Armstrong Integrated Lighting for FeltWorks® LED Beams – VarAffix®

Assembly & Installation Instructions

This installation guide is a supplement to the FeltWorks Beams – VarAffix® installation instructions, refer to it for additional details. Please read this entire document prior to beginning work to avoid any re-work.

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1. SOLUTION OVERVIEW

FeltWorks® LED Beams – VarAffix® are designed to integrate seamlessly with FeltWorks Beams – VarAffix baffles, combining acoustical performance and illumination in a single ceiling system. The embedded linear LED fixture is matched to the profile, dimensions, and finish of adjacent beam baffles and is available in coordinating lengths and finishes for a consistent appearance. Installation uses the same suspension and attachment methods as standard FeltWorks Beams – VarAffix baffles.

For added confidence in demanding environments, the FeltWorks LED Beams – VarAffix system has been seismically tested for use in Seismic Design Categories D, E, and F.

IMPORTANT NOTE: Installation requires collaboration between the ceiling contractor and the electrical contractor.

- The ceiling contractor mounts the LED Beam baffle using the same suspension method as the FeltWorks Beams – VarAffix baffles (independently suspended from structure or grid suspension system)
- The electrical contractor installs junction box and completes wiring and power connections once the LED baffle is hung

1.1. Shipping and Handling

FeltWorks LED Beams – VarAffix Fixtures are shipped individually in boxes or, for larger orders, palletized on 4' × 4' or 4' × 8' pallets. The customer is responsible for receiving and unloading all materials. For palletized shipments, the use of a pallet jack or forklift is strongly recommended.

All fixtures must be stored indoors in a clean, dry, climate-controlled environment prior to installation and remain boxed until they are ready to be installed to ensure maximum protection. For longer fixture size, they should be lifted and carried by at least two people, and fixture components must not be placed on unpadded surfaces to prevent damage.

1.2. Safety Recommendations

One to two (1–2) installers are required for the safe and efficient installation of light baffles, depending on the baffle size. These installers are responsible for handling, positioning, and mounting the fixture. When handling white baffles, the use of clean white gloves is recommended to help prevent dirt, fingerprints, and surface markings.

In addition, one (1) qualified electrician is required to complete all electrical connections. All personnel must wear appropriate PPE, including, safety glasses, gloves, and footwear. Ensure all necessary tools needed for proper wiring of fixture to supply circuits is used.

Use two (2) ladders, mobile scaffolding, or scissor lifts appropriate for the ceiling height and site conditions.

1.3. Cleaning Recommendations

1.3.1. Dust & Debris Removal

A vacuum or air compressor should be used as needed to remove any dust or debris that may have accumulated. Nozzle attachment tools for vacuums are especially useful when cleaning between blades.

1.3.2. Stain Removal

In instances where a wet spill occurs, blot stain immediately with a clean, dry cloth. Do not rub paper products such as facial tissue on the material, as this could result in paper particulate being rubbed into the material. In most cases, a simple solvent of soap and water can be used to remove stains. For more severe instances, household bleach is effective at removing stains. Due to the dyeing process of the fibers, PET felt is able to retain its colorfastness when cleaned with bleach. Material should air-dry – no heat should be used to speed the drying process.

1.3.3. Cleaning

If surfaces are dirty, they should be cleaned using a detergent or soap and water prior to disinfection. A dry sponge can also be used.

1.3.4. LED Beams Maintenance

Refer to Section 5 for instructions on accessing LED Beams for maintenance.

2. DESIGN & INSTALLATION CONSIDERATION

2.1. FeltWorks® LED Beams – VarAffix® Light Baffle

- **Seamless Lighting Baffle Integration:** FeltWorks LED Beams – VarAffix baffles are engineered specifically for the FeltWorks Beams – VarAffix system as direct one-to-one replacements for standard acoustic baffles, and only designated lighting baffles should be used—standard acoustic baffles must not be field-modified for lighting integration. Designed to match the dimensions and visual orientation of acoustic beam baffles, these lighting baffles integrate seamlessly into the overall system layout and can be installed individually from structure (with Aircraft cables or Threaded Rod), or via a grid suspension system.
- **Alignment and Offset:** FeltWorks LED Beams – VarAffix baffles are only available in 8" height profile, when used alongside 4" FeltWorks Beams – VarAffix baffles will result in a visible height difference.

2.2. Grid Suspension System

The suspension system does not require modification and must be installed following the Standard FeltWorks Beams – VarAffix installation instructions document. Always confirm and calculate the carrying capacity requirements based on the total system weight to determine if a Heavy-Duty grid system is needed. If the total system weight exceeds 3 lbs/SF, a Heavy-Duty grid system is needed.

3. GENERAL INSTALLATION & ASSEMBLY

Refer to project-specific drawings for exact locations and layout of the LED Beams baffle. Ceiling contractor needs to refer to the installation method specific to your project and follow the instructions provided.

- Independent Suspension from Structure – Section 3.2.1
- Grid Suspension System – Section 3.2.2

The ceiling contractor and electrical contractor must communicate clearly throughout the installation process.

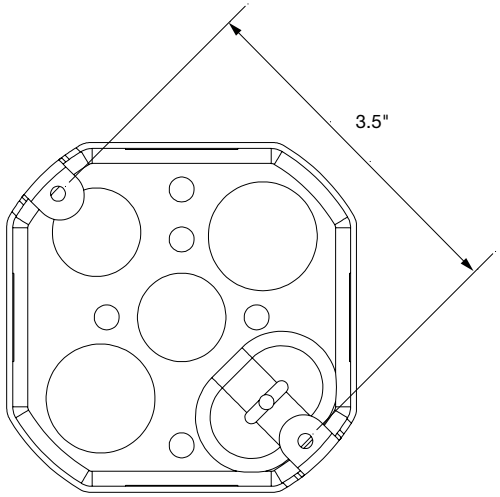
3.1. Electrical Contractor Scope – Preparing the Plenum & Installing Junction Boxes

To be completed by a qualified electrician.

