FeltWorks® Acoustical Panels

Assembly and Installation Instructions

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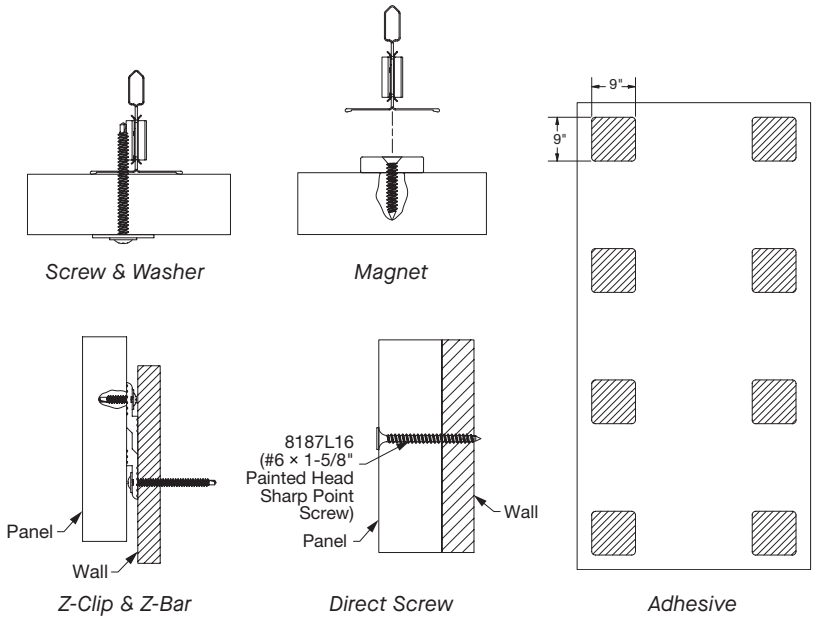
8.2 Seismic Rx® Category D, E, and F Requirements (All Seismic Installations)

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1. GENERAL

1.1 Product Description

FeltWorks® Acoustical Panels are 1" thick (nominal), available in a standard size of 24" × 48", 48" × 48", and 48" × 96" and offer acoustical absorption to control noise in a wide range of applications. Standard panels are available in Black, White, Light Grey, Dark Grey, and Beige. Custom sizes up to 54" × 120" are available. FeltWorks Acoustical Panels can be installed in the ceiling using screws and washers, glue, or magnets, and can be attached to Armstrong® Drywall Grid, furring (wood or metal), painted drywall, or direct to a metal deck ***(Fig 1)***. FeltWorks Acoustical Panels can also be installed on the wall using screws, adhesive, or Z-Clips ***(Fig 1)***.



(Fig 1)

1.2 Safety

1.2.1 Be certain that the worksite is well ventilated during the installation and avoid breathing in any dust from field cutting panels. If high dust levels are anticipated during installation, such as with the use of power tools, use appropriate NIOSH designated dust respirators. All power cutting tools must be equipped with dust collectors. Avoid contact with skin or eyes. Wear long sleeves, gloves, and eye protection.

1.2.2 Please use caution when using the adhesive if you are using the direct-applied (adhesive) installation method. Follow the first aid measures in the manufacturer's Safety Data Sheet if adhesive comes in contact with your skin or eyes, or is inhaled or ingested.

1.2.3 NOTE: FeltWorks panels may be installed with magnets, in projects where fasteners should not be visible. While rare earth neodymium magnets are commonly used in commercial applications, individuals with pacemakers, ICDs, or other implanted medical devices must use caution as magnets can impact performance of these devices. Consult a physician for specific details.



1.3 Warranty

Failure to follow the Armstrong recommended installation instructions in effect at the time of installation may void the product and/or ceiling system warranty. See website for most up-to-date instructions.

1.4 Surface Finish

FeltWorks® Acoustical Panels are made of non-woven layered and formed polyester felt (PET) fibers. This is a color throughout product.

1.5 Storage & Handling

1.5.1 Panels should be stored in a dry interior location and shall remain on the pallet prior to installation to avoid damage. The pallet should be stored in a flat, horizontal position. Proper care must be taken when handling to avoid damage and soiling. Do not store in unconditioned spaces with relative humidity greater than 85% or lower than 25%, and temperatures lower than 32°F or greater than 120°F. Panels must not be exposed to extreme temperatures, for example, close to a heating source or near a window where there is direct sunlight.

1.5.2 The 48" × 96" panels may require two people for proper handling and installation.

1.5.3 White cotton or latex gloves are recommended for handling.

1.5.4 If using the direct-applied (adhesive) installation method, the area of installation, adhesive, and panels should be conditioned at 65°F (18°C), or above, for 48 hours prior, during, and 48 hours after the installation is complete. Please also consult the adhesive manufacturer's instructions.

1.6 Site Conditions

Building areas to receive ceilings or walls shall be free of construction dust and debris. This product is not recommended for exterior applications where standing water is present, or where moisture will come into direct contact with the ceiling or wall.

1.7 HVAC Design & Operation, Temperature & Humidity Control

It is necessary for the area to be enclosed (all windows and doors shall be in place) and for the HVAC systems to be functioning and in continuous operations, to maintain proper temperature for the life of the product (before, during, and after installation). All wet work (plastering, concrete, etc.) must be complete and dry prior to installation.

1.8 Colors

1.8.1 Panel Colors

FeltWorks Acoustical Panels are available in Black, White, Light Grey, Dark Grey, and Beige. Panels have color throughout. Panels may vary slightly in color and texture due to material variations. To maximize visual consistency, panels should be unpacked and examined collectively to determine the most desirable arrangement for installation.

1.8.2 Field Painting Hardware Accessories

Visible hardware (screws or washers) is available in Black and Mill Finish (paintable). We recommend the following Sherwin-Williams® colors to coordinate with our five standard colors if the hardware (screws and washers) will be painted in the field. Panels cannot be field painted; field painting the panels will void the product warranty.

- Black: Sherwin-Williams 6258 – Tricorn Black
- White: Sherwin-Williams 7007 – Ceiling Bright White
- Light Grey: Sherwin-Williams 7663 – Monorail Silver
- Dark Grey: Sherwin-Williams 7674 – Peppercorn
- Beige: Sherwin-Williams 7512 – Pavilion Beige

1.9 Cleaning/Maintenance

Use a clean, dry, soft, white cloth to wipe off any dust or fingerprints. A vacuum can also be used to remove dirt from the panels. Vacuum cleaner brush attachments, such as those designed for cleaning upholstery or walls, do the best job. Be certain to clean in one direction only to prevent rubbing dust into the face of the panel. If this does not clean the panel, use a damp, clean, soft, white cloth or sponge with a mild detergent to wipe the panel. Remove any remaining moisture with a dry cloth.

2. DESIGN AND INSTALLATION CONSIDERATIONS

2.1 Directionality

There is a natural fiber direction in the FeltWorks® Acoustical Panels. It is recommended to install the panels in the same fiber direction. Directionality will be marked on the back of the panels.

2.2 Exterior Installations

FeltWorks Acoustical Panels are not intended for exterior use.

2.3 Direct Attachment

FeltWorks Acoustical Panels can be attached to Armstrong Drywall Grid, furring (wood or metal), painted drywall, or directly to a metal deck or wall with the fasteners listed in this document.

2.4 Proximity to Diffusers/HVAC Systems

Panels may accumulate dust if placed near a diffuser or HVAC system. Please consider this when designing the space. If dust or dirt does accumulate, see Section 1.9 for cleaning recommendations.

2.5 Panel Spacing

The recommended panel spacing will depend on the installation method. For panels without a beveled edge (i.e. 48" × 96"), Armstrong is unable to warrant the visual of the installation when panels are installed with a panel-to-panel reveal of less than 2". Panels 24" × 48" and 48" × 48" do not require spacing between panels due to panel beveled edge. Refer to Section 4 for different installation options details.

2.6 Plenum

Design considerations require relatively clear and clean deck areas for most attachment methods. We recommend using a suspended drywall grid installation if your plenum space contains services or obstructions that interrupt the attachment surface. Due to material chemistry, FeltWorks Acoustical Panels are classified as combustible material in the International Building Code. Panels installed below obstructions using drywall grid may create a return air plenum, based on depth from the deck. Please consult a fire protection engineer or local code official for guidance.

2.7 Fire and Sprinklers

Installations may require sprinklers above and below the panels if a plenum is present. Please consult a fire protection engineer, NFPA 13, and the local codes for guidance.

2.8 Panel Face Offset

The face of the FeltWorks Acoustical Panel extends 1" or greater below the face of the suspension system based on the installation method. 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 offset.

2.9 Area Preparation

2.9.1 Surfaces must be dry and free of dust, grease, oil, dirt, or any other material that may deter adhesion when using the Direct-Applied installation method with adhesive. Existing finish paint must be well bonded and not flaking or peeling; otherwise, it must be removed. Avoid applying to a newly painted wall or ceiling/deck. Glossy painted surfaces must be abraded. For painted or sealed surfaces, install a small test area and observe after 12 hours.

2.9.2 Surfaces must be dry and free of dust, grease, oil, dirt, or any other material that may deter adhesion when using the magnet installation method and attaching the panels directly to the metal deck. Surfaces must also be free of any obstructions (i.e. screws, hooks, wires, etc.).

2.10 Accessibility

The FeltWorks Acoustical Panels can be accessible if installed with the magnet installation method. If building maintenance needs to move the panels after installation is complete, make sure the screw and magnet connection points are secure in the panels before reinstalling.

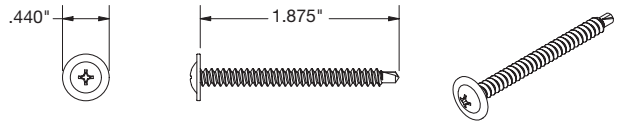
3. FELTWORKS ACCESSORIES

Armstrong cannot guarantee the product's performance if accessories beyond those listed in this document are used.

3.1 Screws

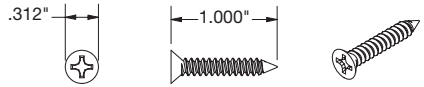
Armstrong® offers 5 types of screws for many common installation methods. Please see Section 4 for specific installation instructions.

