

# METALWORKS® Tartan Panels

## Installation Instructions

### 1. GENERAL

#### 1.1. Product Description

MetalWorks Tartan system is a combination of metal ceiling panels available in a range of sizes that lay on a grid system of C-profile trim strips available in various widths. All full panels can be removed and re-installed with minimal access to the plenum.

Two sides (typically the short sides) support the installed panels. Panels have a flange on the end that rests on the top of the C-profile trim strip. The other sides have vertical returns; the panels are self-supporting.

#### Gaskets

A foam "Gasket" is optional on the Tartan panel. The gasket (standard width 3 mm-1/8") allows panels to be installed and removed easily and creates a uniform reveal joint. Gaskets will be indicated on the shop drawings. Field applied gasket should be installed a minimum of 1/8" above the panel face

(See Drawing # 4)

#### Perforations

Panels may be perforated or non-perforated. A factory installed acoustical fleece is typically provided on perforated panels for sound absorption. Add the optional field installed acoustical infill pad for increased sound absorption if required.

#### Surface Finish

MetalWorks panels are powder coated after forming (post coat). The surface of these panels is impact resistant, cleanable and non-directional.

#### 1.2. 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 accordance with the instructions on the carton. Proper care should be taken when handling to avoid damage or soiling.

#### 1.3. Site Conditions

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

#### 1.4. Plenum

MetalWorks Tartan panels require minimal clearance above the suspension system. NOTE: light fixtures and air handling systems require more space and will usually determine the minimum plenum height for the installation.

#### 1.5. Ceiling Panel Layout.

The ceiling panel layout should have perimeter panels equal on opposite sides. The cut perimeter panels should be more than 50% of their original length and width. This will create the best visual.

The dimension from the top of the suspension system to the face of the panel is 4-9/16". An additional 3/16" of clearance is required to allow the panel mounting clips to be installed.

#### 1.11 Ceiling Panel Layout

Refer to the reflected ceiling plan for guidance in laying out the ceiling. Pay particular attention to the direction of the grain pattern when planning with square panels. Plan carefully, as this panel layout will impact the installation of the suspension system. Section 2 of these instructions will detail the suspension system layout and installation.

### 2. SUSPENSION SYSTEM

#### 2.1. General

MetalWorks Tartan panels may be installed in a variety of modules. The suspension system is a combination of suspended Crossing boxes and C-profile trim strips that create the require module structure. The suspension system shall be properly installed and leveled using not less than 12-gauge galvanized steel wire. Suspension system installation shall conform to ASTM C-636 requirements.

#### 2.2. Suspension Grid – Crossing box

The Tartan crossing box is available in various widths. The Tartan crossing box is suspended by attaching the hanger wire to an eyebolt fastened to the top of the crossing box. The crossing boxes must be installed at the correct module spacing and height as required on the shop drawing.

(See Drawing # 1)

### 2.3. Suspension Grid – C-profile trim strip

The C-profile trim strip is available in various widths and custom lengths for correct module size. The C-profile trim strip shall intersect the Crossing box at 90° at every module (the module is dictated by the length of the panel – consult the shop drawings). The C-profile trim strip flange fits onto the Crossing box tabs. Use pliers to twist the crossing box tabs 1/4 turn to secure the Trim strip to the crossing box.

(See Drawing #1)

### 2.4. Suspension Grid Alignment

It's recommended the C-profile trim strips be fastened to two adjacent walls using the c-channel wall anchor. Wall anchors are slotted to allow alignment of the grid system for proper squareness. The Tartan C-channel profile must be leveled to within 1/4" in 10' and must be squared.

(See Drawing # 4)

## 3. PANEL INSTALLATION & REMOVAL

### 3.1. General

MetalWorks Tartan ceiling panels are easily installed and removed from below the suspension system allowing easy downward access to the plenum. Use the panel swing-down option for ease of panel access or when plenum clearance is very tight.

#### Panel Orientation

Before beginning panel installation refer to the shop drawing for correct panel size and orientation

### 3.2. Installing Panels

Tartan panels can be a combination of plank or mega panels. (Refer to shop drawing for panel orientation) Note that Tartan panel ends are the same and can be installed in either direction. Optional foam gasket must be applied before panel installation.

- Step 1: Insert the flanged end of a Tartan panel over the C-profile trim strip
- Step 2: Raise the opposite end up until the flange clears the top of the C-profile trim strip.
- Step 3: Gently slide the panel back until the panel end touched the C-profile trim strip and lower the panel until both end flanges rest on top of the C- profile trim strip. (See Drawing #7)

Repeat process until first row of panels is in place. Subsequent rows of panels are installed similarly.

### 3.3. Panel Alignment

The use of a laser or string line is recommended to establish straight panel alignment.

### 3.4. Panel Penetrations

Holes cut for sprinkler heads, light fixtures, speakers and other services that penetrate the ceiling panel may be field or factory cut. See separate MetalWorks installation instructions for details. (LA 295518)

### 3.5. Panel Removal

Removal is simply the reverse of installation.

- Step 1: Gently raise one end of the panel until it clears the C- profile trim strip
- Step 2: Lift the opposite end slightly until the flange clears the C- profile trim strip
- Step 3: Slide the panel over the top of the C-channel until you can lower the opposite end below the C- profile trim strip.
- Step 4: Gently slide the panel back until the opposite end clears the C- profile trim strip and lower the panel. (See Drawing #7)

## 4. PERIMETER DETAILS

Panels will all be full size or the cut edges will rest on and be concealed by some form of wall trim.

### 4.1 Cutting Metal Panels

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

#### 4.1.1 Cutting Perimeter Panels

Perimeter panels will have to be cut and fit as needed. Carefully measure the perimeter opening and transfer this dimension to the panel. Cut the metal ceiling panel to fit the specified wall trim option. Install the panel and secure the cut edge on the perimeter molding as indicated on the shop drawing.

(See Drawing # 4)

#### 4.1.2 Aluminum F-Molding Wall Trim Option

Use F-molding Wall Angle (BPM330.003) or F-molding Shadow Wall Angle (BPM330.011) around the perimeter. Molding must be securely fastened to the wall every 16" to 24". The cut edge of the MetalWorks panel will rest on the horizontal flange. Insert the pressure spring (BPM311.081) into the channel to keep the cut edge tight on the wall molding.

Use the Shadow F-molding to create a reveal between the wall and molding.