3.1.1. Installing Junction Boxes

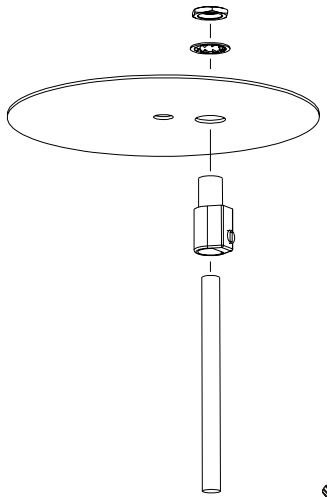
3.1.1.1. Junction box with pick point

Step 1 – Install junction box. Refer to project-specific shop drawings provided by LightArt for exact locations. After installation locate the mounting holes for the canopy ***(Fig 1)***

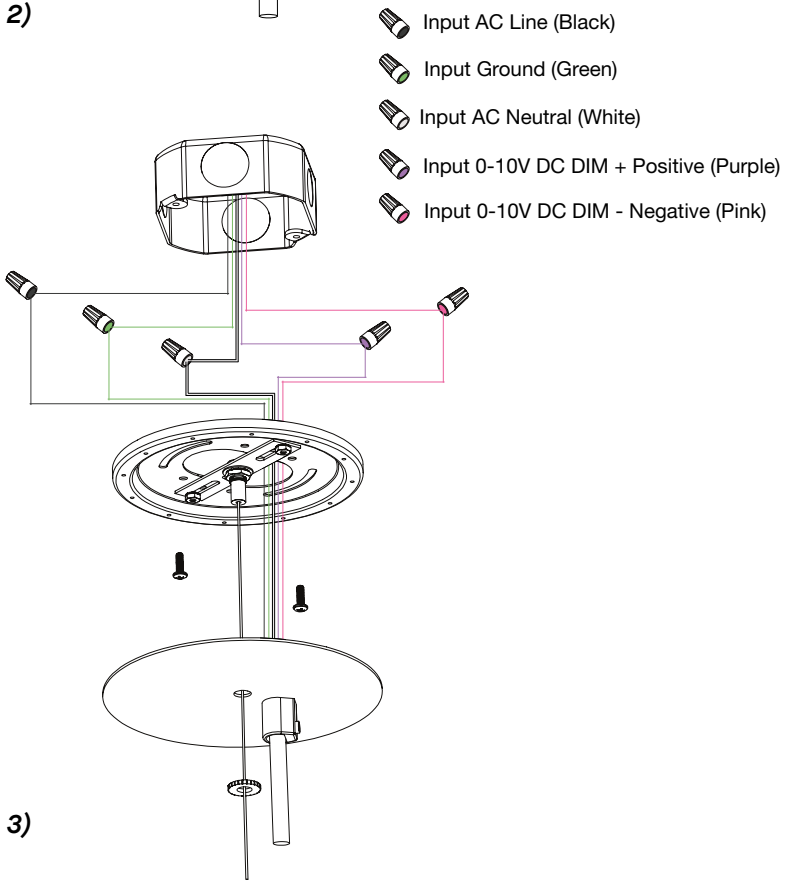


(Fig 1)

Step 2 – WIRING: See wiring instructions and diagrams provided *(Figs 2 & 3)*



(Fig 2)



(Fig 3)

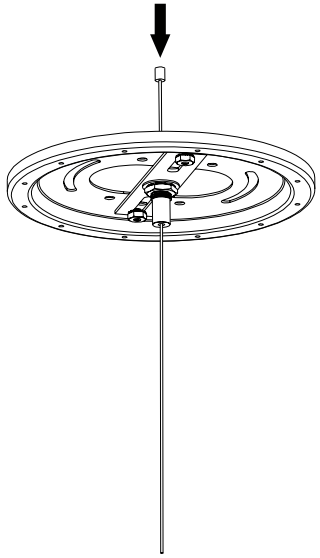
For illustration purposes only. Consult control manufacturer's spec. sheets for specific wiring requirements and fixture capacity.

IMPORTANT NOTES:

- Wire according to appropriate manufacturer's wiring diagrams.
- **WARNING:** Risk of shock from energized equipment.
- Always turn power OFF and lock out during fixture installation
- Product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved

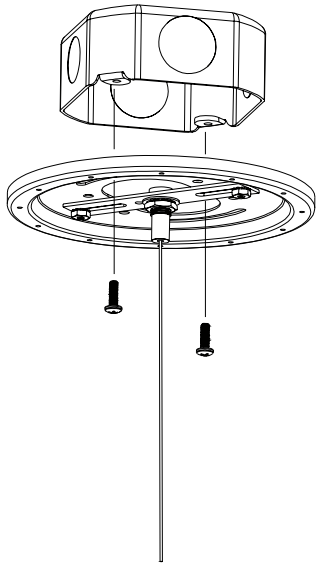
1. Feed the multi-wire white power cord from the fixture through the strain relief on dress plate.
2. Tighten set screw on strain relief to secure power cord.
3. Connect the **WHITE (Input ACN)** power supply wire to the **WHITE (ACN)** wire of the supply circuit. Connect the **BLACK (Input ACL)** power supply wire to the **BLACK (ACL)** wire of the supply circuit. Connect **GREEN (GROUND)** power supply wire to the **GROUND** wire of the supply circuit.
4. Connect the **PURPLE (DIMMING +)** power supply wire to the **DIMMING +** wire of the supply circuit. Connect the **GRAY (DIMMING -)** power supply wire to the **DIMMING -** wire of the supply circuit.
5. Push all line voltage connections and all excess wires into the junction box.
6. Secure canopy to junction box with provided fasteners.

Step 3 – Pull the length of S.S. cable through the coupler until the swaged end catches inside ***(Fig 4)***.



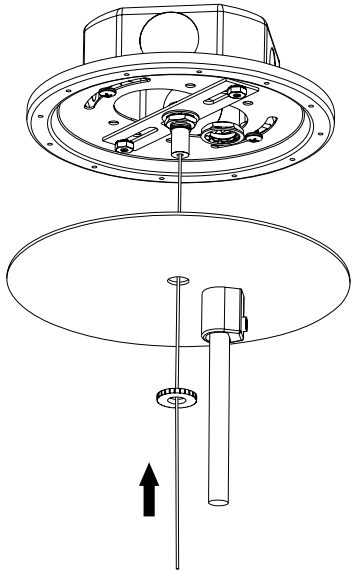
(Fig 4)

Step 4 – Push the connections and all excess wires into junction box. Secure canopy to crossbar using included fasteners ***(Fig 5)***.



