



Rockfon®

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Rockfon® Planar® and Planar® Macro Linear Metal Systems

Seismic Installation Guide



Project - Helena Airport
Helena, Montana, USA

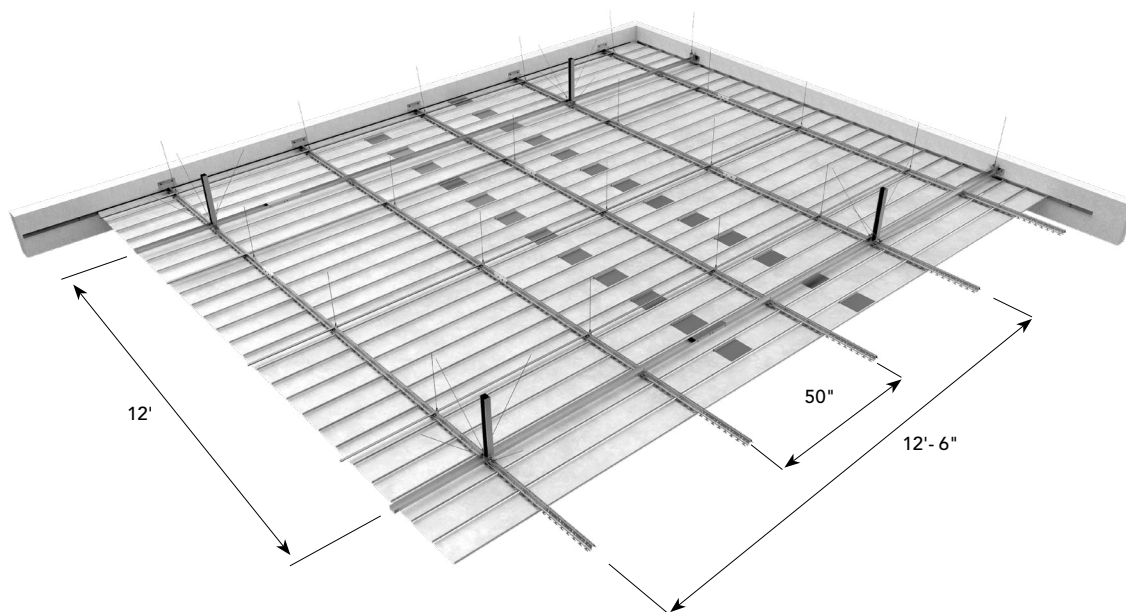
System Overview

The Rockfon linear metal ceiling system has been full scale shaker table tested at the University at Buffalo in New York. The Planar products are verified to be code compliant through Intertek. For further details, refer to Code Compliance Research Report #CCRR-0267 on Architectural Testing's [website](#). This document outlines the installation conditions tested. Planar is an excellent choice for all seismic zones. With all seismic installations, some special installation techniques and details

are required for a proper code alternative installation. All Rockfon Planar, Planar Plus, Planar Macro and Planar Macroplus® panels have been tested for use in seismic zones, both with and without integral filler strips or with open reveal. The Planar and Planar Plus round edge panels require retention clips that install between the panels. Consult with a local engineer of record or authority having jurisdiction (AHJ) to verify compliance for your project.

[Download Planar/
Planar Plus Datasheet](#)

[Download Planar Macro/
Macroplus Datasheet](#)



Best Practices

Always follow good safety practices when installing ceilings. Prior to beginning installation ensure that all materials are received and in good condition. Record any shipping damage on the carrier's bill of lading and contact Rockfon immediately to order replacement material:

- Email: cs@rockfon.com
- Fax: 866-211-3824
- Customer Service: 800-323-7164

*If there are any issues with your order, contact Customer Service at 1-800-323-7164, telephone option 1.
Email replacement material orders, including your purchase order number on document, to cs@rockfon.com.
For technical assistance, contact Technical Services at 1-800-323-7164, telephone option 2.*

Installation Conditions

Temperature and Humidity

Avoid installation in high moisture conditions where the space is not properly ventilated and acclimatized. Rockfon Planar should be installed in a clean environment, free from construction dust and debris.

Handling

Panels come shipped in cartons and should be stored in a dry location. Prior to installation, inspect the cartons for damage. Use care in handling and removing the baffles. It is recommended to use clean gloves with a non-marking rubber/latex coating or polyethylene gloves when handling Rockfon metal ceiling products to avoid contamination. For panels longer than 4' it is recommended that two installers handle the panels when moving or installing into the ceiling plane.

Reference Documentation

Several industry standards are published and available. Acoustical and metal ceiling installers should familiarize themselves with the installation methods and best practices recommended for ceiling systems. Prior to installation, it's imperative the installer become familiar with any project specific documentation available. These items will confirm ceiling layout, panel sizes and finish, ceiling accessories, ceiling fixture layout and orientation, and any special edge conditions.