(See Drawing #5)

Insert the corner element (BPM331.082) into the channel for proper F-molding alignment for both inside and outside mitered corners.

(See Drawing # 4)

#### 4.1.3 Channel Molding Wall Trim Option

Use Armstrong Channel Molding #7835 around the perimeter. Molding must be securely fastened to the wall every 16" to 24". The cut edge of the MetalWorks panel will rest on the bottom horizontal flange. Insert a #7835SC spreader channel to keep the cut edge tight on the wall molding.

(See Drawing #6)

## **4.2 Full Panel Modules**

### **4.2.1 Perimeter Clearance**

Full module panel installation requires a minimum of 1/2" clearance between the Tartan C-profile structure and the perimeter wall. Refer to the shop drawing for specific details.

(See Drawing #6)

### **4.2.2 Confirm Layout**

For proper fit of the full panel module installation you must verify that site dimensions are exactly as specified on the shop drawings.

### **4.2.3 Full Panel Module Perimeters**

Full panel module installations typically require additional support at the perimeter crossing boxes. For proper visual and system level, provide crossing box support to maintain load balance. This is true whether the panels are installed next to a perimeter wall or floating within the room. Refer to the shop drawing for installation layout, panel orientation and perimeter detail specifications.

## **1. SEISMIC INSTALLATIONS**

### **2. Tartan Suspension System**

The Crossing boxes and C-profile trim strips are the suspension system for Fastrack panels. This system must be attached to the perimeter walls on two adjacent sides. The opposite walls must have 3/4" clearance.

#### **2.1 C-profile trim strip**

The C-profile trim strip end must be positively attached to two adjacent perimeter walls using the C-profile connector/wall anchor. Fasten the C-profile connector/wall anchor to the wall using fasteners as required. Use pop rivets or self-drilling sheet metal screws to secure the C-profile trim to the wall anchor. Position these fasteners above the center of the C-profile trim strip to minimize interference with panel insertion.

(See drawing # 8)

### **2.2 SYSTEM RESTRAINTS**

#### **2.2.1 Splay bracing**

Typical system restraints are the 4-wire cluster splay bracing and compression post. Compression post and splay wires must be fastened to the Tartan crossing box. Refer to the local authority for system restraint requirements. (See drawing # 9 for typical splay bracing and compression post installation)

#### **2.2.2 Rigid bracing**

Installations not anchored to the perimeter walls or floating clouds require rigid bracing to structure strong enough to resist lateral forces imposed upon it without damaging the system or allowing panels to fall from the ceiling.

#### **2.3 Full Panels**

Tartan panels can be full size mega panels or several planks to fill the Tartan module. Panel flanges must rest on top of the C-channel trim strip.

#### **2.4 Perimeter panels**

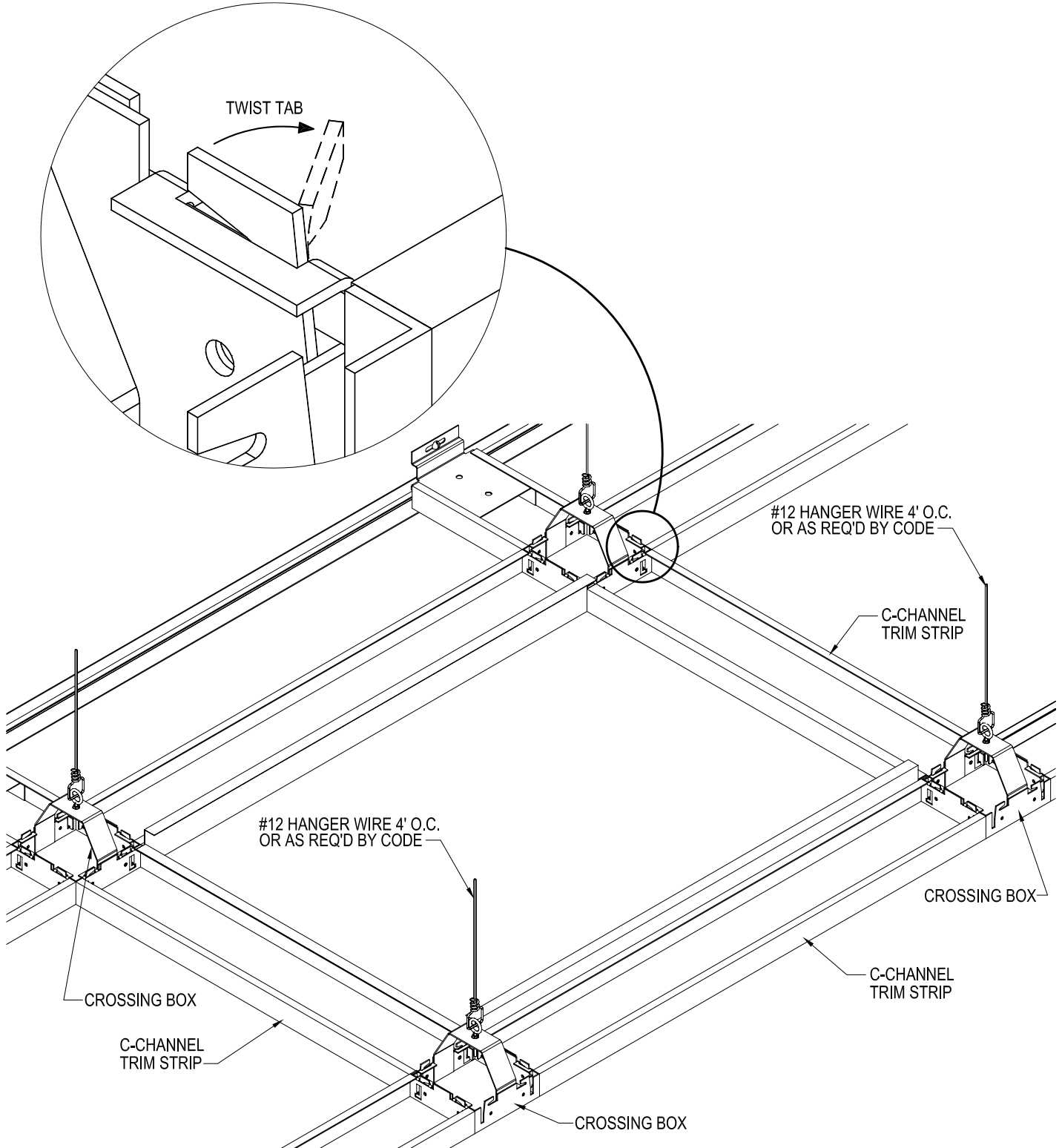
Perimeter panels that require field cutting to fit on a wall trim option must have a minimum of 5/8" edge resting on the horizontal surface of the wall trim. Depending on the perimeter trim option insert the pressure springs or spreader channels to keep the cut edge tight on the wall molding.