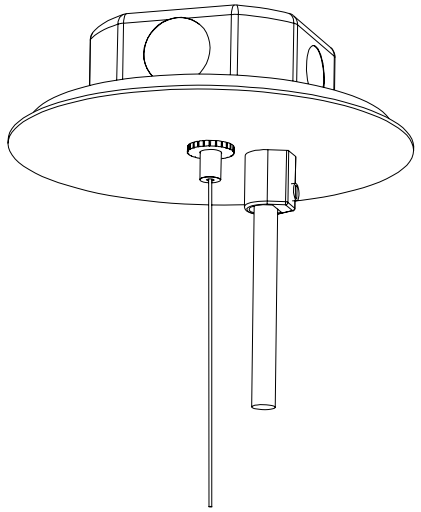
(Fig 5)

Step 5 – Install dress plate with knurled nut ***(Fig 6)***.



(Fig 6)

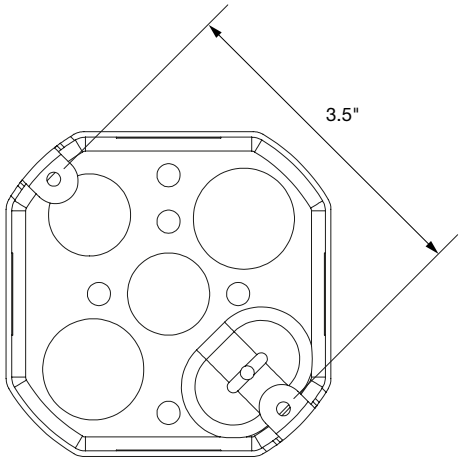
Step 6 – Continue screwing knurled nut until dress plate is firmly secured ***(Fig 7)***.



(Fig 7)

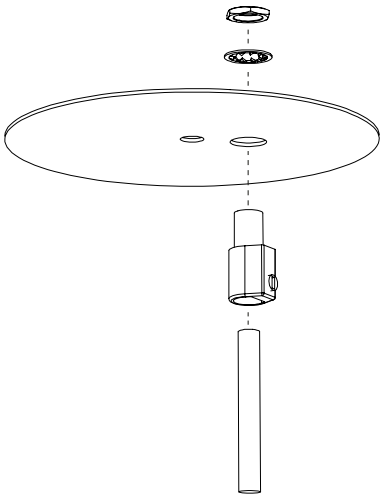
3.1.1.2. Junction box with offset pick point

Step 1 – Install junction box. Refer to project-specific shop drawings provided by LightArt for exact locations. After installation locate the mounting holes for the canopy ***(Fig 8)***.

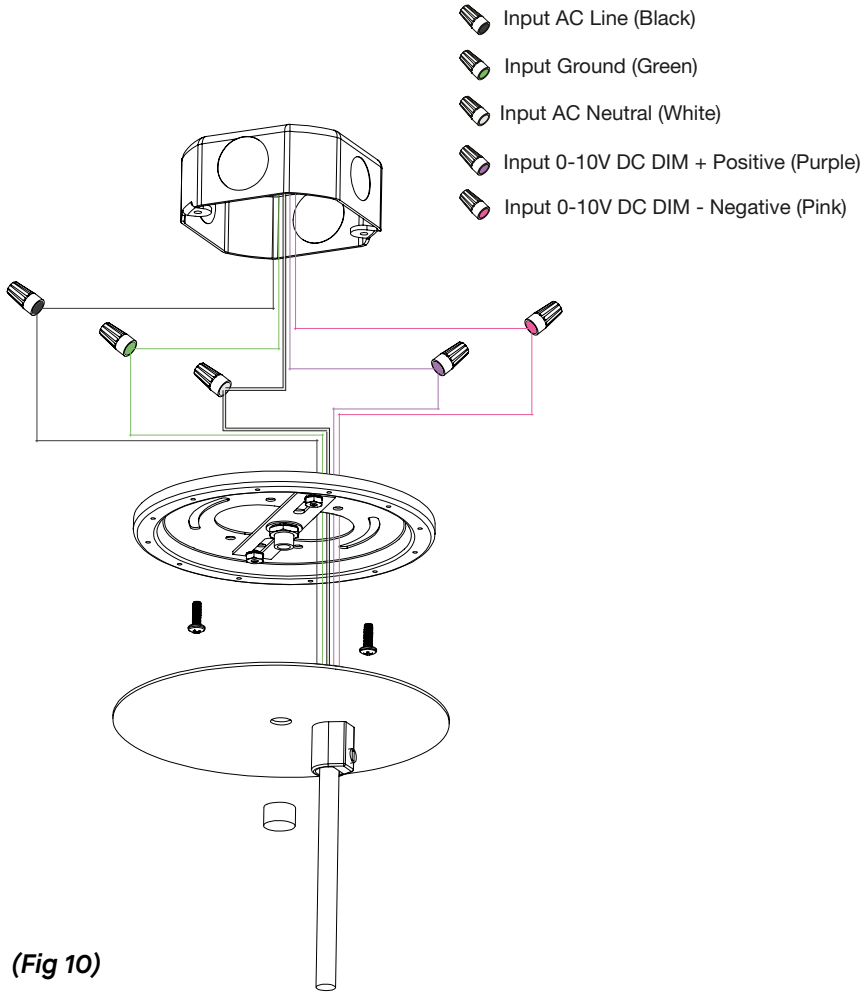


(Fig 8)

Step 2 – WIRING: See wiring instructions and diagrams provided ***(Figs 9 & 10)***. For illustration purposes only. Consult control manufacturer's spec. sheets for specific wiring requirements and fixture capacity.



(Fig 9)



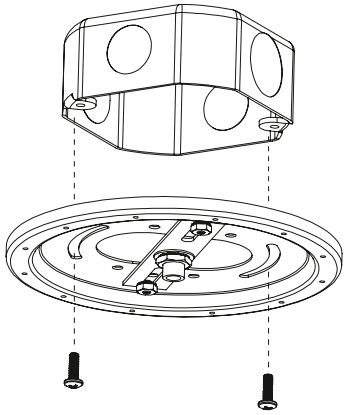
(Fig 10)

IMPORTANT NOTES:

- Wire according to appropriate manufacturer's wiring diagrams.
- **WARNING:** Risk of shock from energized equipment.
- Always turn power OFF and lock out during fixture installation.
- Product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved.