Industry Standard Documentation

- [ASTM C636 \(Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels\)](#)
- [ASTM E580 \(Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions\)](#)
- [CISCA Metal Ceilings Technical Guidelines](#)
- [CISCA Ceiling Systems Handbook](#)
- [CISCA Seismic Construction Handbook](#)

Project Specific Documentation

- Reflected Ceiling Plans
- Project Specifications
- Approved Project Submittals (Datasheets, Shop Drawings)

Other Documentation

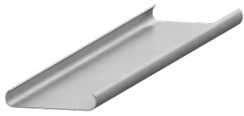
- [Linear Metal Ceilings Brochure](#)
- [Product Case Study](#)
- [Product Perforations Brochure](#)

Tools Required

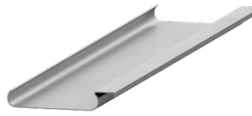
- | | |
|----------------------------|-----------------------------|
| ▪ Laser or leveling device | ▪ Aviation snips |
| ▪ Miter saw/circular saw | ▪ Tape measure |
| ▪ Marking tool (pencil) | ▪ Slot screwdriver |
| ▪ Square nose side cutter | ▪ Phillips screwdriver |
| ▪ Clean gloves | ▪ Vinyl siding removal tool |

System Components

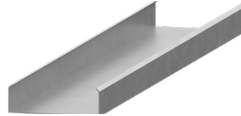
Planar Round Edge



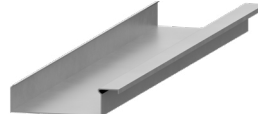
Planar Plus Round Edge



Planar/Planar Macro Square Edge



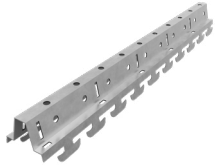
Planar/Planar Macroplus Square Edge



Recessed Filler Strip



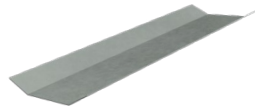
Symmetrical Carrier



Stabilizer Bar



Panel Splice



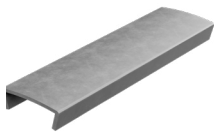
End Plug-round Edge



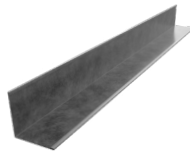
End Plus-square Edge



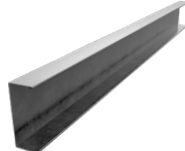
Retainer Clip



Wall Angle



Wall Channel

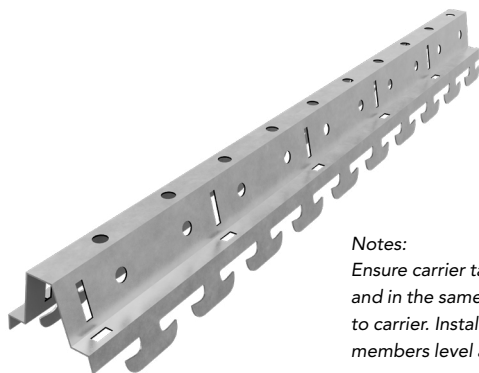


1. Suspension Layout and Details

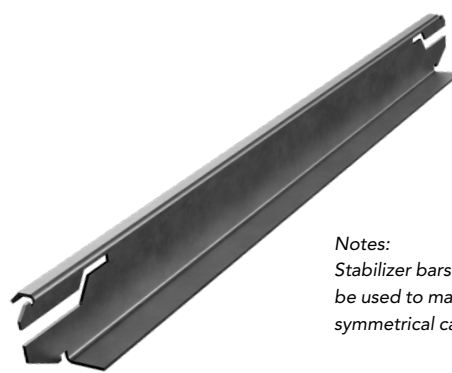
The suspension consists of the Rockfon symmetrical carrier which is an aluminum double grip profile that allows the panels to snap or clip into place. The carrier is installed on 50 inch centers and crossed by 20 gauge steel drywall track (supplied by others) 144 inches (12 feet) on center.

Each intersection of symmetrical carrier and wall track receives 2, #8 sheet metal screws driven up through the symmetrical carrier into the wall track. The 12 gauge hanger wires are installed 48 inches on center on the symmetrical carriers. Symmetrical carriers running parallel to the room's walls should be located within 1 foot of the wall.