- Screw to drywall grid and furring: #8 × 1-7/8" Screw to be use with the washer (Item 6489 _ _), available in Mill Finish (MF) and Black (BL) ***(Fig 2)***



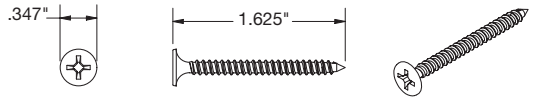
(Fig 2)

Screw used with magnet: #8 × 1" Flat Head Screw (Item 6527) ***(Fig 3)***



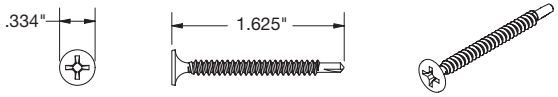
(Fig 3)

Screw for wall installation without washer: #6 × 1-5/8" Sharp Point Screw (Item 8187L16_ _ _) available in Natural (TNA) and White (TWH) finish. For 20- and 25- light-gauge steel or wood framing ***(Fig 4)***



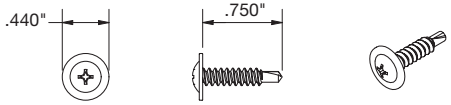
(Fig 4)

- Screw for wall installation without washer: #6 × 1-5/8" Drill Point Screw (Item 8188L16_ _ _), available in Natural (TNA) and White (TWH) finish. For 20-gauge structural and heavier steel framing ***(Fig 5)***



(Fig 5)

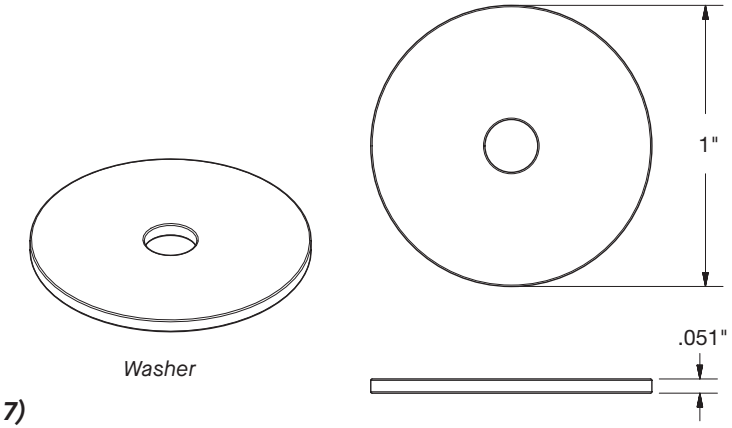
- Screw use with Z-Clip and Z-Bar for wall installation: #8 × 3/4" drill point screw (Item 8146PKG300) ***(Fig 6)***



(Fig 6)

3.2 Washers

Armstrong offers a 1" flat washer for screw size #8 when installing to ceiling using the direct-attached installation method. The washer should be used with the #8 1-7/8" Flat Head Screw, as referenced in Section 3.1. (Item 6488__), available in Mill Finish (MF) and Black (BL) ***(Fig 7)***.

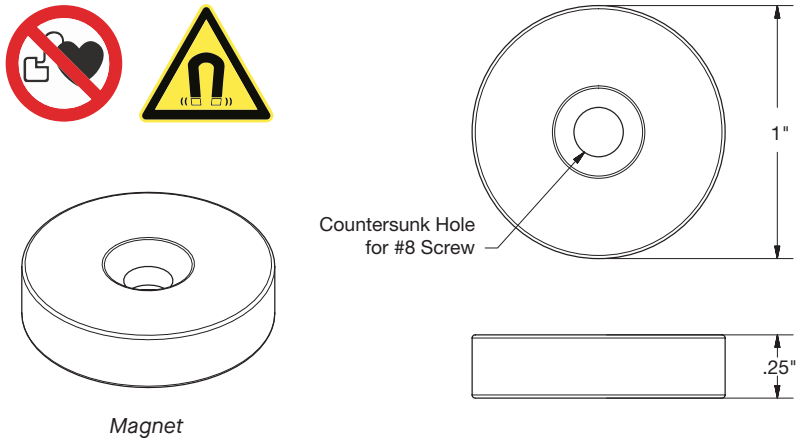


(Fig 7)

3.3 Magnets

Armstrong recommends a 1" × 1/4" neodymium magnet with a countersunk hole when using the magnet installation method for ceilings. The magnets will need to be ordered separately and they will need to be field-applied to the back of the panel before installation. The magnets have a countersunk hole in the center to allow for screw attachment to the panel. The magnets have an approximate pull force of more than 24 lbs. (Item 6526).

IMPORTANT NOTE: FeltWorks® panels may be installed with magnets, in projects where fasteners should not be visible. While rare earth neodymium magnets are commonly used in commercial applications, individuals with pacemakers, ICDs, or other implanted medical devices must use caution as magnets can impact performance of these devices. Consult a physician for specific details. The magnets are a potential pinch hazard due to their natural strength. It is recommended to use gloves when handling the magnets ***(Fig 8)***.

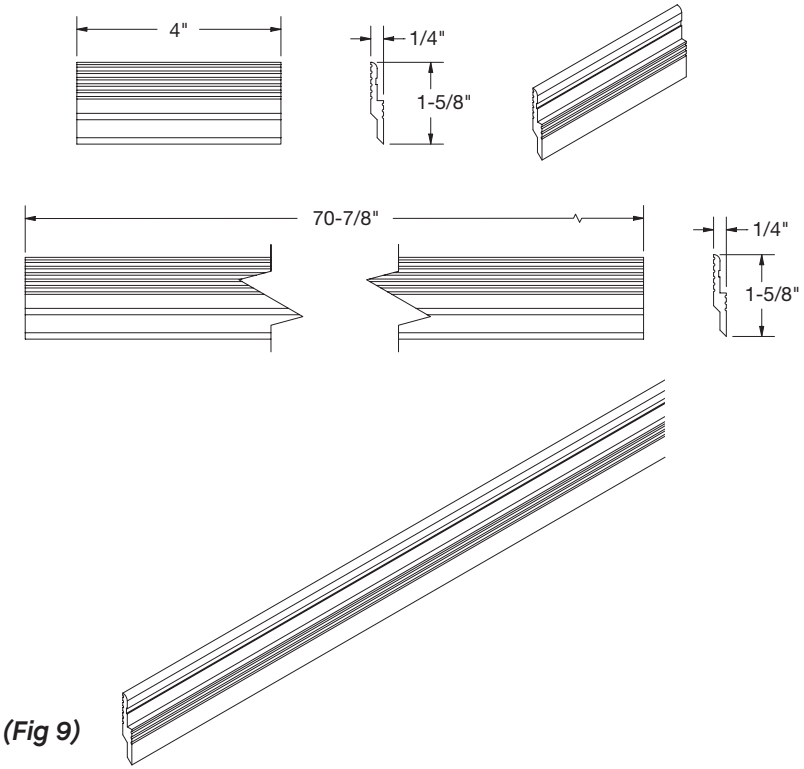


(Fig 8)

3.4 Z-Clip & Z-Bar

Armstrong offers two types of lightweight Z-Clip and Z-Bar for Wall installations, in either Aluminum or Light Duty (off white) substrate ***(Fig 9)***.

- 2" Aluminum Z-Clip (Item 5672)
- 72" Aluminum Z-Bar (Item 5673). May need to be trimmed down depending on project requirements.
- Light Duty (off white) Z-Clip (Item 7142L04)
- Light Duty (off white) Z-Bar (71" Light Duty PVC Z-Bar)



(Fig 9)

3.5 Adhesive

- Armstrong recommends Titebond® GREENchoice or Henry® 237 AcoustiGum™ Acoustical Ceiling Tile Adhesive when using the direct-applied installation method. The adhesive will be supplied by the contractor.
- Armstrong recommends Original Gorilla Glue® (or equal polyurethane foam adhesive) when using the magnet installation method for ceilings. The Original Gorilla Glue (or equal) will be supplied by the contractor.

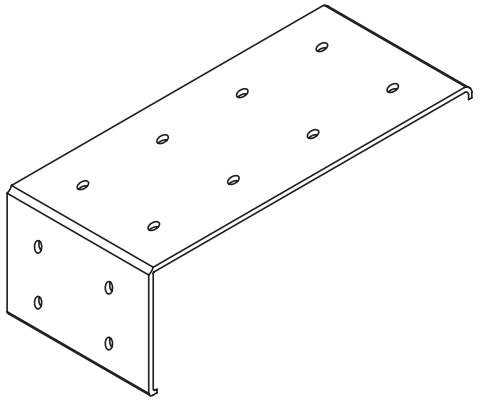
3.6 QuickStix™ Uptight Clip (QSUTC)

Installations using Armstrong® Drywall Grid may require the QSUTC for attachment to the deck. The minimum distance from the deck to the face of the grid when using the QSUTC is 1-3/4" and can adjust up to 5-1/2" to account for unevenness in the surface ***(Fig 10)***.

Each QSUTC requires a secure attachment to structure (specified by contractor based on deck material) and two framing screw attachments from the clip to the grid.

For flat installations:

- Each 12' main runner requires (3) QSUTC attachments to deck spaced no further than 6' O.C.
- All drywall mains must have a QSUTC attachment within 12" of each clip and within 3" of the fire expansion notch



(Fig 10)

4. INSTALLATION OPTIONS

4.1 Direct-attached Ceilings and Walls (screw & washer installation)

FeltWorks® Acoustical Panels can attach to Armstrong® Drywall Grid, wood or metal furring. These methods are explained in more detail below.

4.1.1 Hardware Layout

The following rules apply for direct-attached panels based on panel size. All panels use #8 × 1-7/8" screw to be used with the washer (Item 6489 _ _):

24" × 48" Panel

Each panel requires 4 screws.

Each screw is placed 3-13/16" in from the long edge. The screws located at the ends of the panel are placed 9-5/8" in from the short panel edge.

48" × 48" Panel

Each panel requires 6 screws.

Each screw is placed 7-5/8" in from the long edge. The screws located at the ends of the panel are placed 9-5/8" in from the nearest short panel edge.

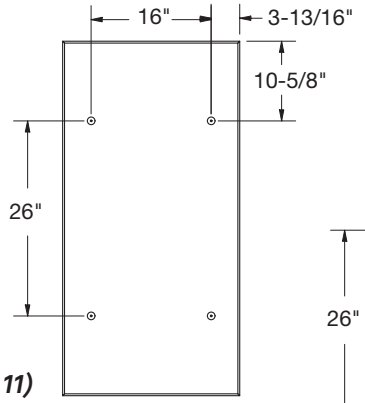
48" × 96" Panel

Each panel requires 12 screws.

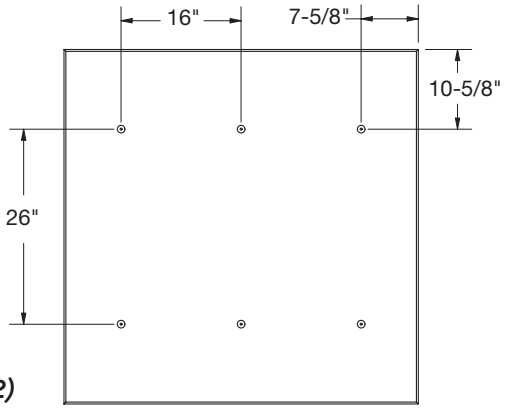
Each screw is placed 8" in from the long edge. The screws located at the ends of the panel are placed 9" in from the nearest short panel edge.

Exact screw spacing is based on alignment with the suspension, but it should target 16" O.C. between screws across the width of the panel ***(Figs 11 - 13)***.

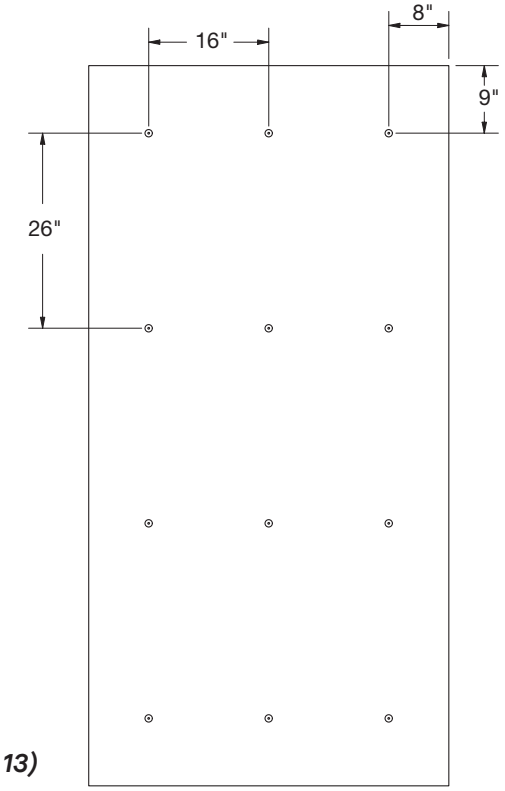
Hardware spacing may change if panels are cut in the field. Refer to Section 6.2.6 for repositioning guidelines



(Fig 11)



(Fig 12)



(Fig 13)

4.1.2 Armstrong Drywall Grid

Installations using Armstrong Drywall Grid will require:

- 12' Drywall Grid main beam (HD8906)
- 4' Drywall Grid cross tee (XL8945)
- QuickStix™ Uptight Clips (QSUTC) (layout dependent)

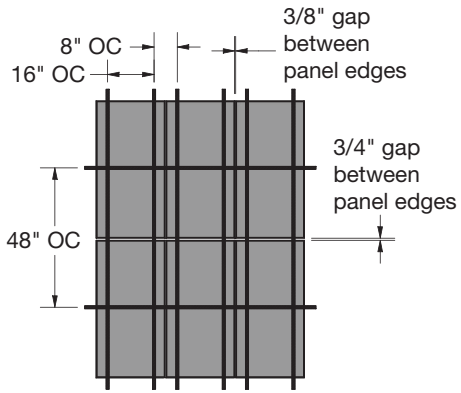
Attachments of the drywall grid to the deck can be made with the QSUTC Uptight Clip. See Section 3.6 for attachment rules and spacing.