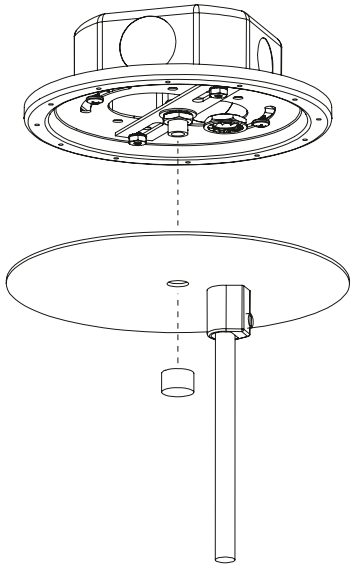
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4. Connect the **PURPLE (DIMMING +)** power supply wire to the **DIMMING +** wire of the supply circuit. Connect the GRAY **(DIMMING -)** power supply wire to the **DIMMING –** wire of the supply circuit.
5. Push all line voltage connections and all excess wires into the junction box.
6. Secure canopy to junction box with provided fasteners.

Step 3 – Push the connections and all excess wires into junction box. Secure canopy to crossbar using included fasteners ***(Fig 11)***.



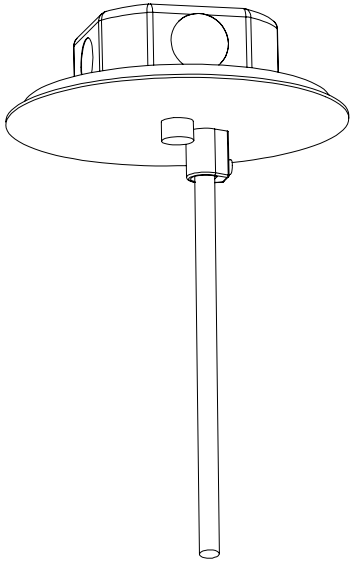
(Fig 11)

Step 4 – Install dress plate with decorative cap ***(Fig 12)***.



(Fig 12)

Step 5 – Continue screwing decorative cap until dress plate is firmly secured ***(Fig 13)***.



(Fig 13)

3.2. Ceiling Contractor Scope – Installation Methods

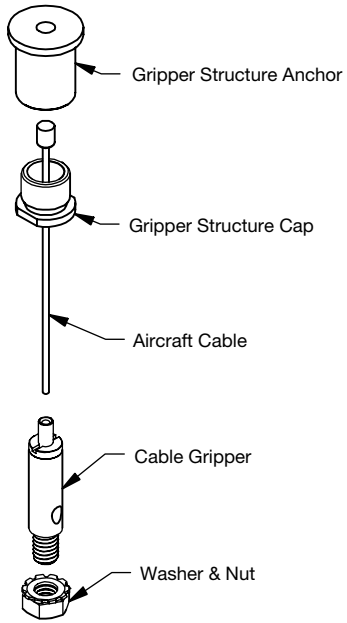
Performed by the ceiling contractor after plenum work has been completed. The ceiling contractor is responsible for installing the FeltWorks Beams – VarAffix® baffles and the FeltWorks LED Beams – VarAffix Baffle. In addition to this installation document, refer to the FeltWorks Beams – VarAffix Installation Instructions for additional details.

Follow the specific installation method indicated in the project-specific drawings.

3.2.1. Independent Suspension from Structure

3.2.1.1. With Aircraft Cable

FeltWorks LED Beams – VarAffix baffles can be independently suspended using aircraft cables and quick-release bottom end cable adjusters ***(Fig 14)***.



(Fig 14)

Deck Hanging Kit (Item 5450) includes:

(2) Gripper Structure Anchors

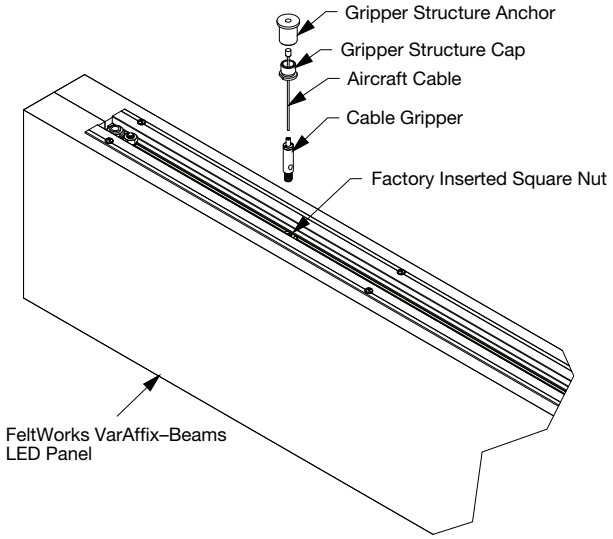
(2) Gripper Structure Caps

(2) 8' aircraft cables

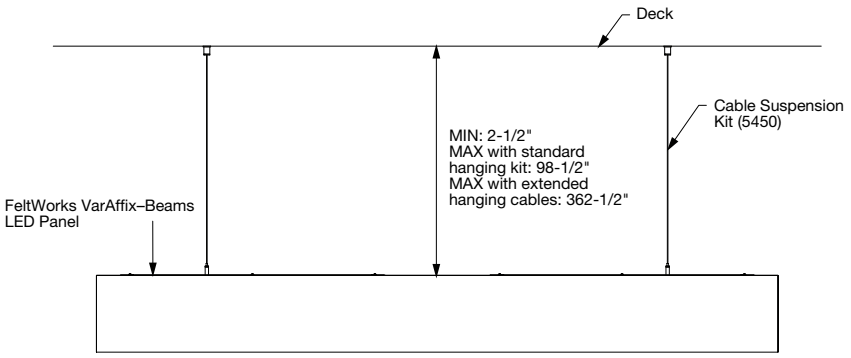
(2) Bottom End Cable Adjusters

(2) nuts with washers – Nuts and Washers in the hanging kit are not needed for install and can be discarded.

1. Once hanging location has been determined and Gripper Structure Anchor has been fastened to structure, fasten cable connectors into the factory inserted square nut found in the LED Beams channel slot and configure the cable connectors ***(Figs 15 & 16)***. Cables will attach at two hanging points on the LED Beams. The height of an LED Beam baffle can be adjusted at the bottom end cable adjuster. When a final height is determined and installation is complete, cut off the excess cable wire from the side of the adjuster, leaving a 1" tail.