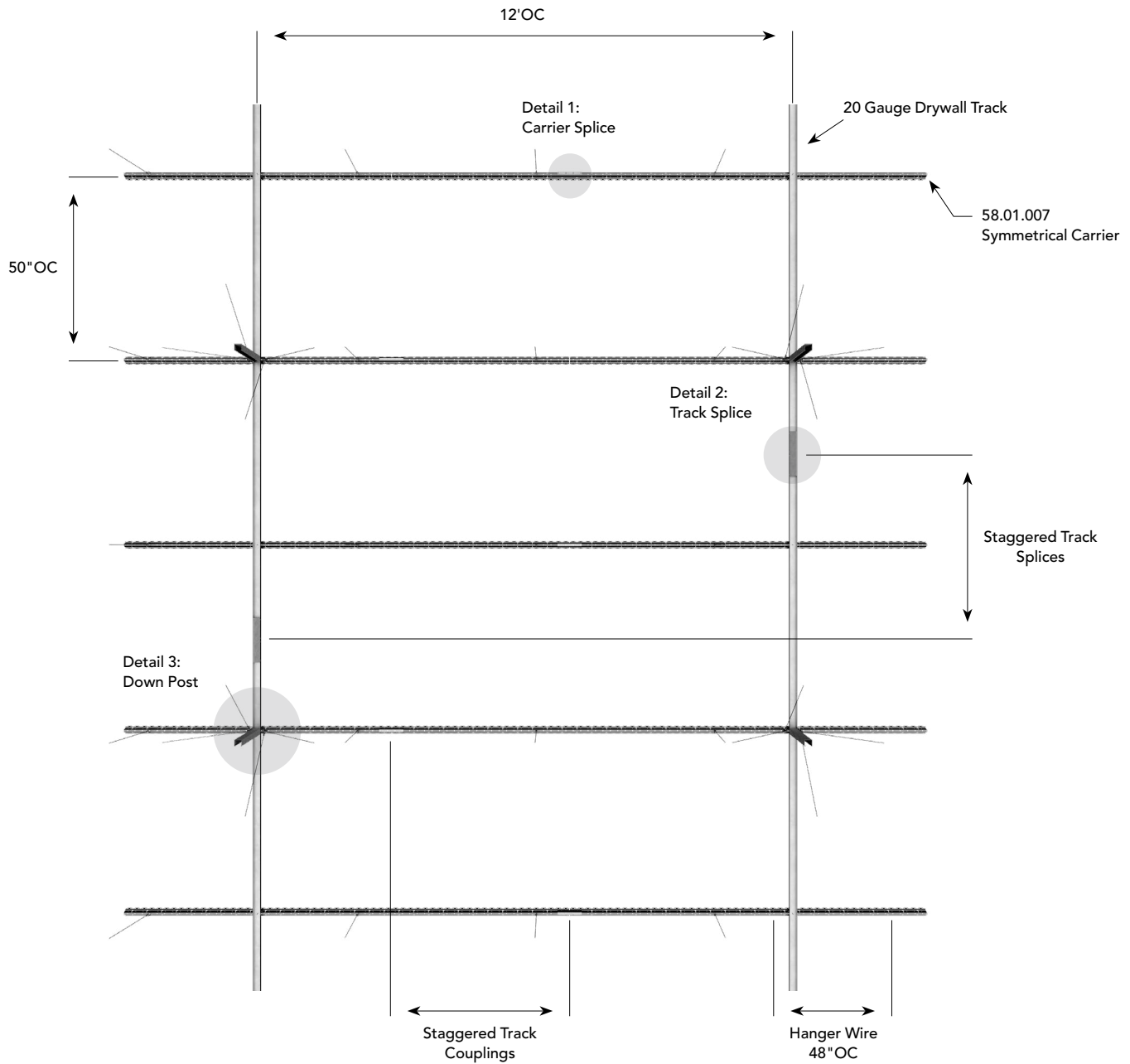
Symmetrical Carrier



Notes:
Ensure carrier tabs are aligned and in the same plane from carrier to carrier. Install suspension members level and square.



Notes:
Stabilizer bars are optional, and may be used to maintain alignment of the symmetrical carriers.

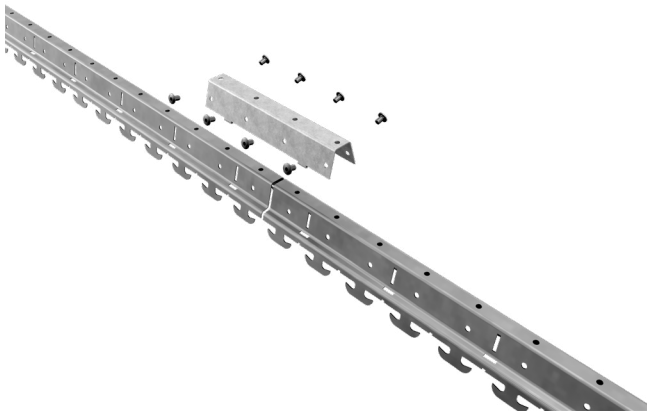


Detail 1: Carrier Splice

The 58.01.007 symmetrical carrier is spliced together differently than standard suspended grid components. Each intersection requires the use of 1, 58.01.403.008 symmetrical carrier splice along with 8, 3/16 inch aluminum pop rivets.

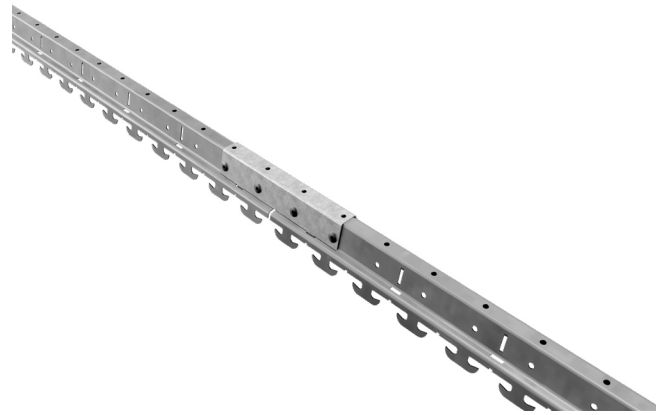
The carrier splice is installed over the top of the symmetrical carrier; the tabs on the carrier splice are inserted through the carrier and bent over. Use an awl or pin to align the holes. Install the pop rivets through the two angled faces of the coupling through the carrier. It is best practice to stagger the couplings in the suspension layout.

Exploded View:



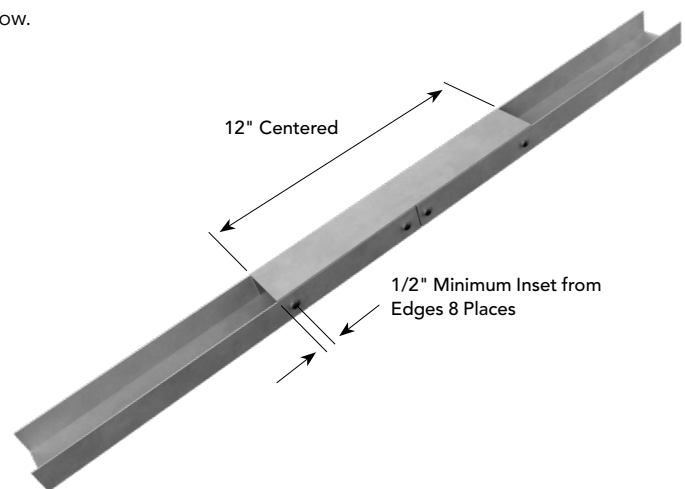
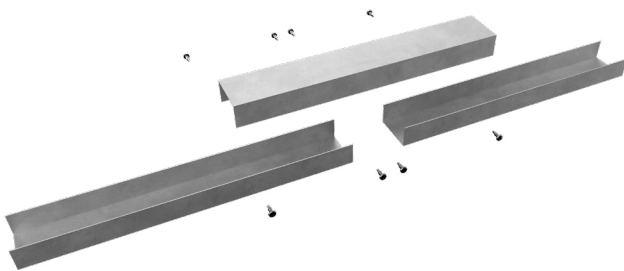
Install the tabs of the 58.01.403.008 carrier splice through the symmetrical carrier and bend over the tabs.