The drywall grid should be leveled to within 1/4" over 10' (ASTM C636) to ensure a satisfactory visual.

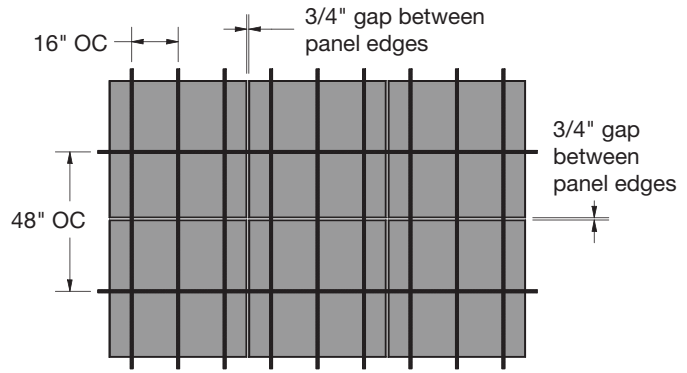
- Attaching to Drywall Grid: For panels without a beveled edge, there will be an 8" gap in between long panel edges. This is due to the 8" rout hole spacing on Armstrong Drywall Grid.

Layout Considerations

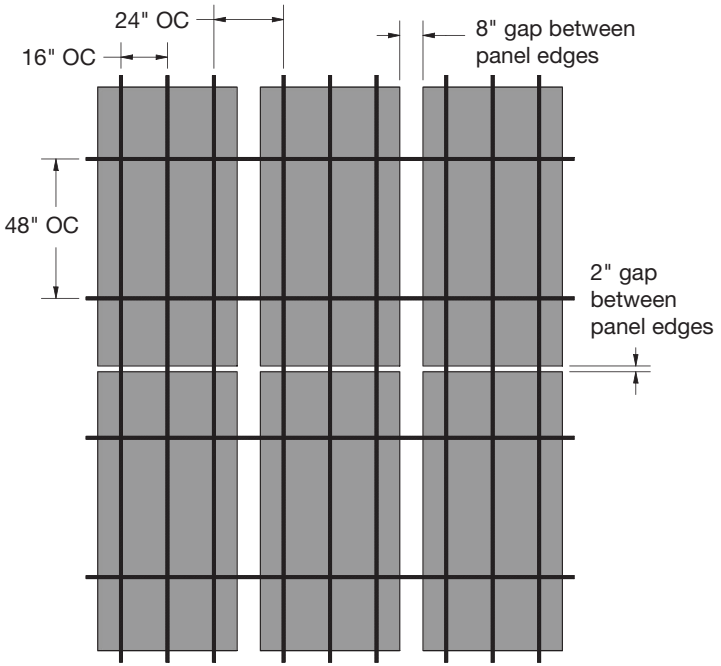
- Panels will be installed short edge-to-short edge and will require two or three rows of suspension. Suspension is installed parallel to the long edge of the panels.
- Two or three rows of drywall grid will be required, depending on the size of the panel: the drywall grid will be placed at 16" O.C. for the attachment of the panel hardware ***(Figs 14 -16)***.



(Fig 14) *Drywall Grid Layout for 24 × 48" FeltWorks Panels*
Screw & Washer Installation



(Fig 15) *Drywall Grid Layout for 48 × 48" FeltWorks Panels*
Screw & Washer Installation



(Fig 16) *Drywall Grid Layout for 48 × 96" FeltWorks Panels*
Screw & Washer Installation

Panel Spacing
Armstrong is unable to warrant the visual of the installation when panels are installed with a panel-to-panel reveal of less than 2" for panels without a beveled edge. For standard 24" × 48" and 48" × 48" panels, no gap is required because of the beveled edge.

4.1.3 Metal or Wood Furring
Furring for FeltWorks® Acoustical Panels can be either wood or metal. For steel channel/hat channel, Armstrong® Ceiling and Wall Solutions recommends 20-gauge 7/8" galvanized steel furring; however, ranges of 20- to 25-gauge metal furring can be used. For wood furring, 3/4" × 1-1/2" or 3/4" × 2-1/2" is recommended.

The furring must be attached to the structure in a method that supports the full weight of the panels. Armstrong does not provide guidance regarding the attachment of furring to structure and is therefore not liable for any damage or installation complications that may occur from an improper installation of furring. Please refer to the manufacturer's instructions for guidance on the attachment of the furring to structure. The furring should be leveled to within 1/4" over 10' (ASTM C636) to ensure a satisfactory visual.

The spacing and structural components in the deck may vary so it is recommended to use an alignment method that can operate independently from these components (i.e. laser, chalk line).

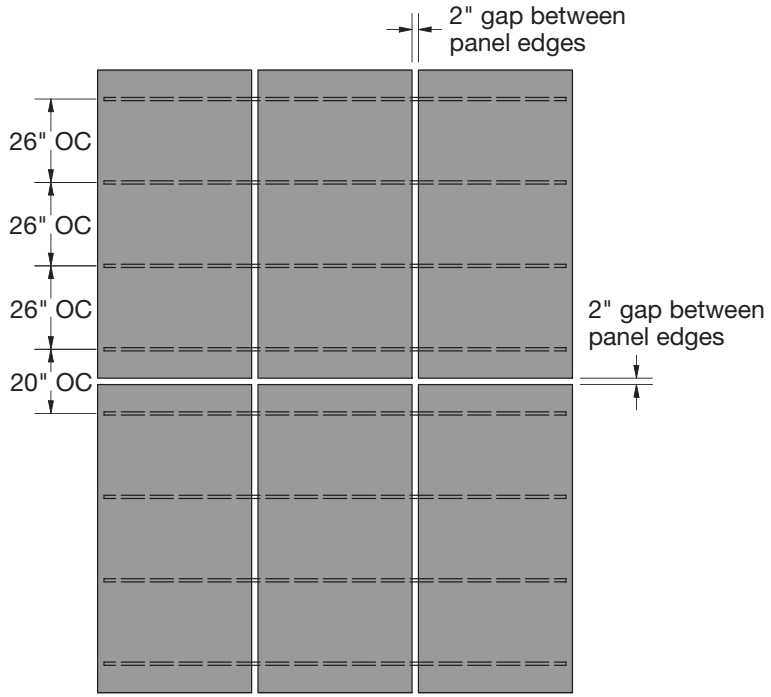
You have more flexibility when using metal furring since you are not limited to the rout hole spacing as you are when using drywall grid.

Panel Spacing
It is recommended to have a 2" gap in between the panel edges for panels without a beveled edge (i.e., 48" × 96" panel). For standard 24" × 48" and 48" × 48" panels, no gap is required because of the beveled edge.

Layout Considerations

- For 48" × 96" panels, a 2" gap is recommended between panel edges. Suspension can run perpendicular to long edge. It will require four rows of suspension. Due to the recommended 2" gap in between panels, your furring layout will follow a pattern: 26" O.C., 26" O.C., and 20" O.C.

The suspension system can also run perpendicular to the short edge. Consider following furring layout: 16" O.C., 16" O.C., and 18" O.C. ***(Fig 17)***



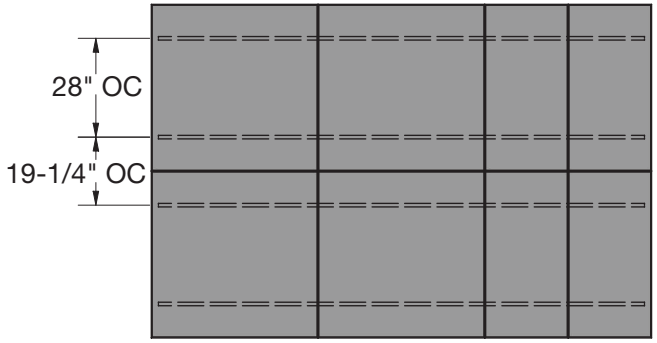
(Fig 17) *Metal Furring Layout for 48 × 48" FeltWorks Panels*
Screw & Washer Installation

- 48" × 48" (nominal size) will not require any spacing between panels due to the panel's beveled edge. Suspension can run perpendicular to the length of the panel. It will require two rows of suspension. Your furring layout will follow a pattern: 26" O.C., 21-1/4" O.C., 26" O.C., 21-1/4" O.C. ***(Fig 18)***

The suspension can also run perpendicular to the width of the panel. Consider following the furring layout: 16" O.C., 16" O.C., and 15-1/4" O.C.

- 24" × 48" (nominal size) will not require any spacing between panels due to the panel's beveled edge. Suspension can also run perpendicular to the length of the panel. It will require two rows of suspension. Your furring layout will follow a pattern: 26" O.C., 21-1/4" O.C., 26" O.C., 21-1/4" O.C. ***(Fig 18)***

The suspension can also run perpendicular to the width of the panel. Consider the following furring layout: 16" O.C., 7-5/8" O.C., 16" O.C., 7-5/8" O.C.



(Fig 18) *Metal Furring Layout for 24 × 48" and 48 × 48" FeltWorks Panels*

Screw & Washer Installation

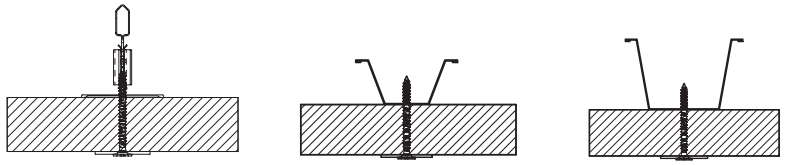
4.1.4 Attachment to Drywall Grid or Furring

- Once your layout is planned, plot and insert the screws (Item 6489_ _) and washers (Item 6488_ _) to the front of the panel. Pre-setting the screws and washers will expedite installation, as well as ensure that the fasteners are in the correct location.
- The panels are then carefully lifted to the grid/furring. It is recommended that the 48" × 96" panels be handled by two people.
- Support the panels as the screws and washers are installed using a standard impact driver or drill/driver

If installing using drywall grid, clamps can be used to hold the panel to the grid. It is recommended to use Locking C-Clamp Vise Grips or Ratcheting Spring Clamps, but not a steel spring clamp, since they can indent the face of the panel.

IMPORTANT NOTE: Fasteners should be set to a depth of no more than flush with the face of the panel. Overtightened fasteners will indent the face of the panel and will cause a pillowing effect. If fasteners are overtightened, back the fastener out of the grid/furring the pillowing goes away while making sure the fastener is still engaged to the grid or hat channel ***(Fig 19)***.