(Fig 15)

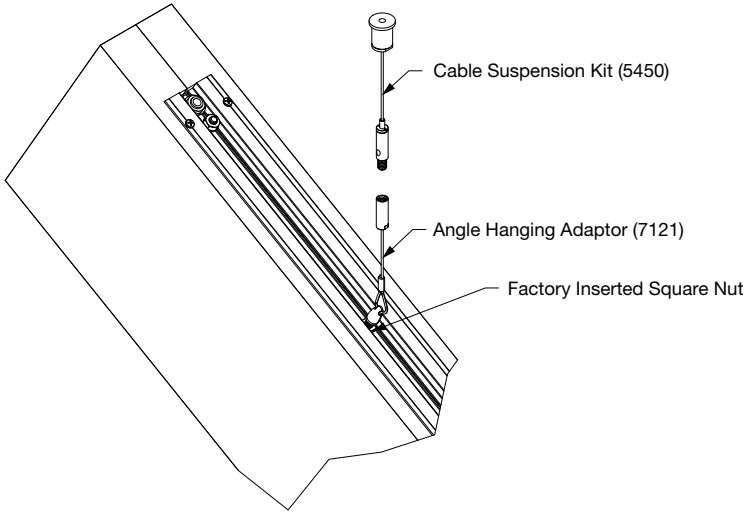


(Fig 16)

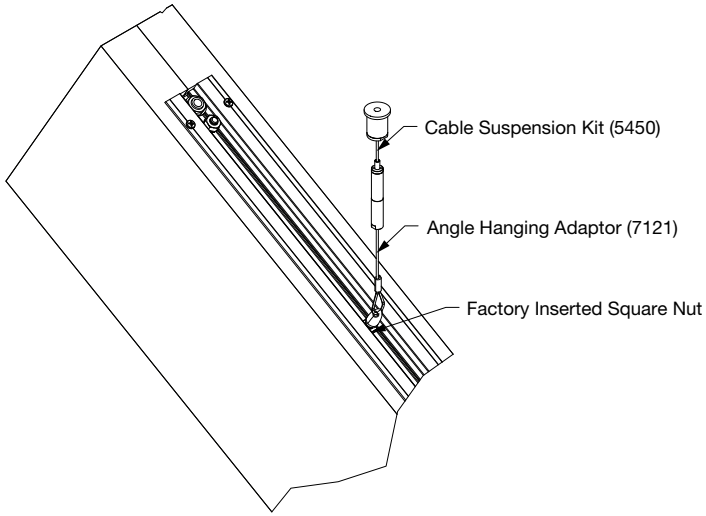
2. To release the cable and lower the LED Beams baffle, take all weight off the gripper, push the release mechanism, and simply slide the cable out as needed.

NOTE: An 8' aircraft cable is included in the standard Deck Hanging Kit. If additional cable length is needed for high ceiling applications, order the Extended Hanging Cables Kit (Item 625530), which has (4) 30' aircraft cables per kit.

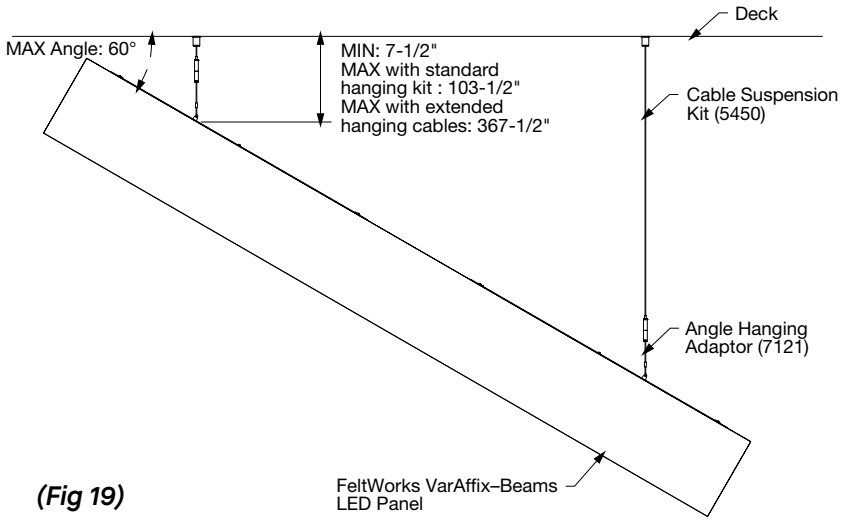
For angled hanging applications up to 60 degrees, use the Angled Hanging Kit (Item 7121), which has (2) angled hanging cables per kit. To install, insert the angled hanging cable between the bottom end cable adjuster of the deck hanging kit and the factory inserted square nut on the LED Beams baffle ***(Figs 17 - 19)***.



(Fig 17)



(Fig 18)

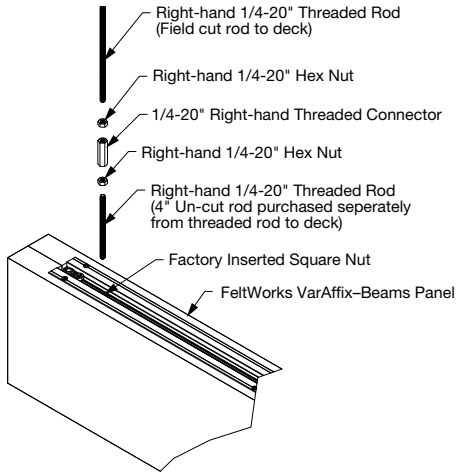


(Fig 19)

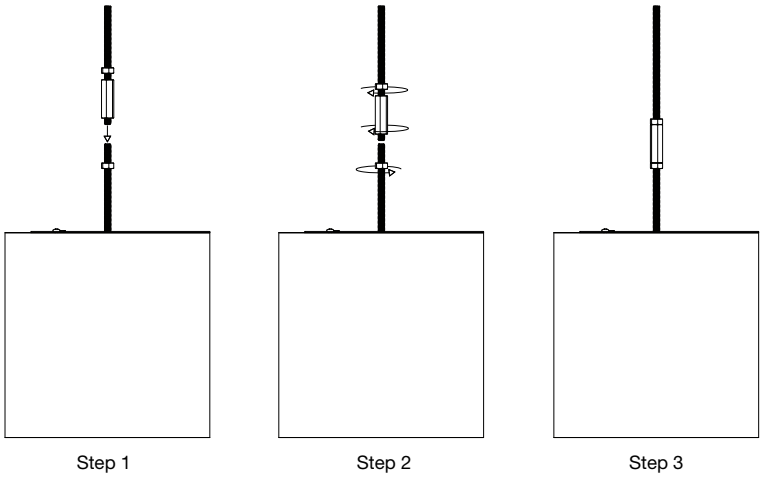
3.2.1.2. With Threaded Rod

Threaded hanger rods must be installed plumb. If plumb drops are not possible, a trapeze or sub-framing may be required. This must be engineered to support the designed loads. Install 1/4"-20 threaded rod hangers from the deck according to the deck anchor manufacture's recommendations.