Finished Coupling:



Detail 2: Wall Track Splice

Using sections of 20 gauge wall stud, cut off 12 inches minimum sections to insert into the wall channel inverted as shown below. Use 8, #8 screws to join the assembly. Make sure that when placing the screws they are roughly 1/2 inch from the edge of the stud or the joint of the track as shown below.

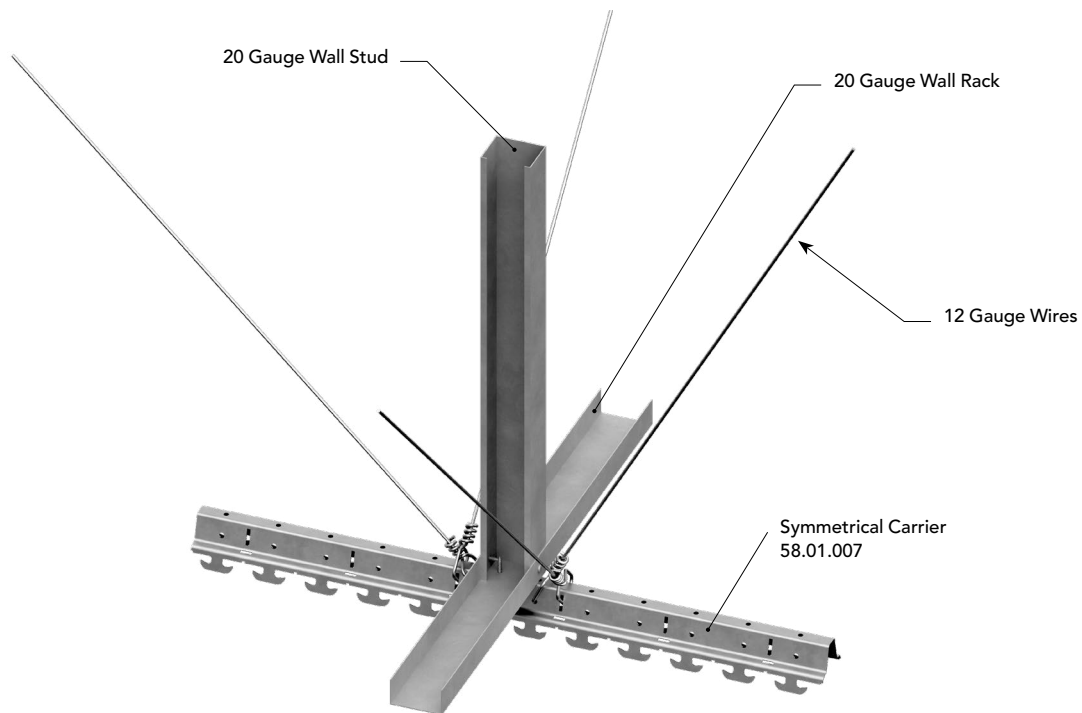


- 12" section of 20 gauge wall stud inverted into wall track to form a box
- Centered between the joint of a wall track
- 8, #8 screws total; 4 screws per side of joint

Detail 3: Down Post

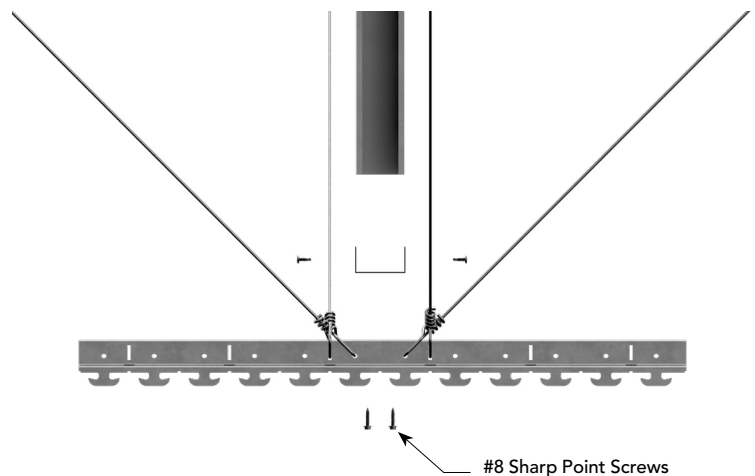
ASTM E580 establishes code minimums that are required in seismic categories; please reference this standard along with ASTM C636 for further details and installation techniques. ASTM E580 establishes the down post requirement in seismic categories DEF; these down posts are located on 12 foot by 12 foot modules. However, the unique main runner spacing of the Planar system requires that the down posts are moved out to a 12 foot by 12 foot 6 inch module.

This spacing and performance has been tested and verified through shake table testing conducted at the University at Buffalo in NY based on ICCES AC156 - Special Seismic Certification. Proper sizing of the down post must be determined by the engineer of record. See the Rockfon Seismic Guide for more information about down post sizing. The down post needs to be anchored to the deck or acceptable structural member per code.