- It is recommended to practice installing the fasteners on a scrap piece of panel to ensure proper depth is achieved



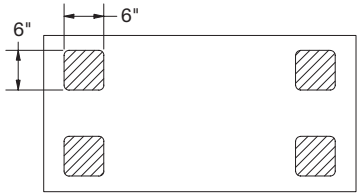
(Fig 19)

4.2 Direct-applied (Adhesive) to Painted Drywall

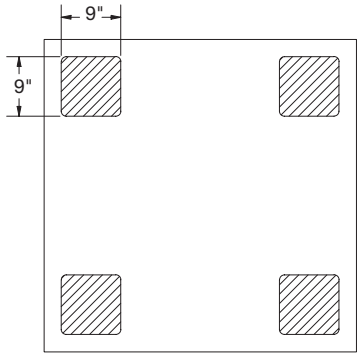
4.2.1 Armstrong® recommends Titebond® GREENchoice or Henry® 237 AcoustiGum™ Acoustical Ceiling Tile Adhesive when using the direct-applied installation method to either ceilings or walls. The adhesive will be supplied by the contractor. The glue provides a secure bond and does not require any supplemental mechanical attachment as long as these instructions are followed.

4.2.2 Using a trowel with 1/4 × 1/2 × 1/4" notches, apply the adhesive to the locations (as shown) per the panel size you are using.

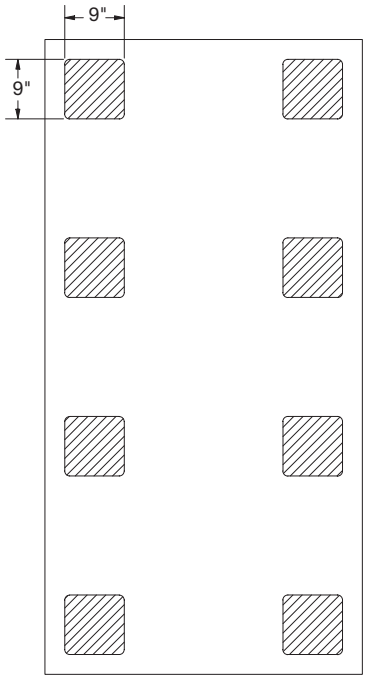
- A 24" × 48" will receive four adhesive spots no less than 6" × 6" in size, and it should be no more than 3" away from the edge of the panel ***(Fig 20)***
- A 48" × 48" will receive four adhesive spots no less than 9" × 9" in size, and it should be no more than 3" away from the edge ***(Fig 21)***
- A 48" × 96" will receive 8 adhesive spots no less than 9" × 9" in size, and it should be no more than 3" away from the edge of the panel ***(Fig 22)***



(Fig 20)



(Fig 21)



(Fig 22)

4.2.3 It is recommended to use an alignment method (i.e. laser, chalk line) to make sure the panels are properly positioned during installation.

4.2.4 Once in position, push the panel against the drywall applying even hand pressure to the panel where the adhesive is located, starting at the center first, and then working to the edges. By attaching the center first, the installer can still pivot the panel slightly left or right before adhering the edges. This ensures that the panel can be aligned correctly first before the edges are solidified into place. Avoid excessive pressure to minimize panel flexing that will disturb the previously pressed areas of adhesive and result in release of the adhesive. Lastly, press a sponge float across all areas of the panel where glue was applied to ensure all glue spots are properly compressed and adhered to the drywall.

4.2.5 Any slight adjustments to the panel placement should be done immediately so as to not weaken the adhesive bond. Once the panel is evenly pressed into position, the adhesive should provide an immediate bond to hold the panel in place while the adhesive sets.

4.2.6 It is recommended to have 2" of space between all panel sides for panels without beveled edges.

4.3 Magnet Installation Option for Ceilings

4.3.1 Hardware Layout

We recommend six different hardware layouts based on the seismic category of the project and panel size.

For non-seismic installations

24" × 48" panel will require 4 magnets

48" × 48" panel will require 6 magnets

48" × 96" panel will require 12 magnets

For seismic installations

24" × 48" panel will require 5 magnets

48" × 48" panel will require 8 magnets

48" × 96" panel will require 15 magnets

4.3.1.1 Magnet Installation – Non-Seismic

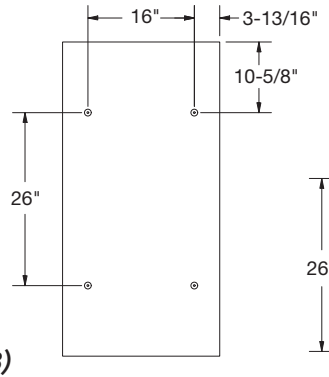
- Each panel requires magnets in two or three rows as detailed below (Item 6526)
- Each magnet has a countersunk hole in the center to allow for screw attachment to the panel. Use the #8 × 1" screws with the magnets, as specified in Section 3.3 (Item 6527)
- Each magnet is placed at the following distance from the edge based on panel size:

  For 24" × 48" panel will have magnets 10-5/8" in from the short panel edge and 3-13/16" in from the long edge ***(Fig 23)***

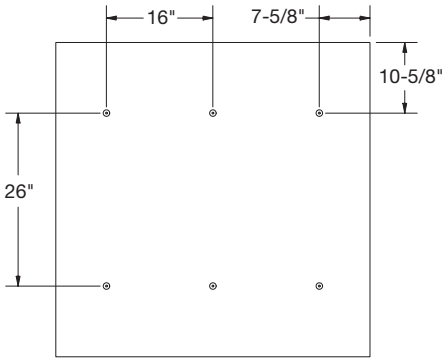
  For 48" × 48" panel will have magnets 10-5/8" in from the short edge and 7-5/8" from the long panel edge ***(Fig 24)***

  For 48" × 96" panel will have magnets placed 8" in from the long panel edge. The magnets located at the ends of the panel are placed 9" in from the short panel edge ***(Fig 25)***

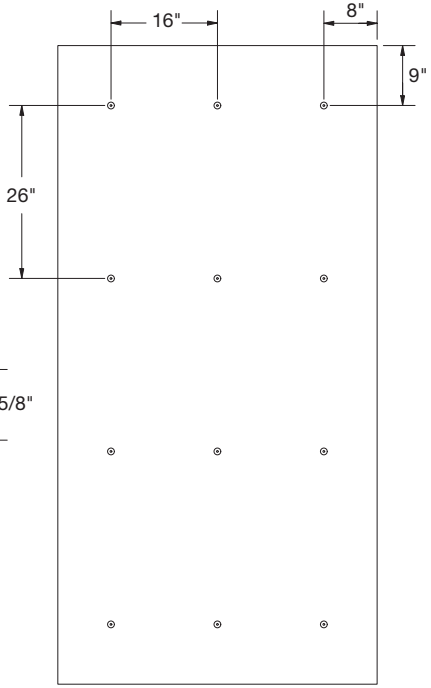
Exact magnet spacing is based on alignment with the suspension, but it should target 16" O.C. between magnets across the width of the panel.



(Fig 23)



(Fig 24)



(Fig 25)

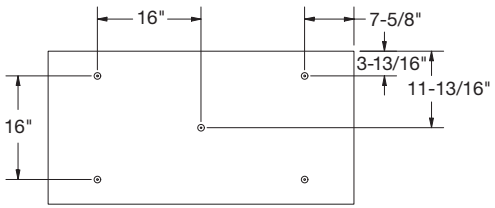
4.3.1.2 Magnet Installation – Seismic Area D, E, or F

- Each panel in seismic areas D, E, or F requires the following magnets in three rows (Item 6526) as detailed below.
- Each magnet has a countersunk hole in the center to allow for screw attachment to the panel. Use the #8 × 1" screws with the magnets, as specified in Section 3.3 (Item 6527).
- Each magnet is placed at the following distance from the edge based on panel size:

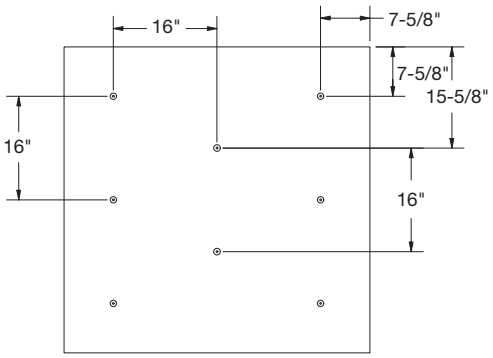
  The 24" × 48" panel will require 5 magnets. Magnets will be 7-5/8" in from the short panel edge and 3-13/16" in from the long edge, with one magnet in the center. Magnets should be spaced 16" O.C. along the length and width of the panel ***(Fig 26)***.

  The 48" × 48" panel will require 8 magnets. Magnets will be 7-5/8" in from the short panel edge and 7-5/8" in from the long panel edge, with two magnets in the center. Magnets should be spaced 16" O.C. along the length and width of the panel ***(Fig 27)***.

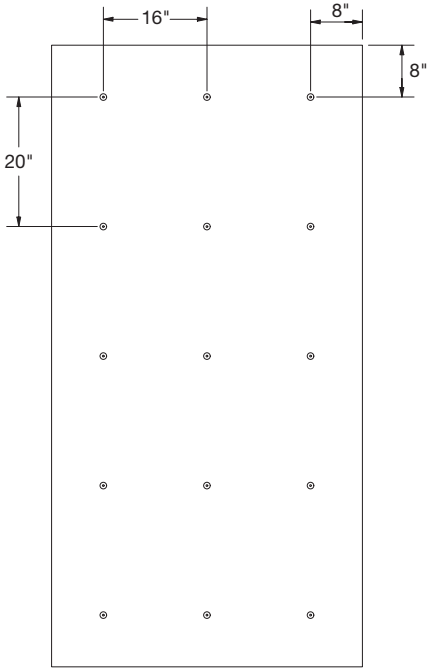
  For 48" × 96" panel 15 magnets will be required. Magnets will be placed 8" in from the long panel edge and 8" in from the short panel edge. Magnets should be spaced 20" along the length of the panel and 16" along the width of the panel ***(Fig 28)***.



(Fig 26)



(Fig 27)



(Fig 28)

Exact magnet spacing is based on alignment with the suspension, but it should target 16" O.C. between magnets along the length or width of the panel, depending on which panel size you are working with.

See panel spacing details in Section 4.3.1.1 for layout recommendations.

Hardware spacing may change if panels are cut in the field or ordered in a custom size. Refer to Section 6.2.6 for repositioning guidelines.

4.3.2 Magnet Installation Direct to a Metal Deck

- The layout of the panels will be dependent upon the ribbing in the metal deck. The exact magnet spacing will be based on the alignment with the metal ribs, as well as the seismic area factors explained in Section 4.3.1. Follow the magnet spacing per Section 4.3.1 based on the determined criteria.
- The spacing and structural components in the deck may vary so it is recommended to use an alignment method that can operate independently from these components (i.e. laser, chalk line).
- Once your layout is planned, plot your attachment points to the back of the panel. Add a dab (the size of a screw head) of Original Gorilla Glue® (or equal polyurethane foam glue) on top of those attachment points and screw the magnets through the glue to the back of the panel. The magnet should be flush with the back of the panel – be sure not to overtighten. Now attach the panel to the metal deck. It is recommended that the 48" × 96" panels be handled by two people.

NOTE: The glue may seep through the countersunk hole in the magnet as it cures, so it is not recommended to stack panels once the screw and magnet are attached for 24 hours. This is to prevent a transfer of glue to the face of another panel.

- It is recommended to have 2" of space between all panel sides without beveled edge.