(See drawing # 8)

# Tartan Suspension Installation

## DRAWING 1

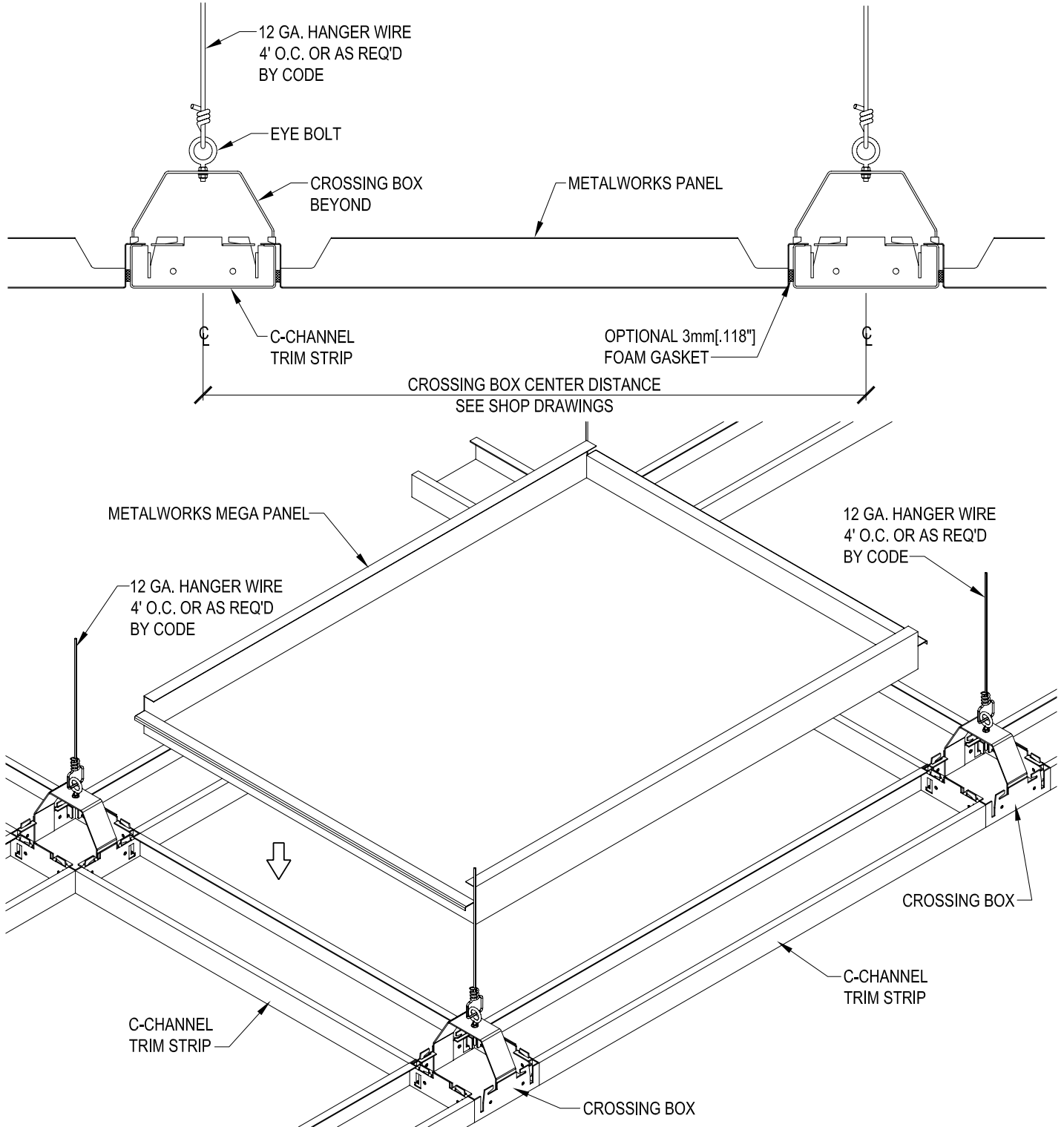
The Tartan crossing box is suspended by attaching 12 gauge hanger wire to an eyebolt fastened to the top of the crossing box. A minimum of 3 full wraps within 3" is required. The crossing boxes must be installed at the correct module spacing and height as required on the shop drawing. The C-channel trim strip flange fits onto the crossing box tabs. Use pliers to twist the crossing box tabs 1/4 turn to secure the trim strip to the crossing box.