Using Coupling Nut (accessories needed per hanging point) ***(Figs 20 & 21)***



(Fig 20)



(Fig 21)

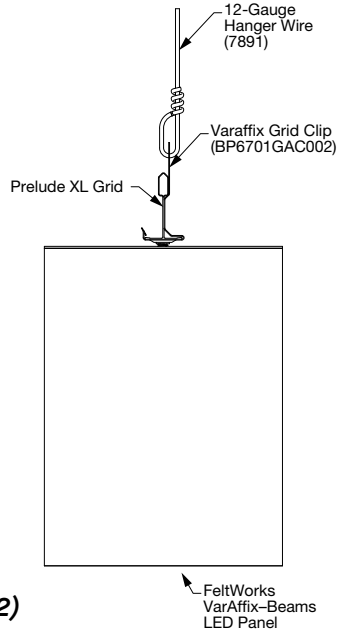
- 1/4"-20 Right-Hand (RH) threaded Rod
- 1 - 1/4"-20 RH threaded rod that attaches to the Beams (length determined by the installer)
- 1 - 1/4"-20 RH threaded rod that attached to deck (length determined by the installer based on plenum depth)
- 1 - Fully Threaded RH Coupling Nut for 1/4"-20 thread
- 2 - RH Nut for 1/4"- 20 thread

IMPORTANT NOTE: To ensure proper access, the electrical contractor must complete all electrical connections for the LED Beams baffle before the remaining baffles are installed.

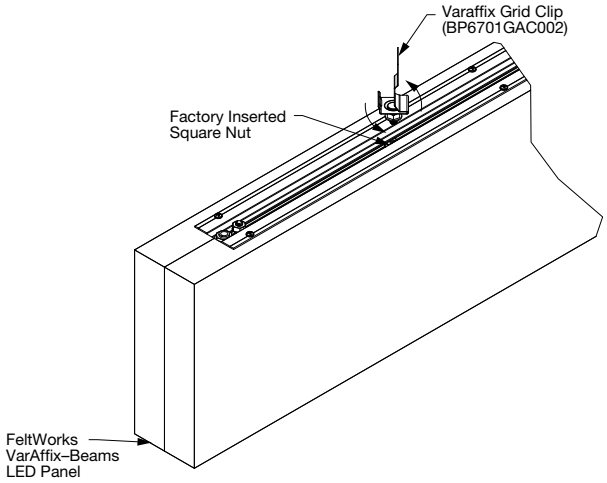
3.2.2. Grid Suspension System Installation

FeltWorks LED Beams – VarAffix Baffles can be installed on Intermediate Duty or Heavy-Duty Prelude® XL 15/16" suspension systems. The suspension system layout must be designed to support the total system load and provide attachment points for each LED Beam hanging location, as defined in the FeltWorks Beams – VarAffix Standard Installation Instructions. For Seismic Design Category C, D, E, and F installations refer to Section 4 for additional requirements.

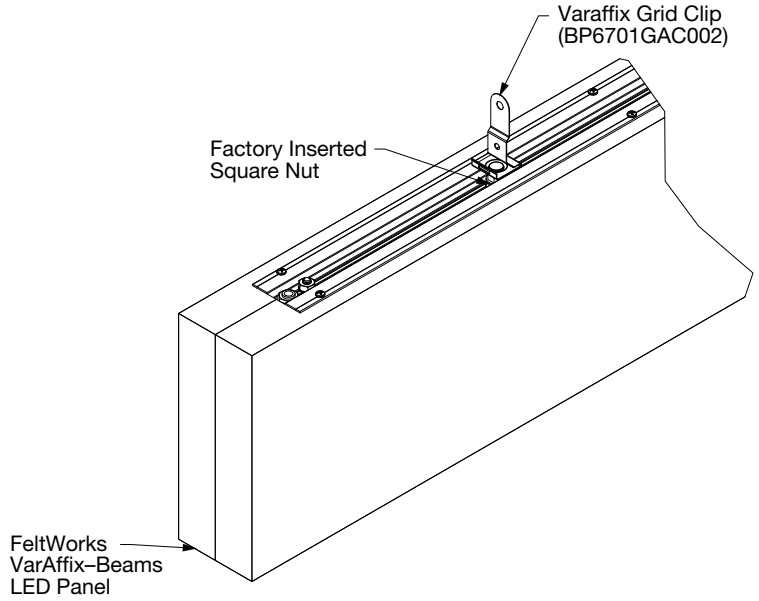
The LED Beams are installed on Prelude grid using the Threaded Grid Clip (item 6701GAC002) ***(Fig 22)***. Hand-thread the 1/4-20 threaded stud of the Grid Clip into the factory-installed square nut located in the LED Beam channel slot on the back of the baffle ***(Fig 23)***. Once seated, orient the portion of the clip that engages the grid perpendicular to the length of the beam ***(Fig 24)***. Once in the correct position, tighten the locking nut to lock clip in place.