4.3.3 Direct to Armstrong® Drywall Grid or Metal Furring

The FeltWorks® Acoustical Panels can be attached directly to Armstrong Drywall Grid and galvanized steel furring with the use of magnets. Aluminum furring cannot be used as it is not a magnetic material.

- The drywall grid or furring should be leveled to within 1/4" over 10' (ASTM C636) to ensure a satisfactory visual.
- The spacing and structural components in the deck may vary so it is recommended to use an alignment method that can operate independently from these components (i.e. laser, chalk line).
- The exact magnet spacing will be based on the alignment with the metal drywall grid or metal furring, the size of the panel, as well as the seismic area, explained in Section 4.3.1. Follow the magnet spacing explained in Section 4.3.1 based on the determined criteria.

4.3.3.1 Drywall Grid and Metal Furring Layouts Drywall Grid

Armstrong Drywall Grid has rout holes spaced every 8" O.C. The panel size and Seismic Category will determine rows of hardware required, either two or three rows. Refer to Section 4.3.1. Drywall grid cross tees pattern will be as follows:

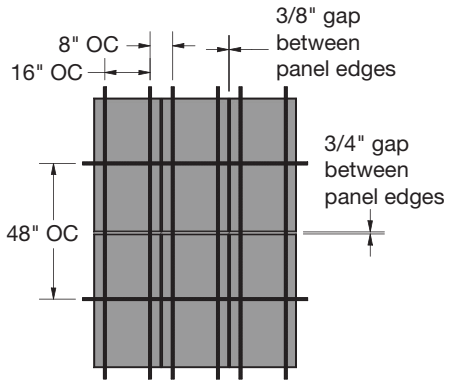
For Non–seismic Installation

- 24" × 48" panel: 16" O.C., 16" O.C., and 8" O.C.
- 48" × 48" panel: 16" O.C., 16" O.C., and 16" O.C.
- 48" × 48" and 48" × 96" panel: 16" O.C., 16" O.C., and 24" O.C.

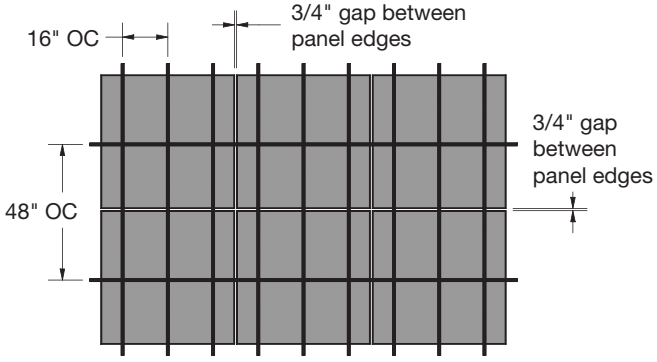
Panel Spacing

You can expect the following spacing due to the 8" rout hole spacing on Armstrong Drywall Grid ***(Figs 29-31)***.

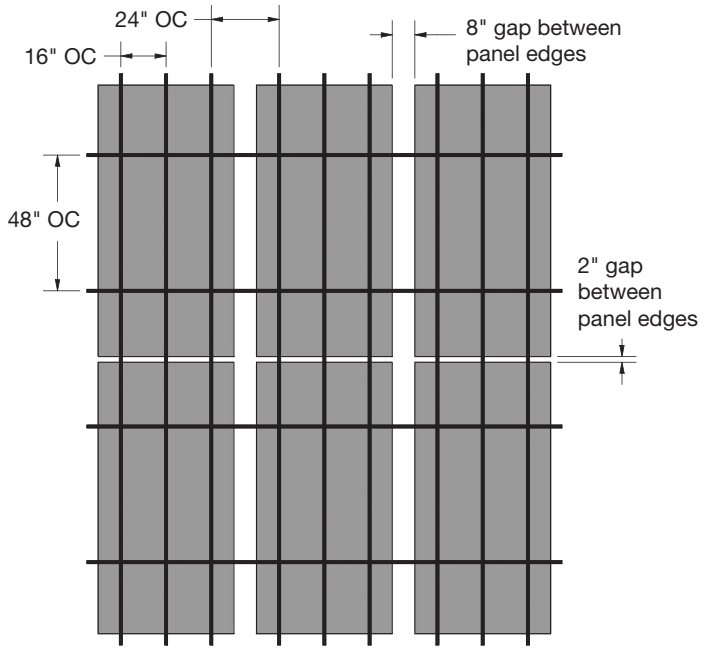
- 24" × 48" panel, there will be a 3/8" gap in between long panel edges
- 48" × 48" panel, there is a 3/4" gap in between long panel edges
- 48" × 96" panel, there is an 8" gap in between long panel edges



(Fig 29) *Drywall Grid Layout for 24 × 48" FeltWorks Panels*
Non-Seismic Magnet Installation



(Fig 30) *Drywall Grid Layout for 48 × 48" FeltWorks Panels*
Non-Seismic Magnet Installation



(Fig 31) *Drywall Grid Layout for 48 × 96" FeltWorks Panels*
Non-Seismic Magnet Installation

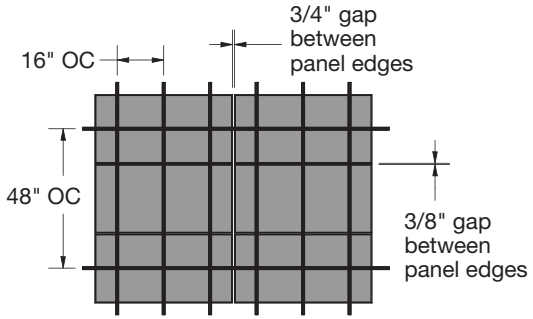
For Seismic Installation

24" × 48" and 48" × 48" panels: 16" O.C., 16" O.C., and 16" O.C.

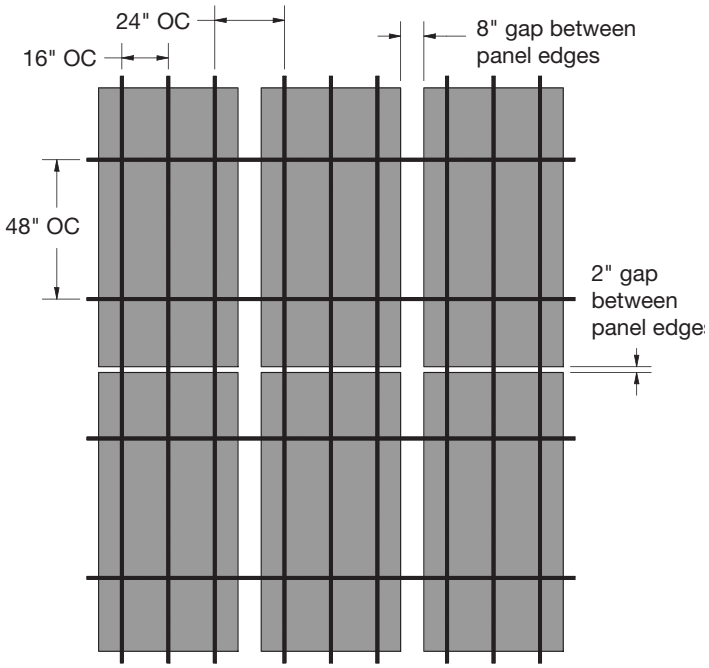
48" × 96" panel: 16" O.C., 16" O.C., and 24" O.C.

Panel Spacing
You can expect the following spacing due to the 8" rout hole spacing on Armstrong Drywall Grid ***(Figs 32-33)***.

- 24" × 48" and 48" × 48" panels, there will be a 3/8" gap between panel edges
- 48" × 96" panel, there will be an 8" gap between long panel edge



(Fig 32) *Drywall Grid Layout for 24 × 48" FeltWorks Panels Seismic Magnet Installation*



(Fig 33) *Drywall Grid Layout for 48 × 96" FeltWorks Panels Seismic Magnet Installation*

Layout Considerations
Adjoining panels will install either short edge to short edge or long edge to long edge depending on the size of panel you are using.

Metal Furring
You have more flexibility when using metal furring since you are not limited to the rout hole spacing as you are when using drywall grid.

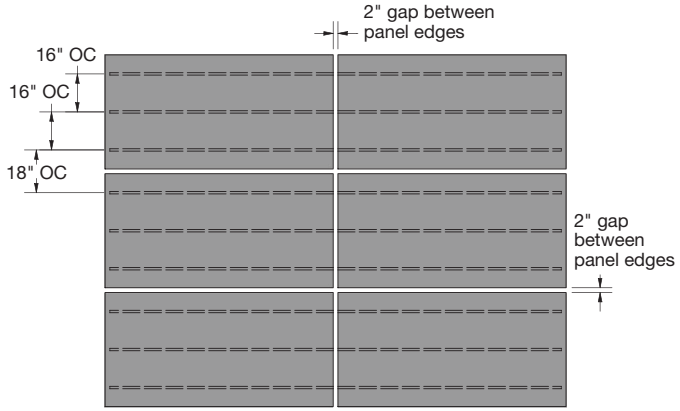
Panel Spacing
It is recommended to have a 2" gap in between the panel edges for panels without beveled edges (i.e. 48" × 96"). 24" × 48" and 48" × 48" panels are beveled so no spacing is required.

Layout Considerations

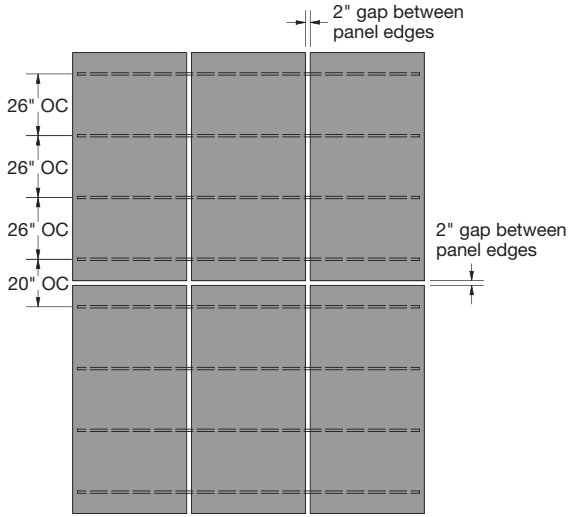
- 48" × 96" without beveled edges requires 2" gap between panels. Suspension system can run perpendicular to short edge. It will require three rows of suspension. Your furring layout will follow a pattern: 16" O.C., 16" O.C., and 18" O.C. ***(Fig 34)***

Suspension can also run perpendicular to the long edge. It will require five rows of suspension. Due to the recommended 2" gap in between panels, your furring layout will follow a pattern: 20" O.C., 20" O.C., 20" O.C., 20" O.C., 18" O.C. ***(Fig 35)***

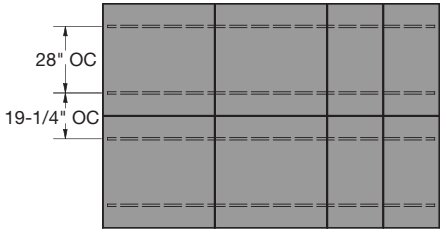
- 48" × 48" (nominal size) will not require any spacing between panels due to the panel's beveled edge. Recommend suspension run perpendicular to the width of the panel only due to magnets in the center of the panel. It will require three rows of suspension. Your furring layout will follow a pattern: 16" O.C., 16" O.C., and 15-1/4" O.C. ***(Fig 36)***
- 24" × 48" (nominal size) will not require any spacing between panels due to the panel's beveled edge. Recommend suspension run perpendicular to the long edge of the panel only due to magnets in the center of the panel. It will require three rows of suspension. Your furring layout will follow a pattern: 16" O.C., 16" O.C., and 15-1/4" O.C. ***(Fig 36)***



(Fig 34) *Metal Furring Layout for 48 × 96" FeltWorks Panels*
Seismic & Non-Seismic Magnet Installation



(Fig 35) *Metal Furring Layout for 48 × 96" FeltWorks Panels*
Seismic & Non-Seismic Magnet Installation



(Fig 36) *Metal Furring Layout for 24 × 48" and 48 × 48"*
FeltWorks Panels
Seismic & Non-Seismic Magnet Installation

4.3.3.2 Attaching to Drywall Grid or Furring

Once your layout is planned, plot your attachment points to the back of the panel. Add a dab (the size of a screw head) of Original Gorilla Glue® (or equal polyurethane foam glue) on top of those attachment points and screw the magnets through the glue to the back of the panel. The magnet should be flush with the back of the panel – be sure not to overtighten. Now attach the panel to either the metal drywall grid or galvanized steel furring. It is recommended that the 48" × 96" panels are handled by two people.