# Tartan Mega Panel Installation

## DRAWING 2

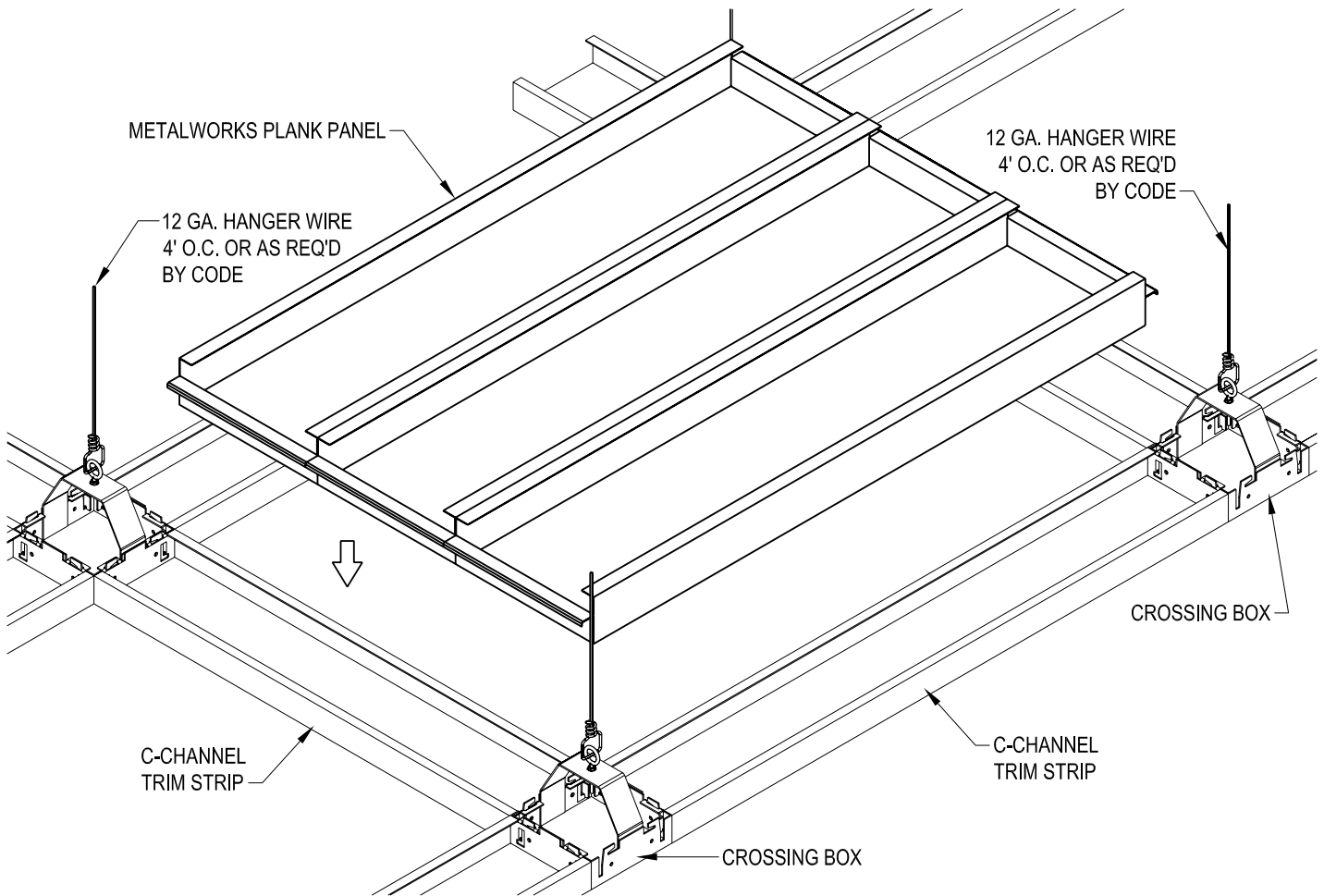
Tartan panels can be a single mega panel (refer to shop drawing for panel installation). Note that Tartan panel ends are the same and can be installed in either direction. Optional foam gasket must be applied before panel installation and should be a minimum of 1/8" above the panel face.



# Tartan Plank Panel Installation

## DRAWING 3

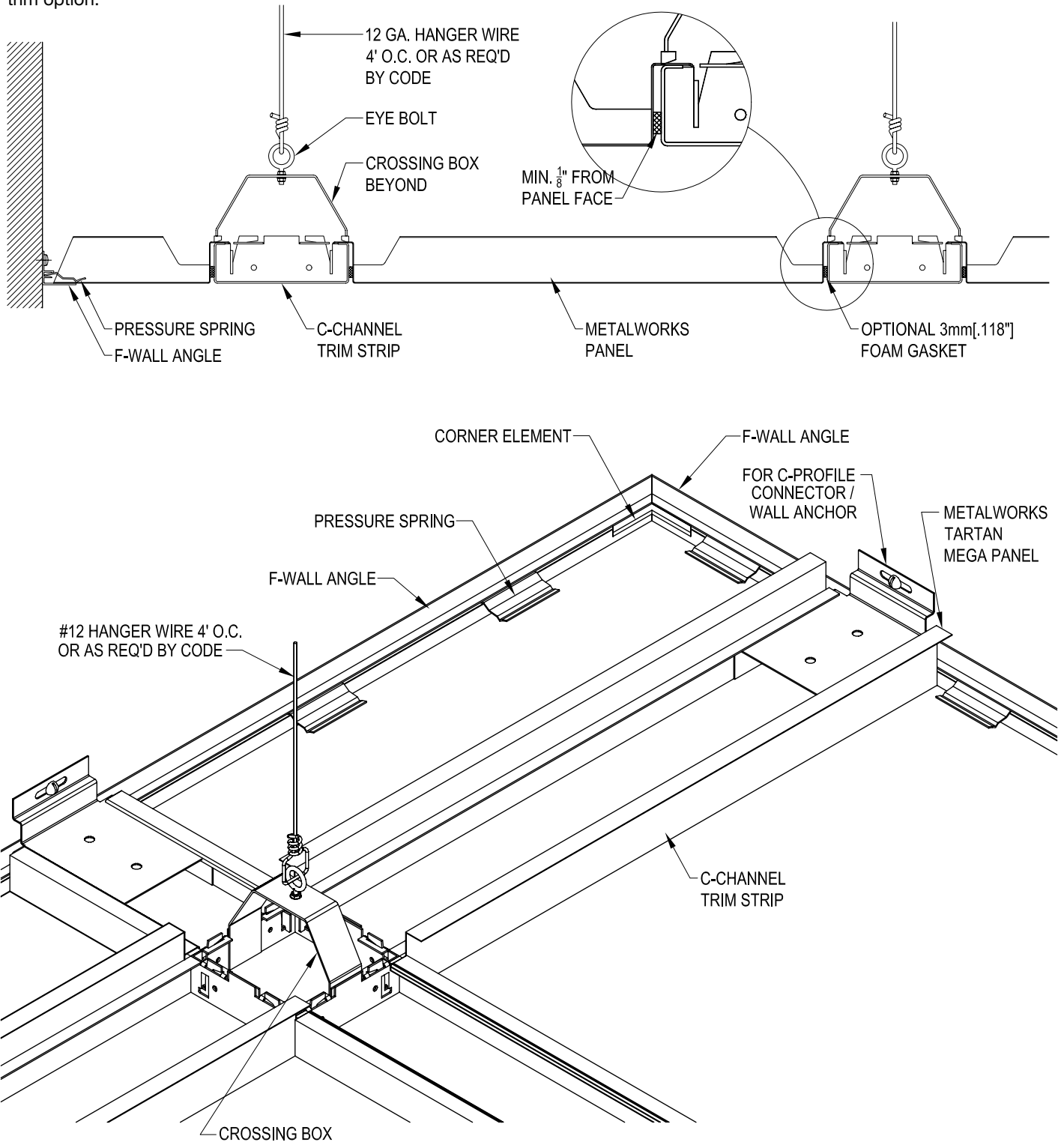
Tartan panels can be a combination of plank panels (refer to shop drawing for panel orientation). Note that Tartan panel ends are the same and can be installed in either direction. Optional foam gasket must be applied before the panel installation and should be a minimum of 1/8" above the panel face.



