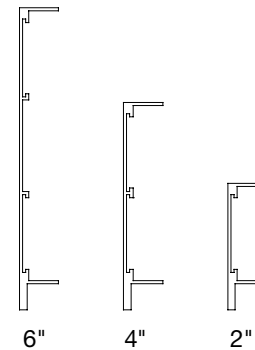
Effects perimeter trim comes in straight sections and can be field cut or mitered using a power miter saw equipped with a blade designed to cut aluminum.

Effects Vector panels install on 15/16" wide T-Bar grid and Effects Tegular panels install on 9/16" wide grid.

These instructions are divided into four sections detailing material delivery, component assembly, installation and final detailing. Please carefully review all appropriate sections for your Effects ceiling panel type (i.e. Vector or Tegular) before proceeding with installation.

2. MATERIAL DELIVERY

Effects perimeter trim components and hardware are delivered to the job site in specially designed packaging. Exercise appropriate care to protect the finished surfaces of the perimeter trim.



(Fig 29)

3. COMPONENT ASSEMBLY

3.1 Splice Plates

Steel splice plates are used to align and secure all joints between sections of Effects perimeter trim. The two-inch high profile will require one FXSPLICE plate at each joint. Four and six inch high profiles require two FXSPLICE plates at each joint. Splice plates are secured to the trim sections using factory-installed set screws. Where desired, it may be beneficial to caulk or tape the backside of the joints to prevent light transmission.

Typical Procedure:

3.1.1 Position the splice plate in the bosses on the inside of the trim.

3.1.2 Pull the Effects perimeter trim tightly together for the best fit.

3.1.3 Use a 1/8" hex key wrench to tighten the set screws that secure splice to trim. *(Fig 30)*

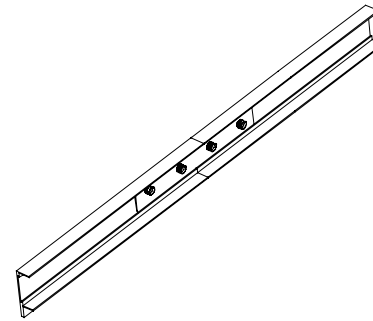
CAUTION: Do not over-tighten these screws to the point where they distort the face of the trim.

3.2 Corner Assembly

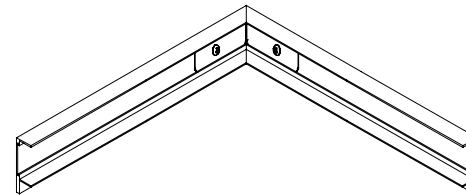
3.2.1 Effects perimeter trim can be field mitered using a power miter saw equipped with a blade designed to cut aluminum.

3.2.2 Bend the FXSPLICE splice plate at the center notches to form the desired angle.

3.2.3 Position the mitered corner for correct alignment and tighten the two setscrews on the FXSPLICE plate. *(Fig 31)*



(Fig 30)



(Fig 31)

3.3 Effects T-Bar Connector Clips

T-Bar Connector Clips are used to attach the Effects™ perimeter trim to the supporting suspension system members. These two-piece clips are supplied as an assembled unit with the steel locking screw factory installed. One clip is required at each location where the grid system intersects the perimeter trim.

T-Bar Connector Clips are attached to the grid members using screws supplied by the installer. Framing screws

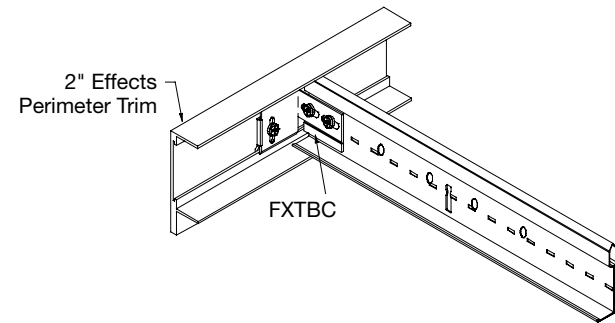
(#6 x 7/16" or 1/2" lg.) are typical.

Typical Procedure:

3.3.1 Cut grid to length.

3.3.2 Attach clip to grid member.

3.3.3 Engage clip in lower perimeter trim bosses and tighten locking screw. (Fig 32)



(Fig 32)

4. GENERAL INSTALLATION PROCEDURES

Effects perimeter trim components and hardware are delivered to the job site in specially designed packaging. Exercise appropriate care to protect the finished surfaces of the perimeter trim.

4.1 Lay out and install the suspension system according to the reflected ceiling plan. Effects perimeter trim works with Effects Tegular and Vector panels. Installation procedures will be described separately for each type of panel.