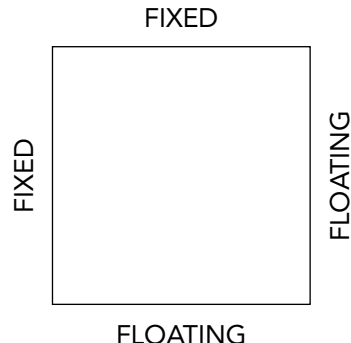
Notes:

- QTY: 2, #8 screws driven up through the symmetrical carrier into the wall track
- QTY: 2, #8 screws driven through the 20 gauge wall track into the 20 gauge down post, 1 each side
- Splay wires per code; 45 degrees max in each plane



2. Wall Details

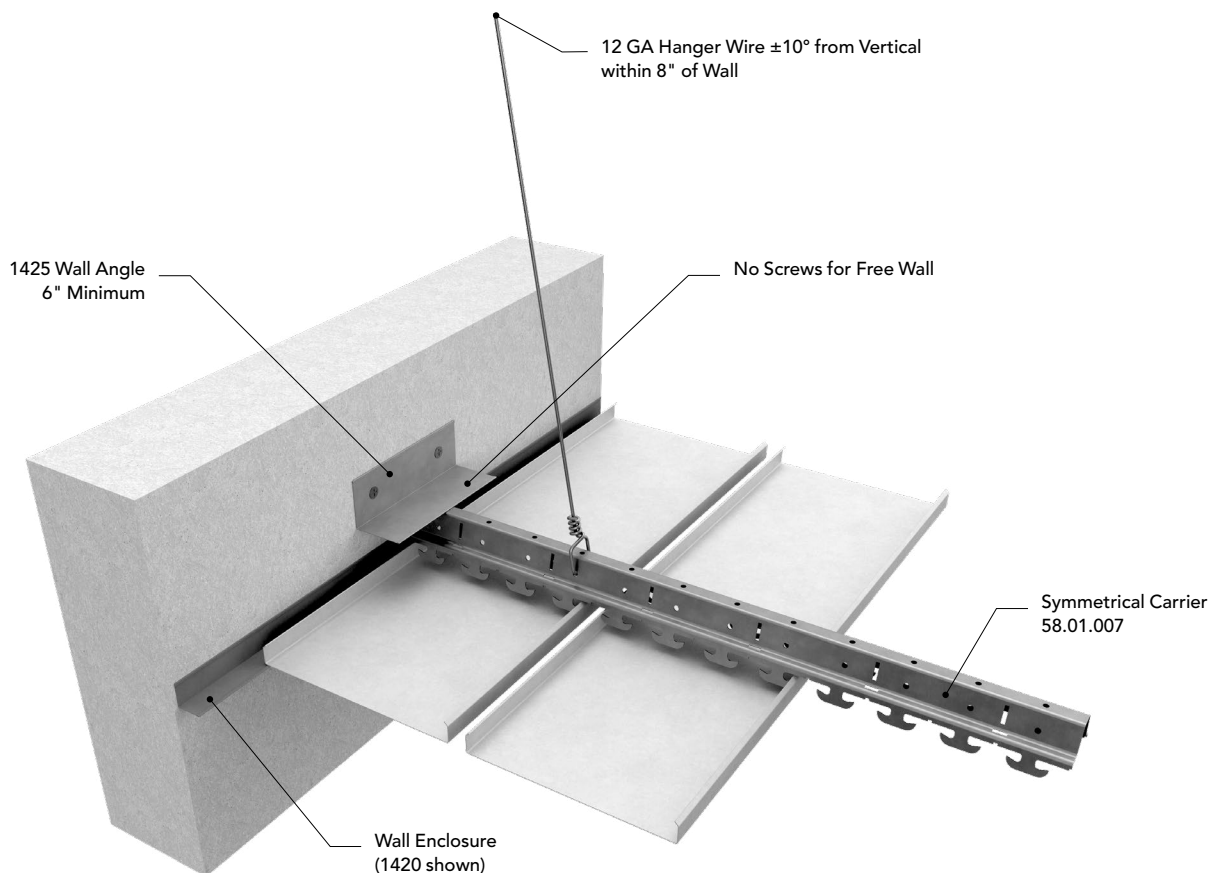
ASTM E580 requires that two adjacent walls are fixed and not permitted to move, while the two opposite adjacent walls are floating with a 3/4 inch gap remaining at the walls. When laying out the ceiling, work from the floating walls back. This allows for a full panel at the floating perimeter wall. A partial panel at a fixed wall can be pop riveted to the wall angle to finish the installation.



Symmetrical Carrier Detail

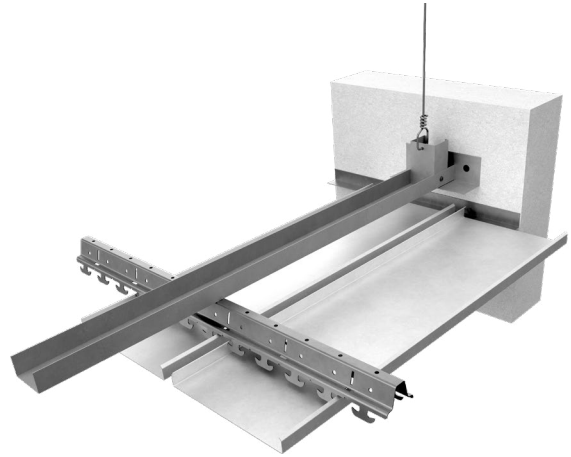
Shown below is a free wall condition, the same basic details are used at the fixed wall. For the Planar panels (5/8 inch deep) the 1425: 2 inch by 2 inch wall section is positioned 2 inches above the wall enclosure; for the deeper (7/8 inch) Macro panels, the spacing for the 1425 section is 2-1/4 inches.