# Tartan Perimeter Installation

## DRAWING 4

It's recommended the C-channel trim strips be fastened to two adjacent walls using the C-channel wall anchor. Wall anchors are slotted to allow alignment of the Grid system for proper squareness. The C-channel wall anchor slides into the C-channel from the end. The C-channel can be secured to the wall anchor on the side using pop rivets or sheet metal screws above the gasket line to prevent interference with panel insertion. The Tartan C-channel trim strip must be leveled to within 1/4" in 10' and must be squared. Insert the corner element (BPM331.082) into the wall molding channel for proper alignment for both inside and outside mitered corners. Perimeter panels will have to be cut and fit as needed. Cut the metal ceiling panel to fit the specified wall trim option. Install the panel and insert the pressure spring (BPM331.081) into the channel to keep the cut edge tight on the wall molding. Refer to shop drawing for specific wall trim option.

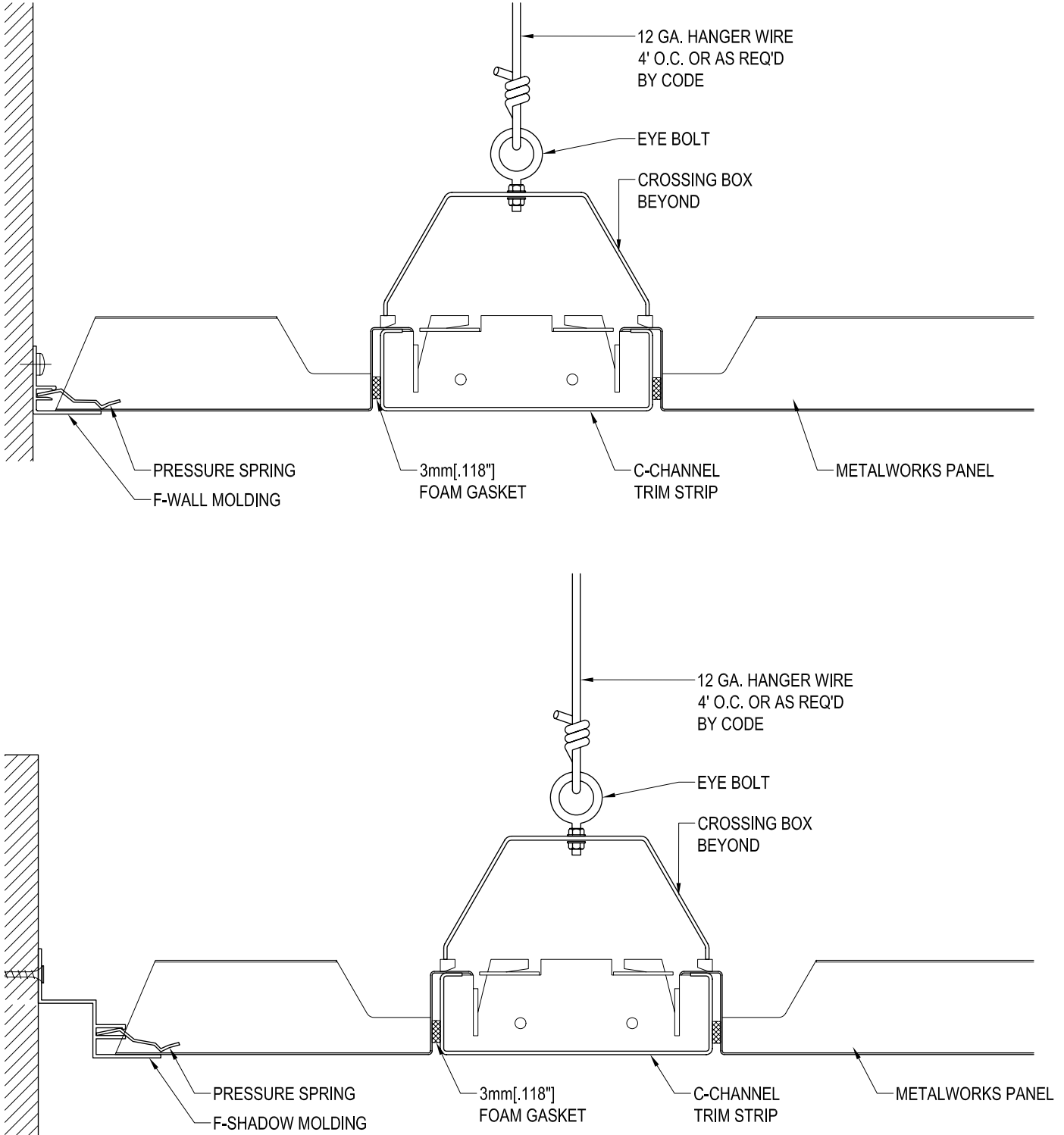


# Aluminum F-Molding Perimeter Wall Trim Options

## DRAWING 5

Wall molding must be fastened 16" to 24" O.C.

Install the perimeter panel and secure the cut edge with pressure springs pushed into the channel as required. Use the shadow molding for a reveal along the perimeter wall.