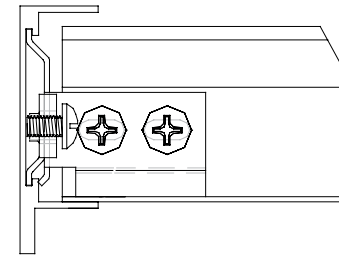
4.2 Effects Wood Looks Vector Full Panels

4.2.1 Cut and install the grid to maintain precisely 23-1/16" between the outer edge of the 15/16" T-bar grid and the inner edge of the Effects perimeter trim. The grid must rest approximately 1/4" to 3/8" on the perimeter trim flange.

4.2.2 The correct length for the Effects perimeter trim, when measured along the inside edge, will be 15/16" less than the nominal dimension of the full panel installation.

EXAMPLE: The nominal dimension of a four panel wide cloud would be 96". The Effects perimeter trim should be cut to 95-1/16" measured along the inside edge.

4.2.3 Attach the Effects T-Bar Connector Clips (FXTBC) to each perimeter section of grid. Rest the bottom of the FXTBC on the grid flange. Insert one #7 x 7/16" framing screw (or equivalent) in the middle of the slot. (Fig 33)



(Fig 33)

4.2.4 Install the Effects Perimeter Trim

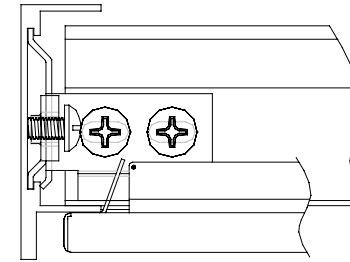
Hang the sections of perimeter trim with fin side down for Vector, onto the grid system by engaging the top ear of the connector clips under the boss of the perimeter trim. Slide the back plate downward to engage the lower boss on the trim and secure by tightening the locking screw.

4.2.4.1 Complete the installation of all perimeter trim sections. Install and secure the splices.

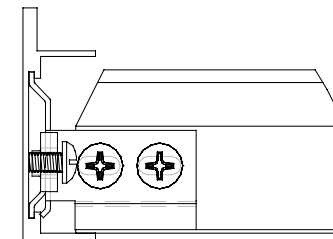
4.2.4.2 Make adjustments as necessary to properly align and space the complete installation. Insert a second framing screw in each of the FXTBC's to secure the system.

4.2.5 Install the Effects Vector panels as per instructions. The bottom of the Vector panel will be flush with the perimeter trim fin and maintain the 1/4" reveal along the perimeter. *(Fig 34)*

NOTE: Never install the Effects Vector panel spring edge against the perimeter trim. The spring edge should always be engaged to grid.



(Fig 34)



(Fig 35)

4.3 Effects Wood Looks Tegular Full Panels

4.3.1 Cut and install the grid to maintain precisely 23-7/16" between the outer edge of the 9/16" grid and the inner edge of the Effects perimeter trim. The grid must rest approximately 1/4" on the perimeter trim flange.

4.3.2 The correct length for the Effects perimeter trim, when measured along the inside edge, will be 9/16" less than the nominal dimension of the full panel installation.

EXAMPLE: The nominal dimension of a four panel wide cloud would be 96". The Effects perimeter trim should be cut to 95-7/16" measured along the inside edge.

4.3.3 Attach the Effects T-Bar Connector Clips (FXTBC) to each perimeter section of grid. Rest the bottom of the FXTBC on the grid flange. Insert one #7 x 7/16" framing screw (or equivalent) in the middle of the slot. *(Fig 35)*

4.3.4 Install the Effects perimeter trim

Hang the sections of perimeter trim with the flat side down for Tegular, onto the grid system by engaging the top ear of the connection clips under the boss of the perimeter trim. Slide the back plate downward to engage the lower boss on the trim and secure by tightening the locking screw.

4.3.4.1 Complete the installation of all perimeter trim sections. Install and secure the splices.

4.3.4.2 Make adjustments as necessary to properly align and space the complete installation. Insert a second framing screw in each of the FXTBC's to secure the system.

4.3.5 Install the Effects™ Tegular panels as per instructions. *(Fig 36)*

NOTE: The screws in the FXTBC may interfere with the insertion of the panel along the perimeter trim. Fit the panel edge into the grid at the sides and slide the panel back under the screws until the panel drops into the grid.

4.4 Effects Wood Looks CUT Border Panels

4.4.1 The cut edge of all Effects panels must rest on the perimeter trim flange. All installations with cut borders will have the Effects perimeter trim installed with the flat side down.