The free wall requires the 3/4 inch cut back, but the fixed wall can be cut tight to the walls. Secure the symmetrical carrier on the fixed walls with 2, #8 screws. These screws are driven up through the symmetrical carrier and into the 1425 wall section. If a partial panel is required at the fixed wall, pop rivet the panel to the wall enclosure.

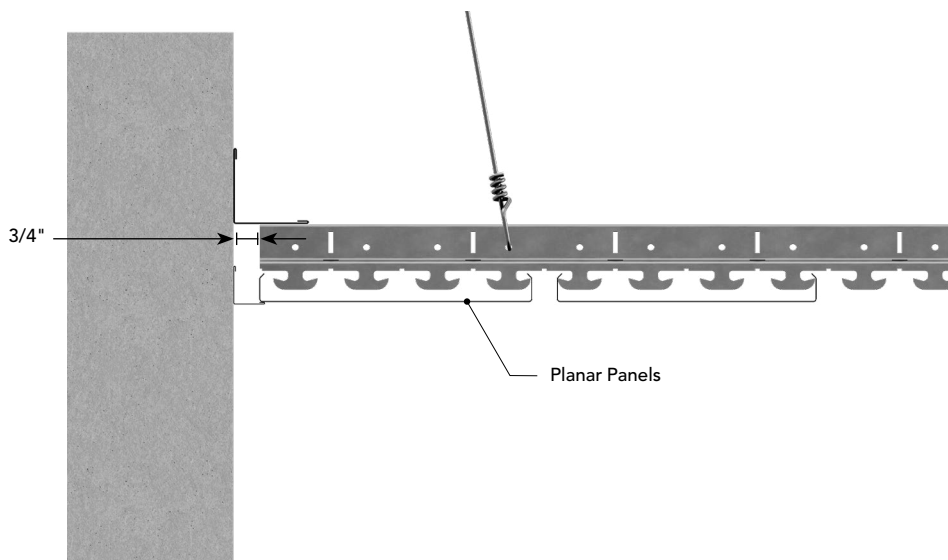


Wall Track Detail

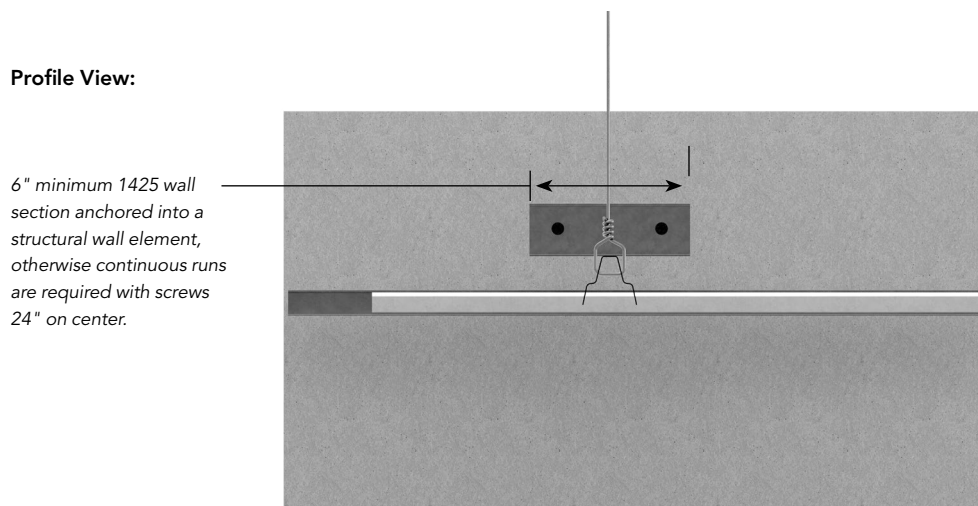
The wall track perimeter details are similar to the treatment for the symmetrical carrier; however, the track is positioned on top of the 1425 wall sections. It is recommended to cut a short section of the wall stud to screw into the wall track to provide a better location to attach the code-required perimeter wire. Free walls require the 3/4 inch cut back while the fixed walls can be cut tight and are screwed to the 1425 wall angle.



Side View:



Profile View:

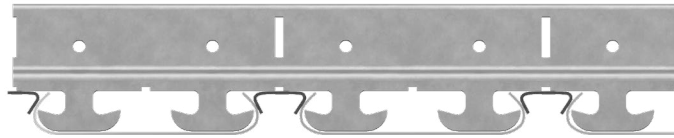
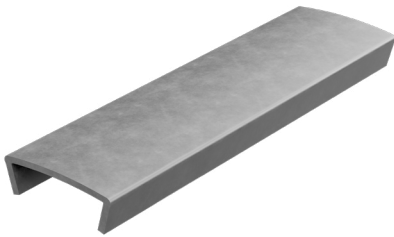


3. Retention Clips and Panel Splices

Retention Clips

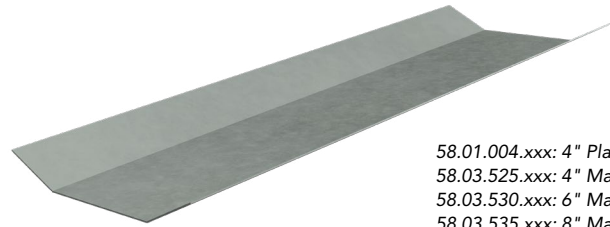
Planar round edge panels 58.01.044.xxx and 58.03.012.xxx require panel retention clips: 58.01.317 for installation with filler strip, or 58.01.318 for installations with open reveal between the linear panels.