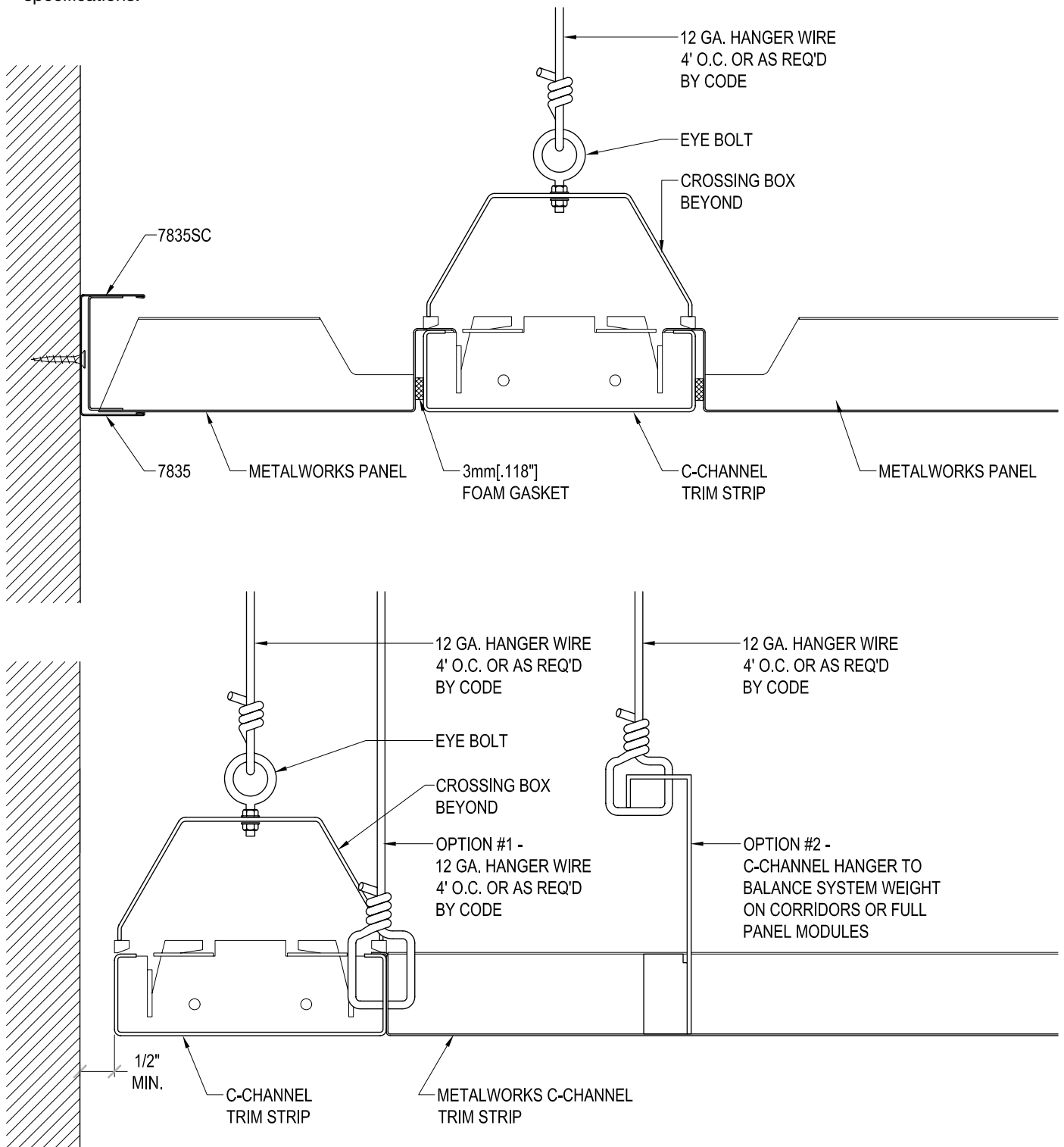


# Other Perimeter Wall Options

## DRAWING 6

### Channel Molding

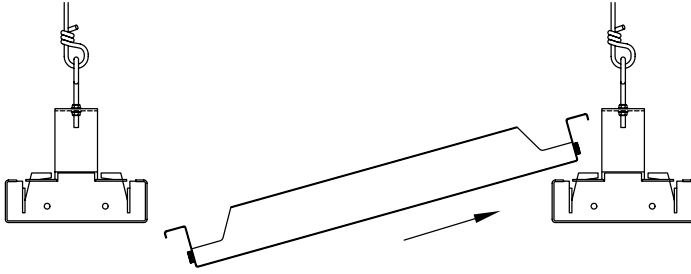
Use channel #7835. Install the perimeter panel and secure the cut edge with the spreader channel #7835SC. Full panel modules at the perimeter or corridor applications need a minimum of 1/2" clearance between the wall and panel end. Full panel module installations typically require additional support at the perimeter crossing boxes. This is true whether the panels are installed next to a perimeter wall or floating within the room. This can be with an additional hanger wire secured at the crossing box and C-channel trim strip intersection or use a C-channel hanger and hanger wire to provide the additional support. Refer to the shop drawing for installation layout, panel orientation and perimeter detail specifications.



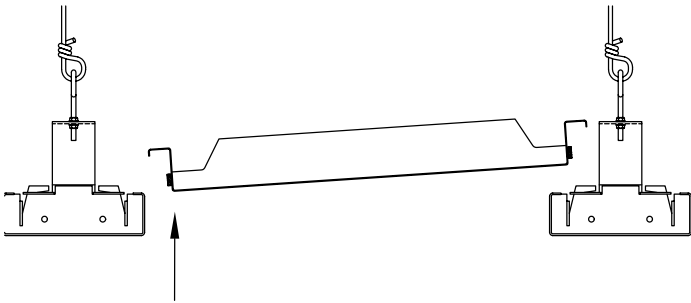
# Installation and Removal of MetalWorks Tartan Panels

## DRAWING 7

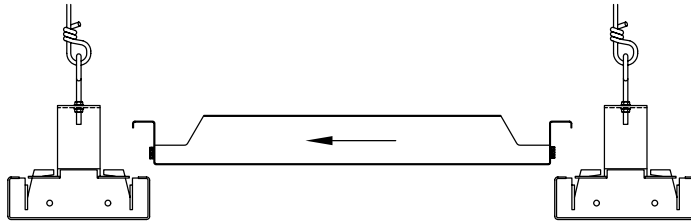
### INSTALLATION OF METALWORKS TARTAN PANELS



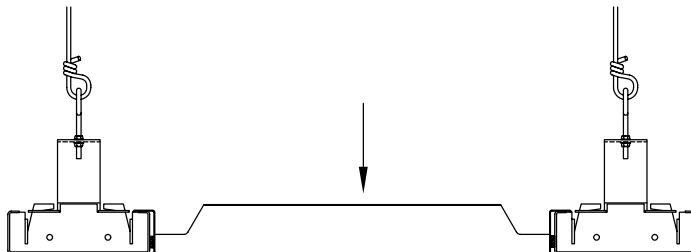
1) RAISE ONE END OF THE PANEL AT ANGLE ABOVE CROSSING BOXES/C-CHANNEL.