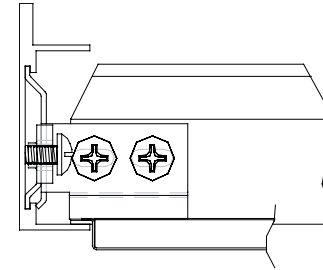
4.4.1.1 Perimeter trim hold-down clips Effects perimeter trim hold-down clips (FXSPTHDC, 10 pcs/ctn) are an available accessory and must be ordered separately for cut border installations. Effects perimeter trim hold-down clips are used to secure the cut edges of Vector and Tegular metal ceiling panels. Insert one clip for every foot of perimeter trim, or as needed to maintain contact between the panel edge and perimeter trim flange. Insert the top of the clip into the perimeter trim first. Press up to compress the clip and insert the bottom leg into the perimeter trim. *(Fig 37)*

4.4.2 Effects Vector CUT Border Panels

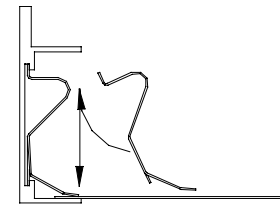
The face of Effects™ Vector® panels is 3/8" below the face of the grid. Since the cut panel edge must rest on the perimeter trim flange, the grid must be raised 3/8" above the perimeter trim flange. To do this, you must use the optional Effects Vector T-Bar Connector Clip (FXVTBC, 10 pcs/ctn) ordered separately for cut border installations. A clip is required for each end of grid attached to the perimeter trim. *(Fig 38)*

Lay out and cut the grid 1/4" larger than the required border size. Install the FXVTBC with the clip resting on the grid flange for the proper 3/8" clearance. Insert one #7 x 7/16" framing screw (or equivalent) in the middle of the slot.

Install the perimeter trim using same method as full panel installation. Follow the installation instructions for Effects Vector panels. Install hold-down clip FXSPTHDC as required. *(Fig 39)*

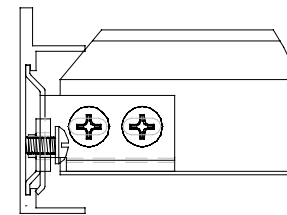


(Fig 36)



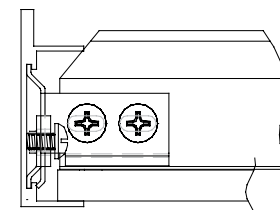
(Fig 37)

*FXSPTHDC
Hold-down Clip*



(Fig 38)

*Use FXVTBC to raise grid
3/8" rest clip on grid flange*



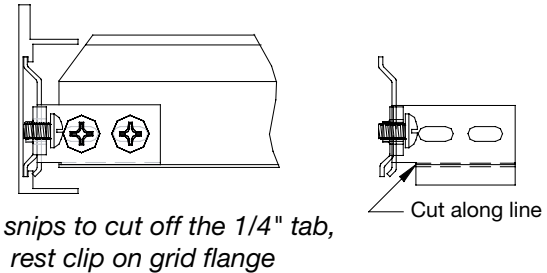
(Fig 39)

*Effects Vector Cut Border
Rest Cut Panel Edge on Bulkhead Flange*

4.4.3 Effects Tegular CUT Border Panels

The face of Effects Tegular panels is 1/4" below the face of the grid. Since the cut panel edge must rest on the perimeter trim flange, the grid must be raised 1/4" above the perimeter trim flange. To do this, you must modify the Effects T-Bar Connector Clip (FXTBC). Use snips to cut off the 1/4" tab at the bottom of the clip. A clip is required for each end of grid attached to the perimeter trim. *(Fig 40)*

Lay out and cut the grid 1/4" larger than the required border size. Install the modified FXTBC with the clip resting on the grid flange for the proper 1/4" clearance. Insert one #7 x 7/16" framing screw (or equivalent) in the middle of the slot. Install the perimeter trim using same method as full panel installation. Follow the installation instructions for Effects Tegular panels. Install hold-down clip FXSPTHDC as required. *(Fig 41)*



(Fig 40)

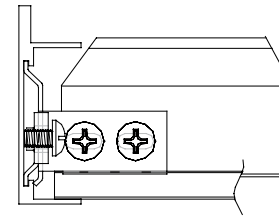
4.5 Add Additional Hanger Wires As Required.

4.5.1 The manufacturer requires that Effects perimeter trim and their supporting suspension systems be installed and supported in a manner that complies with all applicable codes and standards. Typically this will require the use of #12 Ga. Galvanized, soft annealed steel wire or equivalent. Specification and approval of alternate materials should be by design professionals familiar with the project. Mechanics should exercise care in the application of hangers to minimize the visual impact on the finished installation. Wire wraps should be tight and neat, and where appropriate, the wires may be painted to blend into the background as much as possible.

4.5.2 Main beams must be supported 4' O.C. or by calculation based on actual ceiling weight.

4.5.3 Cross tees located closest to the corners of the perimeter trim and then at 4' centers must be supported by wires closer to the trim than the midpoint of the tee.

4.5.4 Installations in areas requiring seismic restraint may require wires attached to each grid member within 8" of the cut end. Lateral force bracing shall be consistent with locally approved standards or as detailed in the specifications.



(Fig 41)

5. FINAL DETAILING

5.1 Check and adjust the alignment of Effects perimeter trim components and ceiling panels.

5.2 Clean exposed surfaces as required. Effects perimeter trim and panels may be wiped down with a mild household cleaner to remove fingerprints, oil, etc.

5.3 For light cove applications, a dark latex chalk or tape should be applied to the inside of all seams if light leaks are apparent.

MORE INFORMATION

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

For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support 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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