(Fig 22)

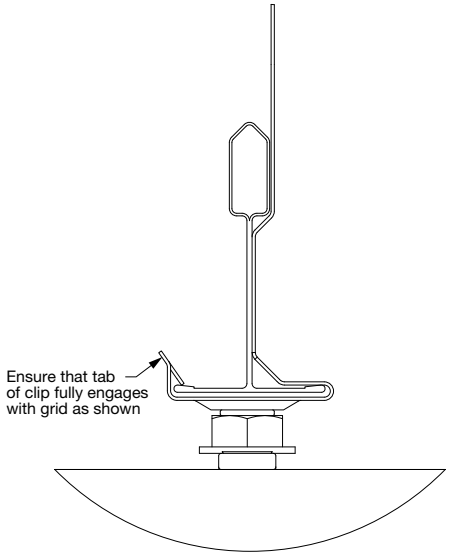


(Fig 23) *Installing Grid Clip into place*
Scale 1:3



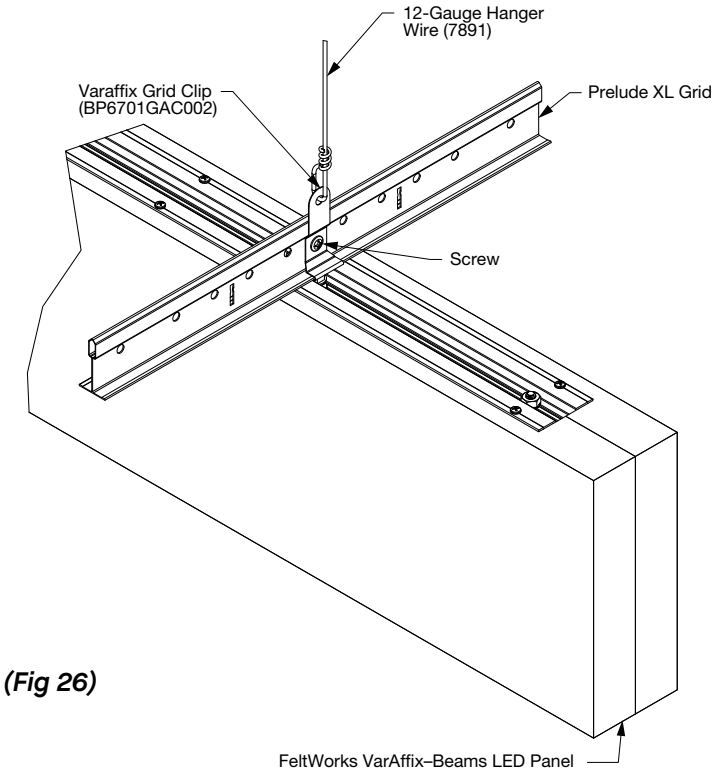
(Fig 24) *Grid Clip installed*
Scale 1:3

Ensure the retaining tab on the grid-engagement portion of the clip securely snaps onto the grid flange as shown ***(Fig 25)***. A minimum of two Threaded Grid Clips is required for each LED Beam.



(Fig 25)

Once the LED beam is properly positioned, fasten the clip to the grid by installing a screw through the pilot hole ***(Fig 26)***. Attach a slack safety wire through the pilot hole located at the top of the clip, as required by local building or seismic codes.



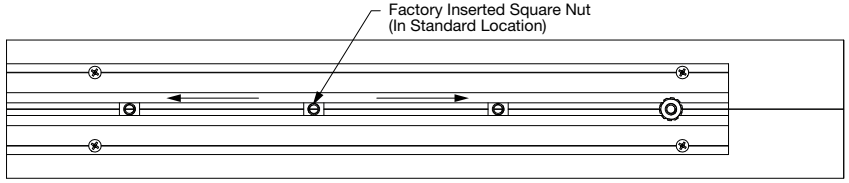
(Fig 26)

IMPORTANT NOTE: To ensure proper access, all electrical connections to the LED Beam baffle must be completed by the electrical contractor before installing the remaining baffles.

3.2.3. Field Adjustments of LED Beams Hanging Locations

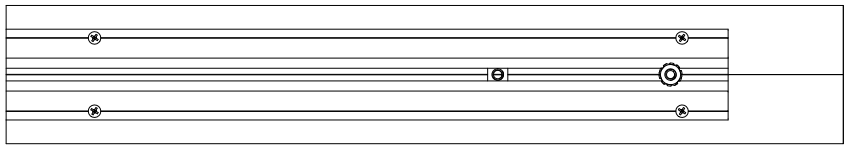
The following procedure describes how to adjust LED Beam hanging locations in the field. The factory-installed square nut located within the LED Beam channel slot allows hanging points to be repositioned as needed to accommodate field conditions.

To adjust a hanging location, slide the factory-installed square nut left or right within the channel slot to the desired marked position ***(Figs 27 & 28)***.



(Fig 27)

Step 1
Measure and mark new location along top channel slot to relocate square nut