NOTE: The glue may seep through the countersunk hole in the magnet as it cures, so it is not recommended to stack panels for 24 hours once the screw and magnet are attached. This is to prevent a transfer of glue to the face of another panel.

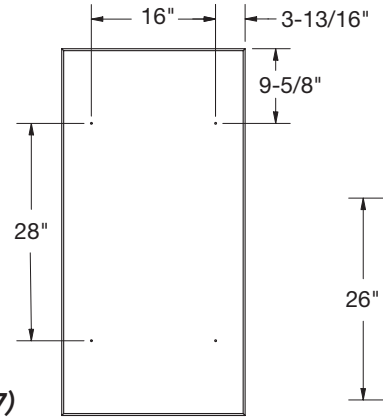
5. WALL INSTALLATION INSTRUCTIONS

FeltWorks® Acoustical Panels can install on the walls with screws, adhesive, or Z-Clips. The use of drawing pins (pushpins, thumbtacks, etc.) is not recommended with FeltWorks panels. The panels are not considered tackable and drawing pins will create visible perforations on the face of the panel.

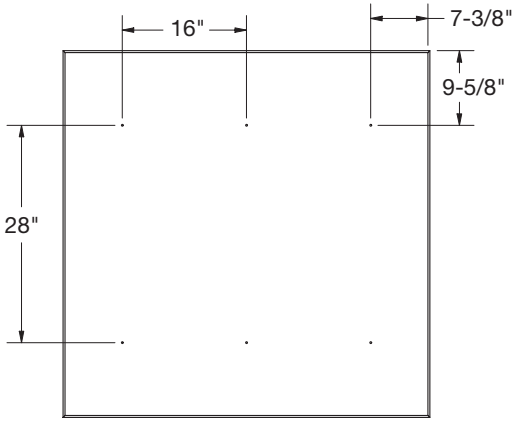
If using furring to attach FeltWorks Acoustical Panels to the wall, furring can be either wood or metal. For steel channel/hat channel, Armstrong® recommends 20-gauge 7/8" galvanized steel furring; however, ranges of 20- to 25-gauge metal furring can be used. For wood furring, 3/4" × 1-1/2" or 3/4" × 2-1/2" is recommended.

5.1 Direct-attached to Wall with Screws

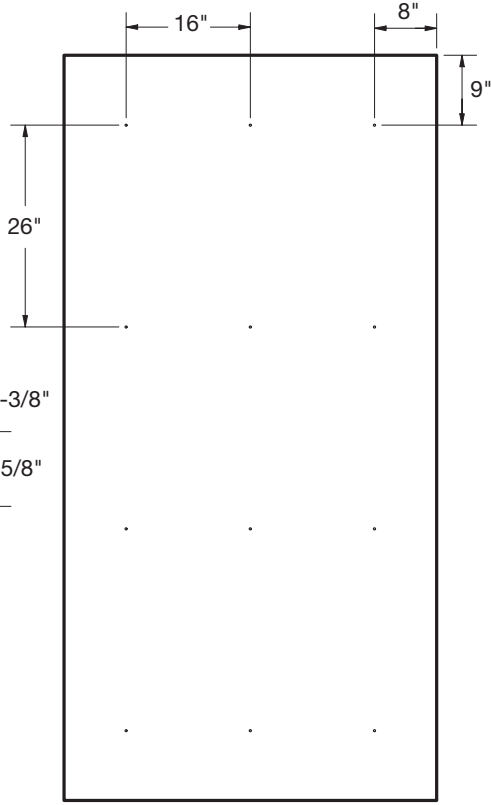
Panels can install direct-attached to walls with screws. Furring can also be used to increase acoustical performance; it will help maintain an air gap between wall and panel. The furring must be attached to the structure in a method that supports the full weight of the panels. Due to joist/stud spacing in most jobs, to meet fastener layout requirements furring strips are recommended to ensure a secure fastening location for the panels. If you are attaching to existing drywall, all fasteners must go into a stud, drywall grid, or other structural components. It is the responsibility of the contractor to locate these elements in either ceiling or wall applications. Panels without a beveled edge are recommended to install with 2" spacing between panel edge. 24" × 48" and 48" × 48" panels do not require spacing between panels due to panel beveled edge ***(Figs 37-39)***.



(Fig 37)



(Fig 38)



(Fig 39)

Hardware Layout
The following rules apply for direct-attached panels based on panel size. All panels use #6 × 1-5/8" screw (Item 8187L16_ _ _ or Item 8188L16_ _ _):

24" × 48" Panel
Each panel requires 4 screws. Each screw is placed 3-13/16" in from the long edge. The screws located at the ends of the panel are placed 9-5/8" in from the short panel edge.

48" × 48" Panel
Each panel requires 6 screws. Each screw is placed 7-5/8" in from the long edge. The screws located at the ends of the panel are placed 9-5/8" in from the nearest short panel edge.

48" × 96" Panel
Each panel requires 12 screws. Each screw is placed 8" in from the long edge. The screws located at the ends of the panel are placed 9" in from the nearest short panel edge.

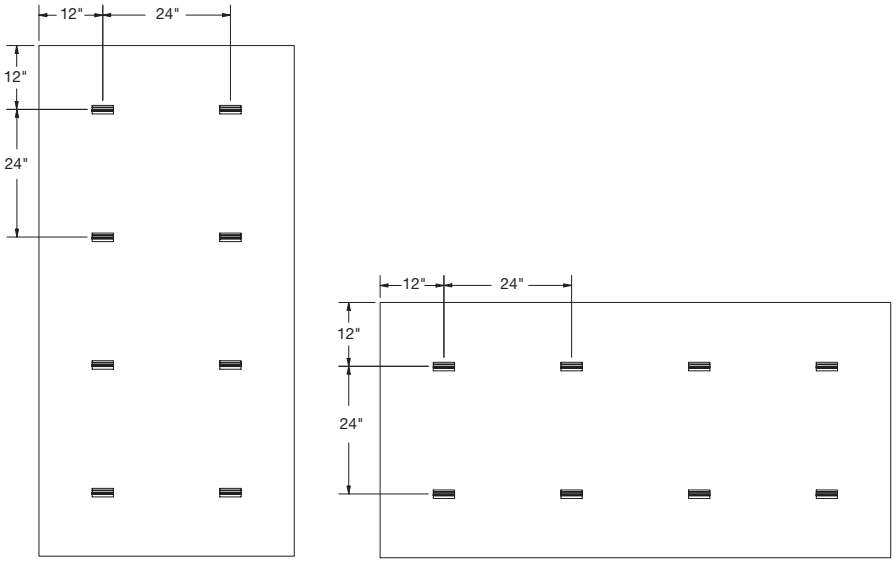
5.2 Direct-applied to Wall with Adhesive

Panels can install direct-attached to walls using adhesive. Refer to Section 4.2 for direct-applied to painted drywall instructions. For light duty (off white) also refer to Section 5.3.3 for additional instructions.

5.3 Installation Using Z-Bars and Z-Clips

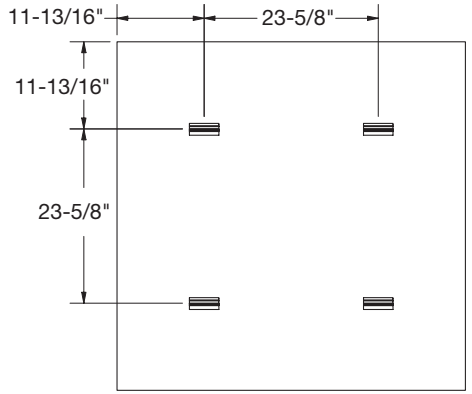
Armstrong offers two types of Z-Clips and Z-Bars for installation to walls. See Section 3.4 for Z-Clip and Z-Bar options and Section 3.1 for appropriate coordinating fastener. Panels installed with Z-Clips are easily removed and re-installed for access behind the panel or to change patterns in multiple panel installations.

5.3.1 Number of Clips per Panel
48" × 96" panel shall be fastened to the wall with 8 Z-Clips, two rows of Z-Clips running along the long edge for horizontal installation or 4 rows of Z-Clips running along the short end for vertical installations, spaced 24" O.C. ***(Fig 40)***

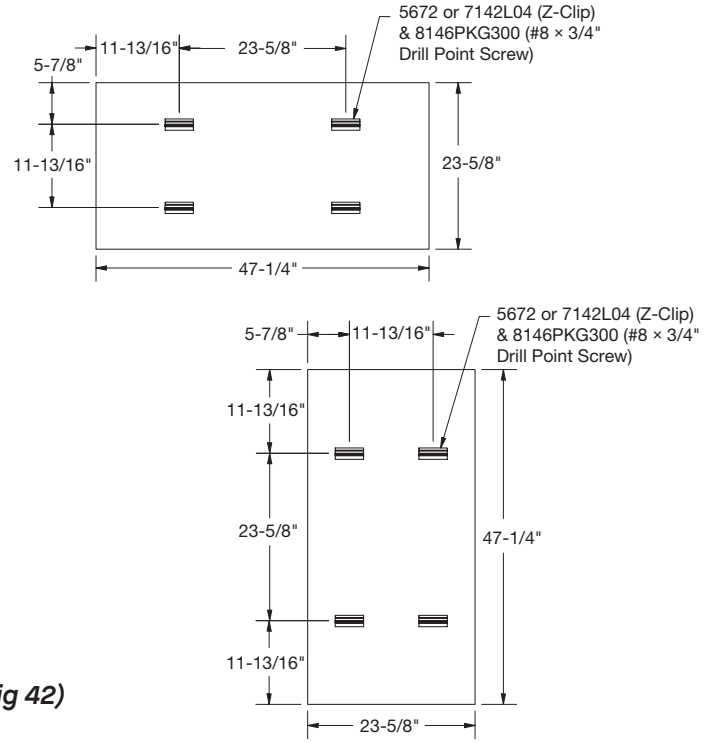


(Fig 40)

48" × 48" panel must be fastened to the wall with 4 Z-Clips, two on each end of the panel, spaced 23-5/8" O.C. ***(Fig 41)*** 24" × 48" panel shall be fastened to the wall with 4 Z-Clips; two rows of Z-Clips running along the long edge for horizontal Installation, spaced 23-5/8" or two rows of Z-Clips running along the short for vertical installation, spaced 11-13/16" O.C. ***(Fig 42)***