STEP 2) RAISE OPPOSITE END OF THE PANEL ABOVE CROSSING BOXES/C-CHANNEL.

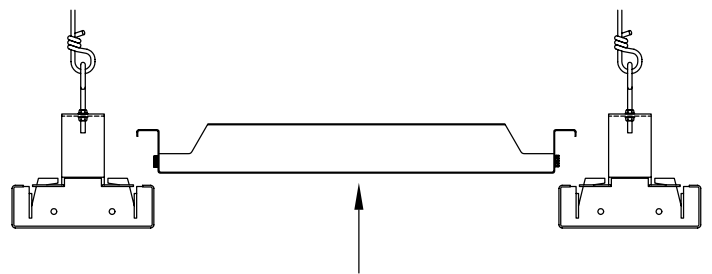


STEP 3) SLIDE PANEL BACK UNTIL THE PANEL WILL FIT BETWEEN THE CROSSING BOXES/C-CHANNELS.

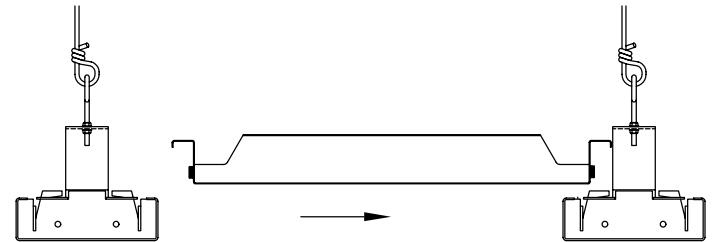


STEP 4) LOWER METALWORKS PANEL EVENLY ONTO CROSS BOXES/C-CHANNEL. CHECK PANEL(S) FOR PROPER ALIGNMENT.

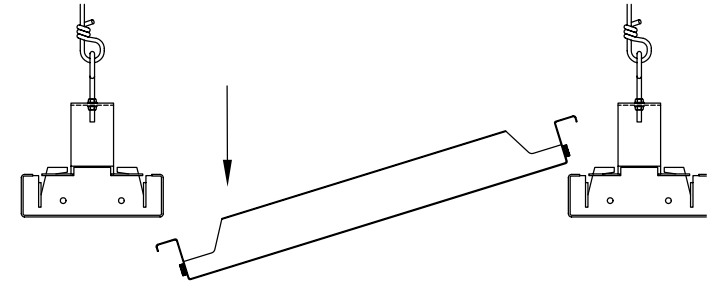
### REMOVAL OF METALWORKS TARTAN PANELS



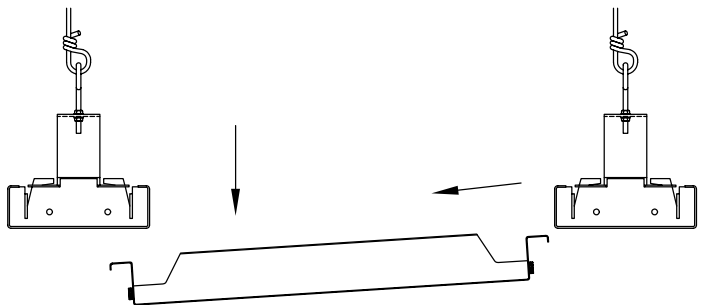
STEP 1) CAREFULLY LIFT PANEL EVENLY PAST BOTH SIDE OF CROSS BOXES/C-CHANNELS.



STEP 2) SLIDE PANEL UNTIL ONE SIDE OF PANEL CLEARS CROSSING BOXES/C-CHANNEL.



STEP 3) LOWER ONE END OF PANEL BELOW THE BOTTOM EDGE OF CROSS BOXES/C-CHANNEL.



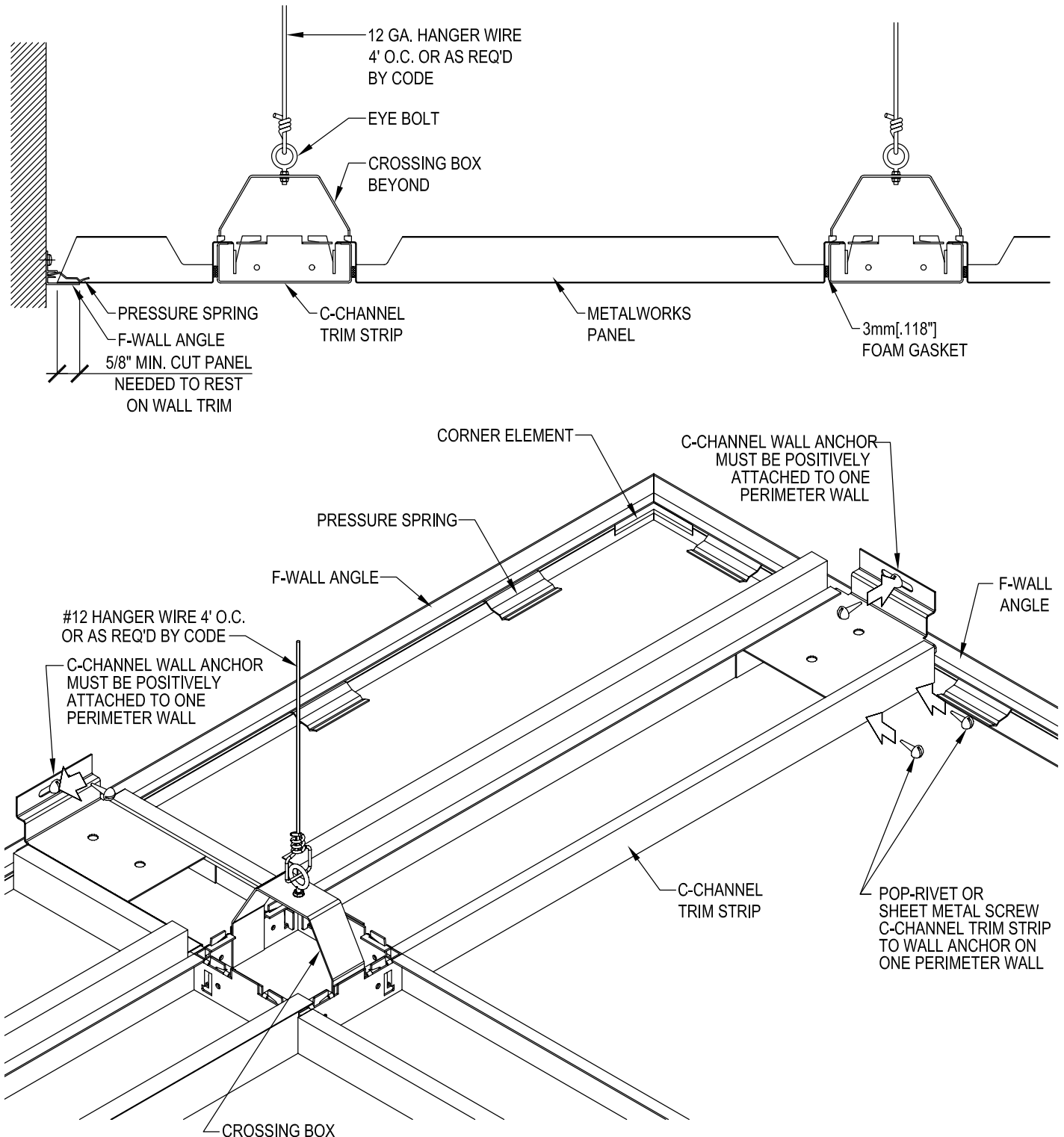
STEP 4) SLIDE PANEL BACK PAST THE BOTTOM OF CROSS BOXES/C-CHANNEL SO THE OPPOSITE END OF PANEL CLEARS CROSSING BOXES/C-CHANNEL. THEN LOWER PANEL CAREFULLY PAST CROSS BOXES/C-CHANNEL.