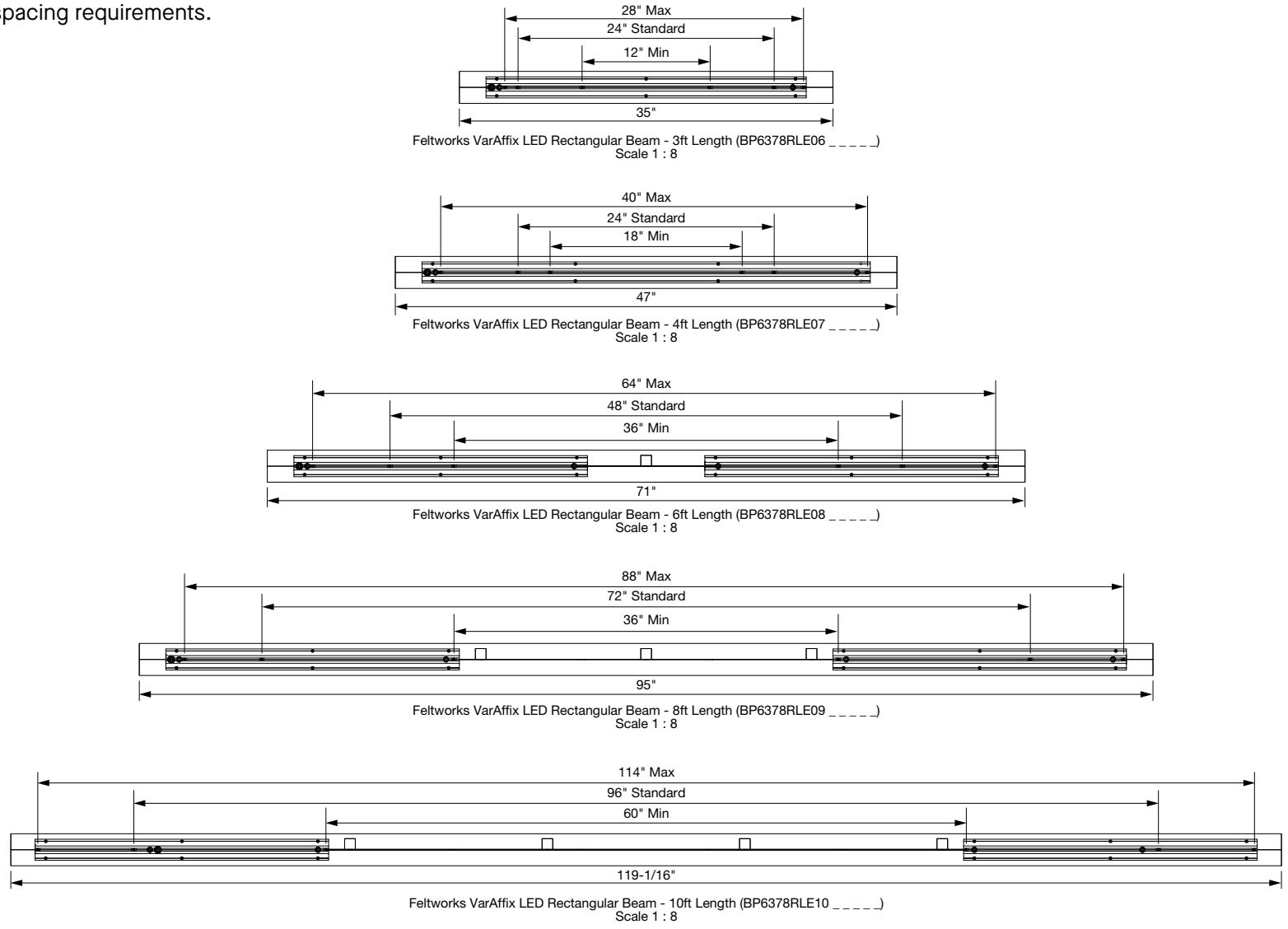


(Fig 28)

Step 2
Slide square nut to new marked location

Before finalizing the square nut location, consult the LED Beam Length Guide to verify the minimum and maximum allowable dimensions for:

- The distance between the hanging point and the end of the LED Beam
- The spacing between hanging connections. Refer to the detail provided ***(Fig 29)*** for allowable hanging point dimensions and spacing requirements.



(Fig 29)

3.3. Ceiling Contractor Scope – Finish Ceiling Installation

Once all lighting baffles are securely installed and the electrical contractor has confirmed that all wiring is complete, proceed with installing the remaining FeltWorks Beams – VarAffix baffles to finish the ceiling.

4. SEISMIC INSTALLATION

The following are additional requirements for Seismic Category C, D, E, or F. Please refer to our Seismic Design: What You Need to Know brochure for more details on seismic installations.

4.1. Independent Suspension (Via Aircraft Cable)

When utilizing independent suspension via aircraft cable, the cable drop shall be no less than 24".

4.2. Grid Suspension System

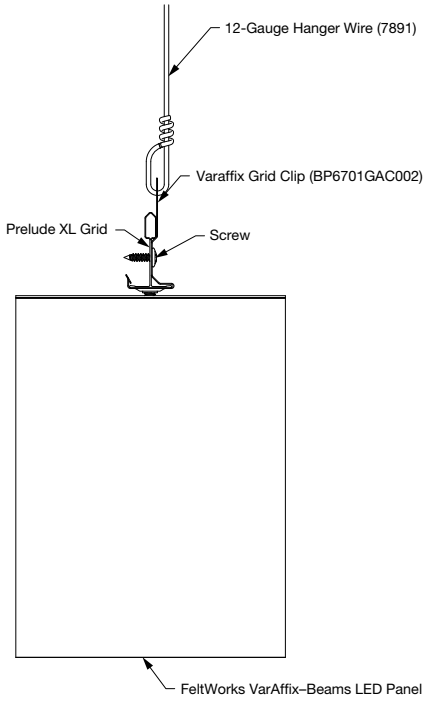
All seismic installations of FeltWorks LED Beams – VarAffix must be installed per Seismic Categories D, E, F. This is regardless of the total system weight.

- Prelude® 15/16" Heavy-duty grid system is required per ASTM E580 and the cross tees may have to match the mains in load-carrying capacity based on the grid layout
- FeltWorks LED Beams – VarAffix attached to the grid have been engineered for application in all seismic areas

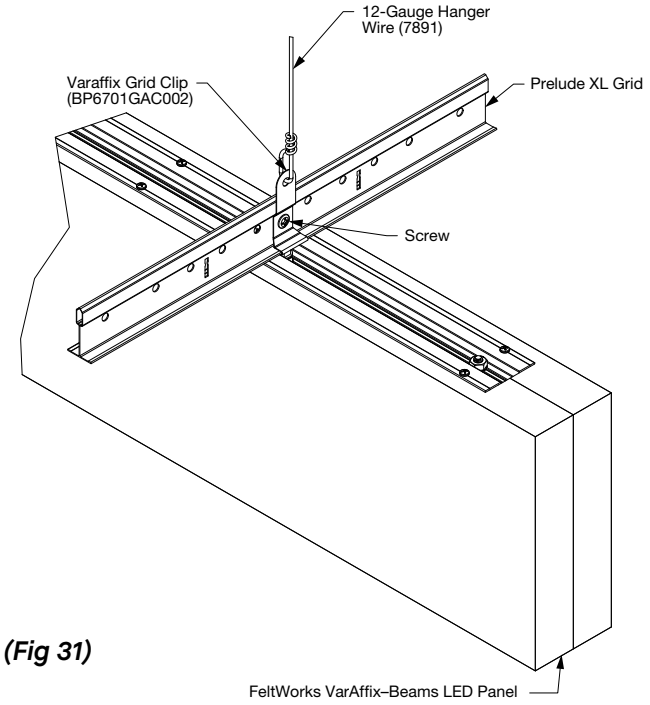
4.3. LED Beams Installation: Grid Attachment

In addition to the installation steps outlined in Section 3.2.2, when using the Threaded Grid Clip, a screw is required to be installed through the pilot hole as shown, for a positive attachment ***(Figs 30 & 31)***.

Attach a slack safety wire through the pilot hole located at the top of the clip, as required by local building or seismic codes.



(Fig 30)



(Fig 31)

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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