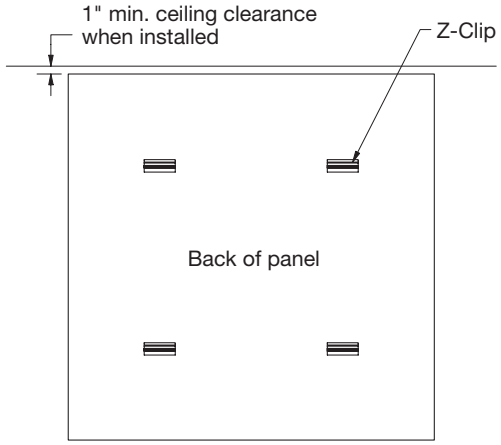
(Fig 41)



(Fig 42)

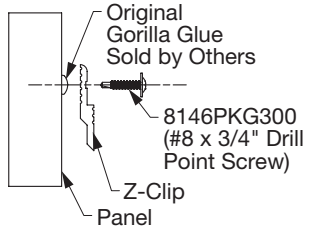
5.3.2 Installation of Panels

- Panels installed with Z-Clips without beveled edge are recommended to install with 2" gap between panels. For 24" × 48" and 48" × 48" panels, no gap is required due to panel beveled edge.
- Panels can be installed horizontally or vertically. Regardless of orientation or size, it is recommended to have a minimum of two Z-Bars engaging panel ends.
- Z-Clips liftoff is 5/8" to allow Z-Clip and Z-Bar engagement, therefore, panels must have 1" minimum clearance between the top of the panel and the ceiling for Z-Clip installations and will require the wall to be straight and solid.
- Lay out the panel location on the wall ***(Fig 43)***



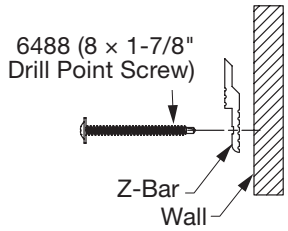
(Fig 43)

- Lay out your attachment points to the back of the panel for the Z-Clips. Add a dab (the size of a screw head) of Original Gorilla Glue® (or equal polyurethane foam glue) on top of those attachment points, between panel back and Z-Clips, and screw the Z-Clips through the glue to the back of the panel using #8 × 3/4" drill point screw (Item 8146PKG300) ***(Fig 44)***



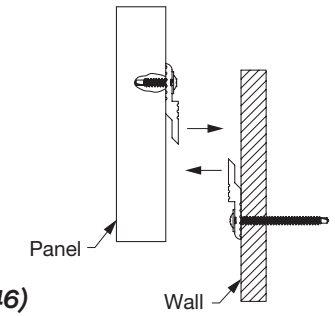
(Fig 44)

- Install the Z-Bar on the wall. Determine the Z-Bar location on the wall to line up with the Z-Clip on the panel. Use screw (8187L16_ _ _ or 8188L16_ _ _) or appropriate for the wall substrate (provided by others) to attach the Z-Bar to the wall ***(Fig 45)***

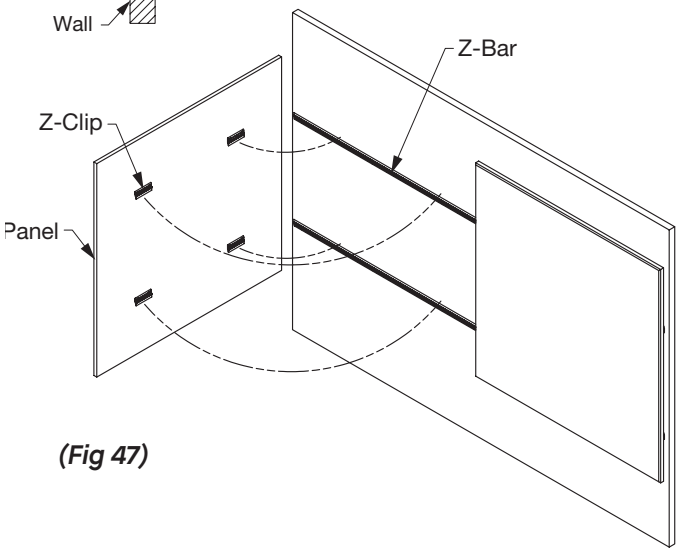


(Fig 45)

- Install the panel. Position the panel on the wall slightly above the desired height. Gently slide the panel and Z-Clips down onto the Z-Bar on the wall. It is recommended that the 48" × 96" panels are handled by two people ***(Figs 46-47)***



(Fig 46)



(Fig 47)

5.3.3. Additional instructions when installing using light duty Z-Bars and Z-Clips

When installing using light duty Z-Bars and Z-Clips, additional reinforcement is needed to create a more stable installation due to the flexibility of the light duty Z-Bars. The following are recommendations when panels are to be installed individually or on top against another panel.

5.3.3.1. When Installing panels on top of another panel without spacing

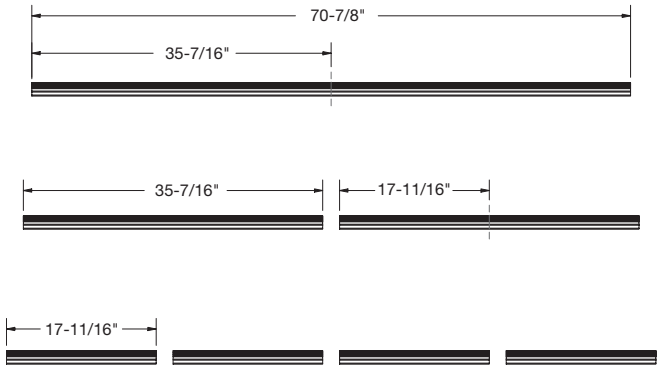
- It is recommended that the first bottom row of panels use field cut Z-Bars (71" Light Duty PVC Z-Bar) in place of the Z-Clips. The field cut Z-Bars will engage the wall Z-Bars in the same way as the Z-Clips. The panels on top of the first row without spacing will follow the standard Z-Clips placement recommendations, refer to Section 5.3.1
- If field cut Z-Bars are not used on the first row of panels, a subframe of furring or plywood is recommended when using light duty Z-Bars and Z-Clips. Z-Bar will require additional screws where the Z-Clip will engage for additional support.

5.3.3.2 When Installing panels individually or when panels install on top of another panel requiring a 2" gap

- All panels are recommended to install using field cut Z-Bars (71" Light Duty PVC Z-Bar) in place of Z-Clips. Field cut Z-Bars will engage the Z-Bars on the wall the same way as the Z-Clips.
- If Z-Bars are not used, a sub-frame using furring or plywood, is recommended when using light duty Z-Bars and Z-Clips. Z-Bar will require additional screws where the Z-Clip will engage for additional support.

5.3.3.3 Hardware Size and Spacing of Field Cut Z-Bars on Panels

The following are the dimensions recommended for the field cut Z-Bars based on the panel size being used ***(Fig 48)***.

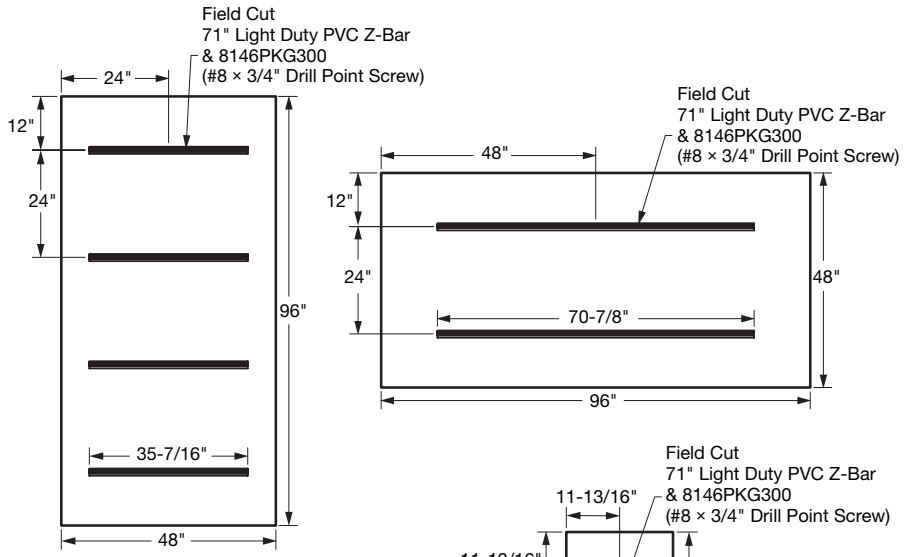


(Fig 48)

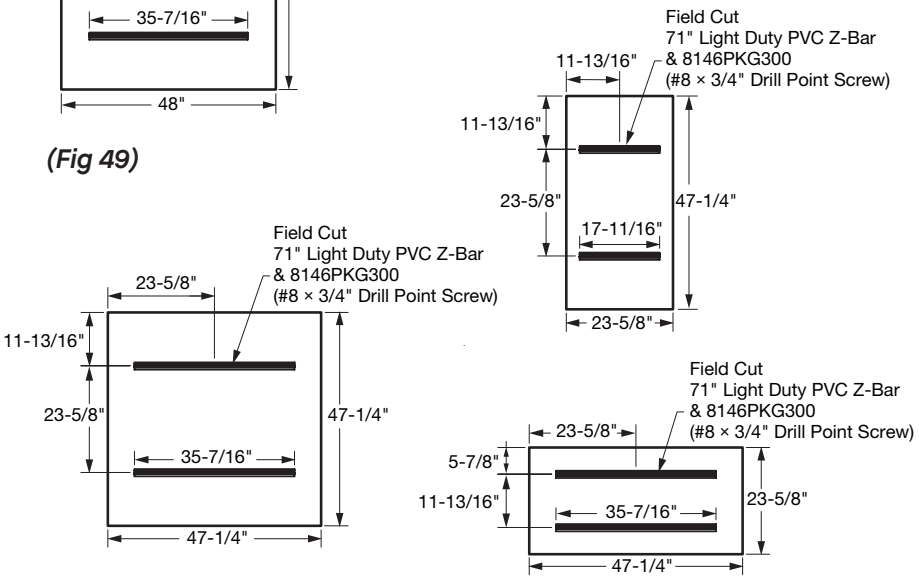
48" × 96" panels – Will use two rows of 70-7/8" Z-Bar which is the full standard length of a Z-Bar on both ends running along the length of the panel for horizontal installation or 35-7/16" field cut bar in 4 rows along the short end for vertical installation ***(Fig 49)***.

48" × 48" panels – Will use two rows of 35-7/16" field cut Z-Bar on both ends of the panel for any orientation on the panel ***(Fig 50)***.

24" × 48" panels – Will use two rows of 35-7/16" field cut Z-Bar on both ends when running along the length of the panel for horizontal installations or two rows of 17-11/16" field cut Z-Bar on both ends when running along the short end of the panel for vertical installation ***(Fig 51)***.



(Fig 49)



(Fig 50) ***(Fig 51)***

6. PANELS

6.1 Edge Detail/Interface

FeltWorks® Acoustical Panels are 1" thick (nominal) and are available in standard size of 24" × 48", 48" × 48" and 48" × 96". 24" × 48" and 48" × 48" panels have beveled edges, while 48" × 96" panels have all square edges.

6.2 Field Cutting

FeltWorks Acoustical Panels may be cut with a variety of tools, depending on the type and precision of cut required. No touch-up is required due to the color throughout panel design. Tool speeds and the angle of the cut should be such that the panel does not melt from frictional heat. In general, the highest speed at which overheating of the tool or panel does not occur will give best results. It is recommended to test cut with scrap material to determine the best speed and method for cutting.