The panel retention clips are clear and install between the panels at the symmetrical carrier locations. They are required on every other symmetrical carrier location down the length of the panel, 2 clips minimum per panel.



Panel Splices

Panels come in 12 foot lengths; for runs longer than 12 feet, panel splices are required. The panel splices install into the back of the panels and snap firmly into place. Panel splices cannot occur at symmetrical carrier locations – every panel joint must have a splice and it is best practice to stagger splices.



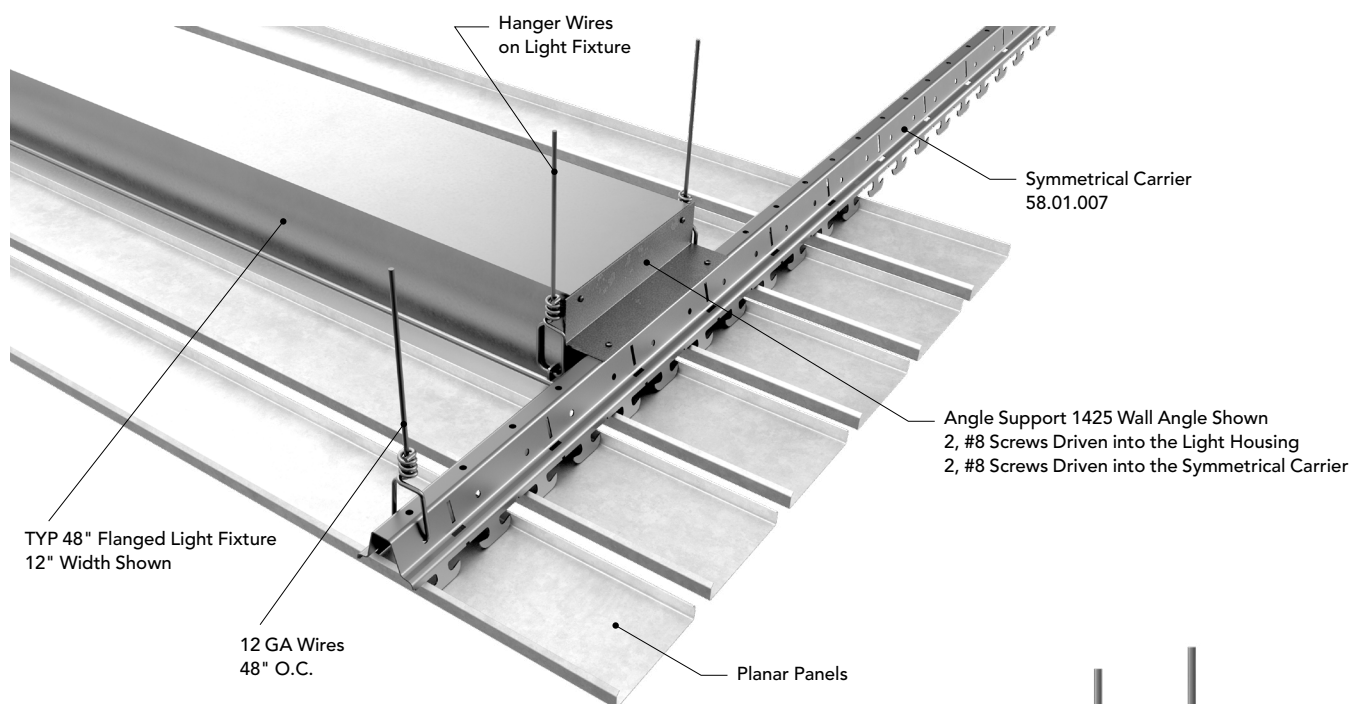
58.01.004.xxx: 4" Planar Splice
58.03.525.xxx: 4" Macro Splice
58.03.530.xxx: 6" Macro Splice
58.03.535.xxx: 8" Macro Splice



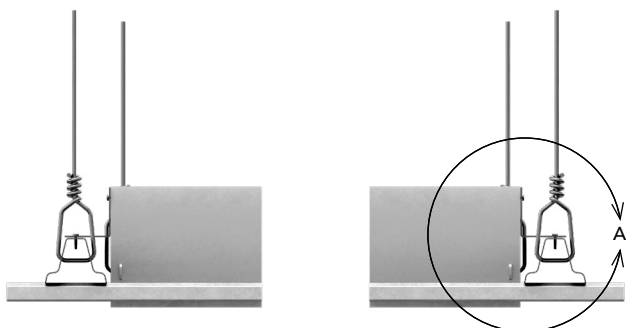
4. Typical Light Fixture Installation

It is recommended to use flange style light fixtures in order to trim and support cut panel edges. As mentioned in the suspension layout details, the carriers are installed on 50 inch centers in order to allow for the use of industry standard fixtures for 48 inch modules.

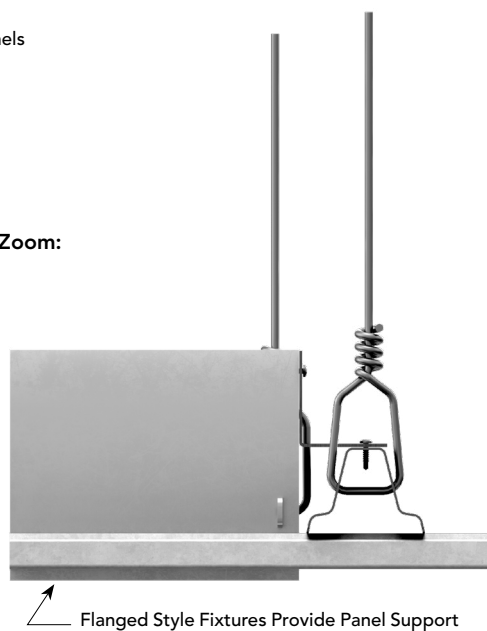
To support the light fixtures, cut sections of 2 inches by 2 inches 1425 wall angle or equivalent, and screw 2, #8 screws into the light housing, and 2, #8 screws down into the symmetrical carrier. Two slack hanger wires are required per code for each fixture light fixture weighing more than 10 pounds.