# Tartan (Seismic) Perimeter Installation

## DRAWING 8

The C-channel trim strip end must be positively attached to two adjacent perimeter walls using the C-channel connector/wall anchor. The opposite walls must have 3/4" clearance. Fasten the C-channel connector/wall anchor to the wall using fasteners as required. Use pop rivets or self-drilling sheet metal screws to secure the C-channel trim strip to the wall anchor. Position these fasteners above the center of the C-channel trim strip to minimize interference with panel insertion.

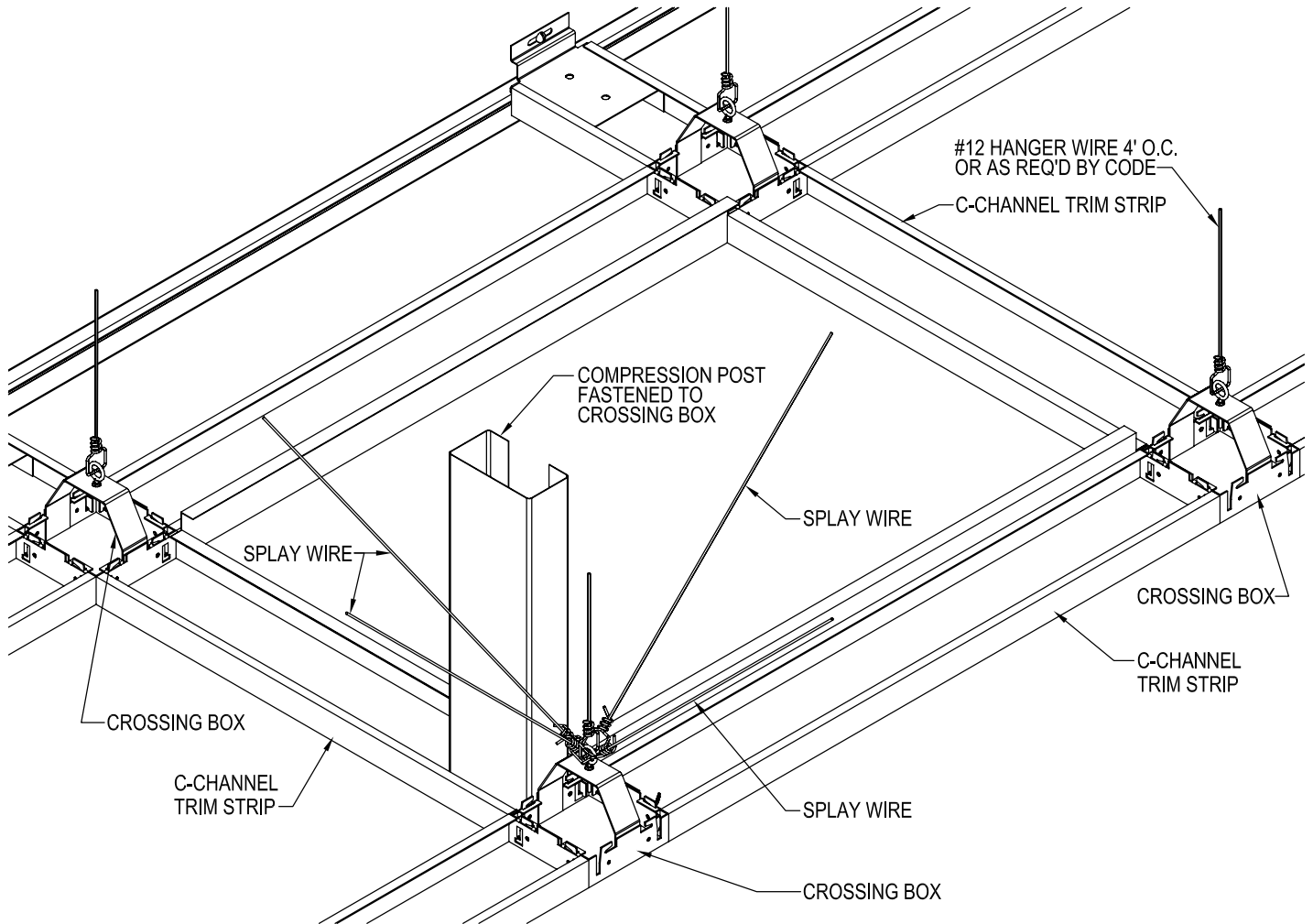
Perimeter panels that require field cutting to fit on a wall trim option must have a minimum of 5/8" edge resting on the horizontal surface of the wall trim.



# Tartan (Seismic) Suspension Installation

## DRAWING 9

Typical system restraints are the 4-wire cluster splay bracing and compression post. Compression post and splay wires must be fastened to the Tartan crossing box. Refer to the local authority for system restraint requirements.



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## MORE INFORMATION

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