6.2.1 The following tools can be used to make cuts in the field:

- **Table saw:** Recommended field cutting method for straight cuts. Be sure to use a 7-1/4" foam blade, such as a Bullet Tools™ Centerfire™ or equal. Constant feed rate is critical to limit panel melting on the cut edge.
- **Jigsaw:** Recommended for complex cuts such as circles that would need to be made to maneuver around pipes, sprinklers heads, and other fixtures in the field. If a jigsaw is to be used for a straight cut, utilize a straight edge to guide the jigsaw to ensure the cut edge remains straight. Be sure to use a foam knife edge blade when using the jigsaw, such as Bosch™ T313AW or equal.
- **Circular saw:** Can be used for straight cuts if a table saw is not onsite. Be sure to use a 7-1/4" foam blade, such as Bullet Tools™ Centerfire™ or equal, or a non-ferrous blade, such as Diablo® D0756N or equal. Utilize a straight edge to guide the circular saw to ensure the cut edge remains straight. Constant feed rate is critical to limit panel melting on the cut edge. When using the circular saw, make sure the blade comes to a complete stop before backing the saw out of the cut.
- **Hole saw:** Can be used when circular holes are needed.
- **Hand Tools:** Can be used for straight or circular cuts. Tools that have proven performance include: insulation cutting knife, snapaway utility knife. Three to four passes may need to be made to cut through the material. Ensure blade is long enough to cut through the material to prevent poor edge quality. Utilize a straight edge to guide the hand tool to ensure the cut edge remains straight.

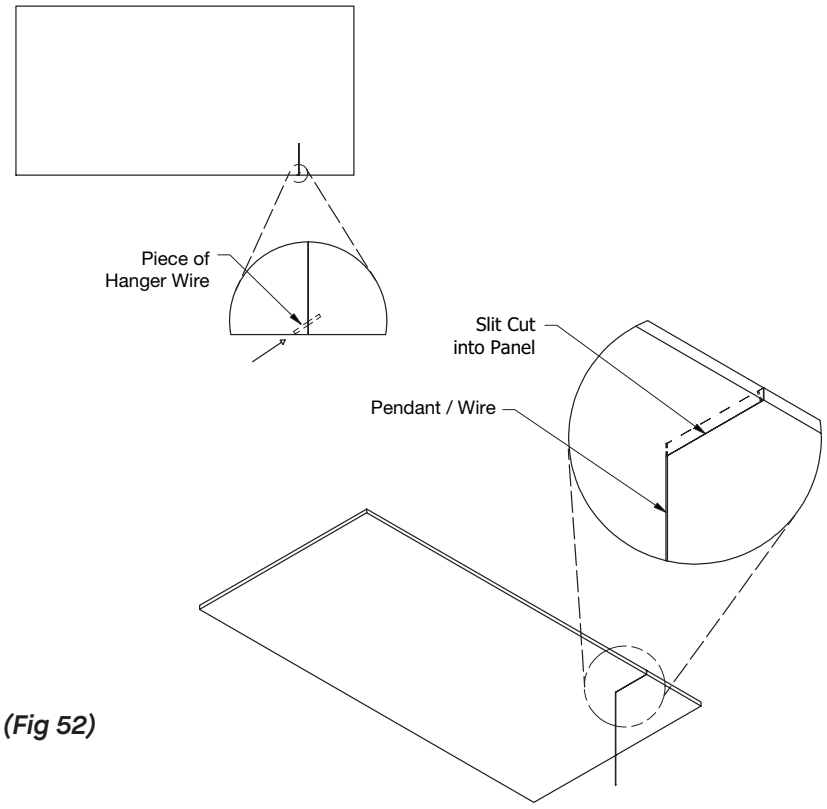
6.2.2 Make sure panel is supported on a clean surface when making cuts to minimize the risk of blemishes or melting on the cut face.

6.2.3 It is recommended that the same blade is not used when cutting panels that have different colors in order to minimize the risk of transferring colored fibers between panels.

6.2.3.1 If you only have one blade, mineral spirits (or other similar solvents) can be used to clean the blade with steel wool.

6.2.4 Make sure the blade is kept clean and sharp to ensure optimal cuts.

6.2.5 If a slice cut is needed in the middle of a panel to work around an object in the plenum, you can insert a small piece of scrap hanger wire through the two pieces of panel on either side of the cut to add stability to the cut and minimize any possibility of sagging ***(Fig 52)***.



(Fig 52)

6.2.6 Modifying hardware spacing if panels are cut in the field

- FeltWorks® Acoustical Panels can be cut to length in the field, as long as the panels follow the same attachment rules as specified, and the panels are supported within 9" of the edges for large format panels and within 4" of the edge for smaller size panels.
- A panel smaller than 48" × 96" should have one attachment point for every 4 SF, regardless of the installation method. Always round up if the calculation creates a partial attachment point. The attachment points should be uniformly spaced.
- If a slice cut is needed in the middle of a panel to work around an object in the plenum, make sure an attachment point is within 9" from the edge of the slice cut.

6.3 Directionality

There is a natural fiber direction in the FeltWorks® Acoustical Panels. It is recommended to install the panels in the same fiber direction. Directionality will be marked with an arrow on the back of the panels.

7. SPECIAL INSTALLATION CONSIDERATIONS

7.1 Sloped Applications

A sloped installation can be used with the direct-attached (screw and washer) installation method only. The maximum ceiling slope should not exceed 30°. The magnet and direct-applied (adhesive) installation methods are not recommended for sloped installations at this time. Please refer to our “Sloped Ceilings Technical and Installation Guide” for more information on sloped applications.

7.2 Pools/Natatoriums

FeltWorks Acoustical Panels are not to be used in pool areas.

7.3 Exterior Applications

FeltWorks Acoustical Panels are not intended for use in exterior applications.

8. SEISMIC INSTALLATIONS

FeltWorks Acoustical Panels have been engineered and tested for application in all Seismic Design Categories when installed following these instructions.

8.1 Grid Suspension System

- All seismic installations of FeltWorks Acoustical Panels must be installed per Seismic Categories D, E, and F. This is regardless of the total system weight
- Prelude® XL® heavy-duty grid is required per ASTM E580 and the cross tees may have to match the mains in load-carrying capacity based on the grid layouts
- FeltWorks Acoustical Panels directly attached to grid have been engineered for application in all seismic areas

8.2 Seismic Rx® Category D, E, and F Requirements (All Seismic Installations)

- Ceiling installation should conform to basic minimums established in ASTM C636
- Minimum 7/8" wall molding
- Suspension system must be attached on two adjacent walls
- Opposite walls require BERC2 with 3/4" clearance
- BERC2 clip 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" of perimeter
- 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
- 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*
- Seismic installations of FeltWorks Acoustical Panels are to be handled per building code. Please check with your local code official to see if any additional requirements are needed.

FELTWORKS® Acoustical Panel Items					
Item	**Item Name**	**Included with panels**	**Sold by the:**	**Pieces / Sq.ft.**	**lbs. /SF**
Panels					
6322W24L048B4FBL	FeltWorks Acoustical Panel – Black – 24 × 48 × 1"	–	Carton	6 pcs / 48 sq.ft.	0.50
6322W24L048B4FWH	FeltWorks Acoustical Panel – White – 24 × 48 × 1"	–	Carton	6 pcs / 48 sq.ft.	0.50
6322W24L048B4FLG	FeltWorks Acoustical Panel – Light Grey – 24 × 48 × 1"	–	Carton	6 pcs / 48 sq.ft.	0.50
6322W24L048B4FDG	FeltWorks Acoustical Panel – Dark Grey – 24 × 48 × 1"	–	Carton	6 pcs / 48 sq.ft.	0.50
6322W24L048B4FBG	FeltWorks Acoustical Panel – Beige – 24 × 48 × 1"	–	Carton	6 pcs / 48 sq.ft.	0.50
6322W48L048B4FBL	FeltWorks Acoustical Panel – Black – 48 × 48 × 1"	–	Carton	6 pcs / 96 sq.ft.	0.50
6322W48L048B4FWH	FeltWorks Acoustical Panel – White – 48 × 48 × 1"	–	Carton	6 pcs / 96 sq.ft.	0.50
6322W48L048B4FLG	FeltWorks Acoustical Panel – Light Grey – 48 × 48 × 1"	–	Carton	6 pcs / 96 sq.ft.	0.50
6322W48L048B4FDG	FeltWorks Acoustical Panel – Dark Grey – 48 × 48 × 1"	–	Carton	6 pcs / 96 sq.ft.	0.50
6322W48L048B4FBG	FeltWorks Acoustical Panel – Beige – 48 × 48 × 1"	–	Carton	6 pcs / 96 sq.ft.	0.50
8246FBL	FeltWorks Acoustical Panel – Black – 48 × 96 × 1"	–	Pallet	36 pcs / 1152 sq.ft.	0.50
8246FWH	FeltWorks Acoustical Panel – White – 48 × 96 × 1"	–	Pallet	36 pcs / 1152 sq.ft.	0.50
8246FLG	FeltWorks Acoustical Panel – Light Grey – 48 × 96 × 1"	–	Pallet	36 pcs / 1152 sq.ft.	0.50
8246FDG	FeltWorks Acoustical Panel – Dark Grey – 48 × 96 × 1"	–	Pallet	36 pcs / 1152 sq.ft.	0.50
8246FBG	FeltWorks Acoustical Panel – Beige – 48 × 96 × 1"	–	Pallet	36 pcs / 1152 sq.ft.	0.50
Accessories					
6488MF	Washers for screw installation – Mill Finish	No	Pail	1000	
6488BL	Washers for screw installation – Black	No	Pail	1000	
6489MF	#8 × 1–7/8" Screws – Mill Finish	No	Pail	1000	
6489BL	#8 × 1–7/8" Screws – Black	No	Pail	1000	
6526	FeltWorks Acoustical Panel Magnets	No	Carton	120	
6527	#8 × 1" Stainless Steel Screws for magnet installation	No	Pail	1000	
8187L16TNA	#6 × 1-5/8" Sharp Point Screw for installation without washers	No	Carton	1000	
8187L16TWH	#6 × 1-5/8" Sharp Point Screw for installation without washers	No	Carton	1000	
8188L16TNA	#6 × 1-5/8" Drill Point Screw for installation without washers	No	Carton	1000	
8188L16TWH	#6 × 1-5/8" Drill Point Screw for installation without washers	No	Carton	1000	
5672	2" Aluminum Z-Clip	No	Carton	250	
5673	72" Aluminum Z-Bar	No	Carton	20	
7142L04	Light Duty PVC Z-Clip	No	Carton	24	
7142L71	71" Light Duty PVC Z-Bar	No	Carton	4	
8146PKG300	#8 × 3/4" drill point screw Z-Clips Installations	No	Pail	300	
–	Original Gorilla Glue®	No	Not sold by Armstrong		
–	Henry® 237B AcoustiGum Acoustical Ceiling Tile Adhesive	No	Not sold by Armstrong		
–	Notched Trowel – 1/4 × 1/2 × 1/4"	No	Not sold by Armstrong		
–	Sponge Float	No	Not sold by Armstrong		

FELTWORKS® Acoustical Panel Items (continued)					
Item	**Item Name**	**Included with panels**	**Sold by the:**	**Pieces / Sq.ft.**	**lbs. /SF**
Suspension System Components					
HD8906	12' HD Drywall Grid Main Beam	No	Carton	20	
XL9845	4' Drywall Grid Cross Tee	No	Carton	36	
QSUTC	QuikStix Uptight Clip	No	Carton	150	
–	Galvanized Steel Furring Channel	No	Not sold by Armstrong		
–	Wood Furring	No	Not sold by Armstrong		

MORE INFORMATION

For more information, or for an Armstrong 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 or FAX 800 572-TECH.

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