Side View:



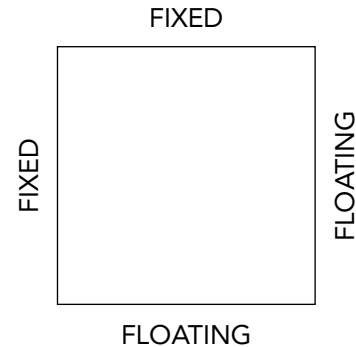
Zoom:



5. Category C Requirements

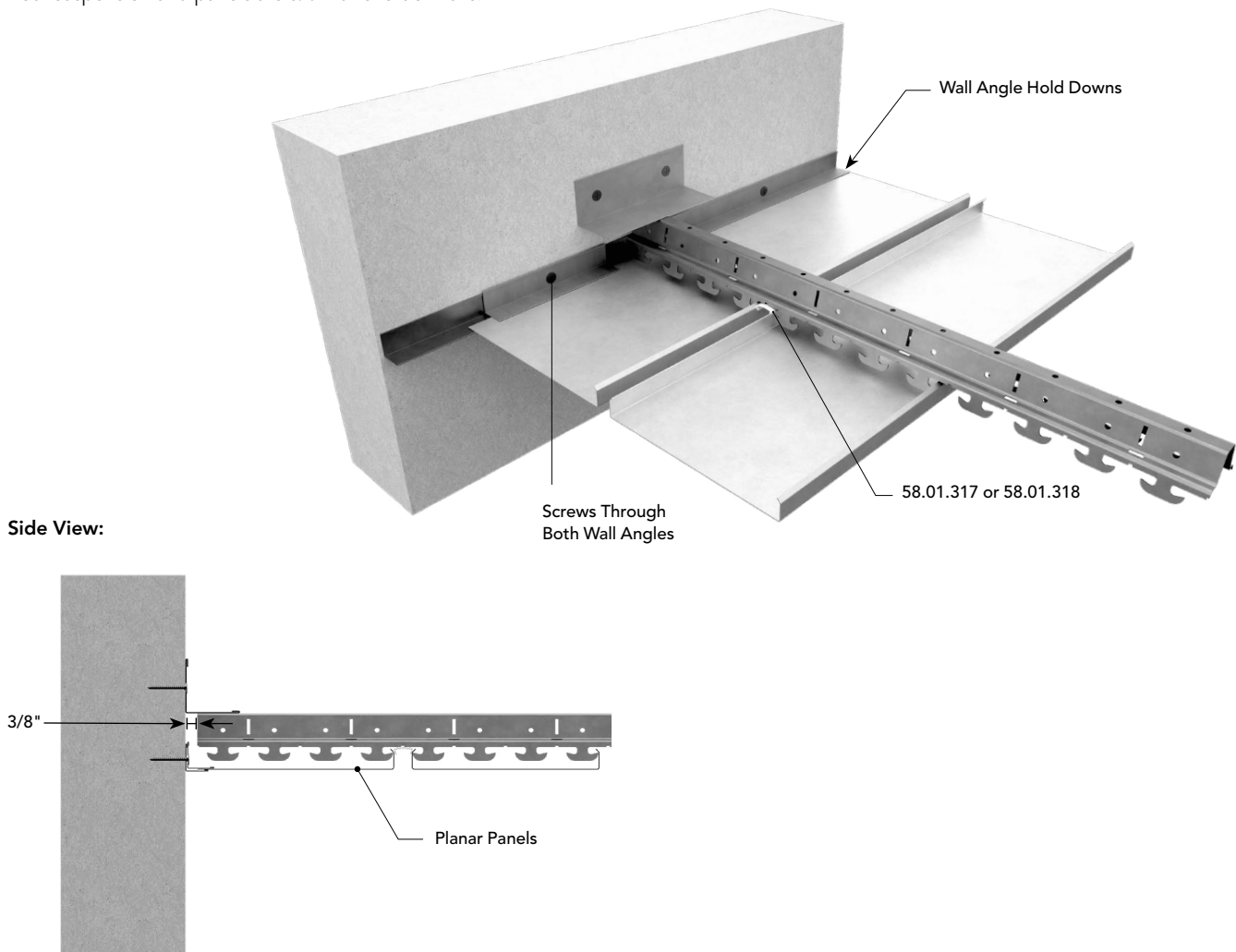
ASTM E580 does not require down posts for category C installations; it also regulates that all suspension must be floating and 3/8 inch short of the walls. Below are details for creating floating perimeters in instances where the layout does not result in a full panel at the wall. Unlike the detail shown for categories D, E, F, you cannot pop rivet a cut panel to the wall angle. The carriers and track details are the same for the floating conditions, except only a 3/8 inch gap is required.

The cut panel is held in place by cutting sections of wall angle and inserting them on top of the cut panel, driving screws through the two wall angles and into the wall. 58.01.317 or 58.01.318 retention clips are required along these cut panels at every other carrier location, with at least two clips per panel in order to keep the panel properly seated on the symmetrical carrier.



Perimeter Details

Both suspension and panels are 3/8 inch short of walls.



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