AcoustiBuilt® Seamless Acoustical Ceiling System Overview

Assembly and Installation Instructions

Critical Lighting Design Disclaimer

AcoustiBuilt panels are intended for spaces desiring a Level 4 equivalent drywall finish. Like Level 4 drywall, critical or low-angle light grazing across the ceiling can show imperfections. Special attention to finishing and sanding may be required. Downlights can complement the appearance in severe grazing light.

Installation is similar to standard wallboard and drywall suspension systems. However, it requires more precision and a higher level of finish to achieve an acceptable appearance. Lighting conditions can magnify surface imperfections, especially natural light that shines from oblique angles. It is strongly recommended that a job site mockup be constructed with representative lighting so that expectations regarding the finished appearance are managed.
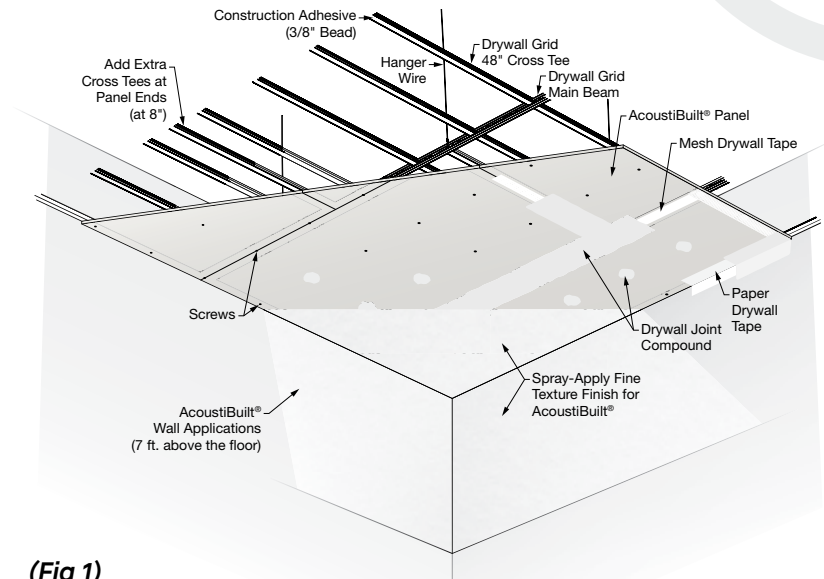
1. GENERAL

AcoustiBuilt panels are 7/8" thick, with a nominal size of 48" x 72", and have tapered edges on all four sides for easier finishing. As ordered, AcoustiBuilt panels have an unfinished scrim face. Panels are installed to FrameAll™ Drywall Grid using construction adhesive and drywall screws. Joints and fasteners are finished with drywall compounds. Finally, the surface is coated with Fine-Texture Finish for AcoustiBuilt.

1.1 Safety

During the installation be certain that the work site is well ventilated and avoid breathing dust. Use an appropriate NIOSH-designed dust mask. Avoid contact with your eyes and skin. Wash thoroughly after handling. For additional information, refer to the Safety Data Sheet at *armstrongceilings.com/acoustibuilt*

1.2 Warranty

Failure to follow the Armstrong® Ceilings recommended installation instructions in effect at the time of installation will void the panel warranty.

(Fig 1)

Construction Adhesive (3/8" Bead)
Add Extra Cross Tees at Panel Ends (at 8")
Hanger Wire
Drywall Grid 48" Cross Tee
Drywall Grid Main Beam
AcoustiBuilt® Panel
Mesh Drywall Tape
Screws
Paper Drywall Tape
Drywall Joint Compound
Spray-Apply Fine Texture Finish for AcoustiBuilt®
AcoustiBuilt® Wall Applications (7 ft. above the floor)

AcoustiBuilt Installation Training:

Installation training by one of our Installation System Specialists (ISS) is strongly recommended before your first installation.

Call 877 276-7876 six to eight weeks before beginning the project to schedule free installation training and order the spray calibration sample #BPCS-6119.

Watch the video here:

Armstrong®
World Industries

1.3 Storage and Handling

Store AcoustiBuilt® panels in a dry, interior space between 25% and 55% RH. Keep the panels in their packaging until installation. Take proper care when handling panels to avoid damaging or soiling. Store Fine-Texture Finish for AcoustiBuilt in a conditioned, interior space between 20° F and 100° F.

1.4 Site Conditions

Prior to installation, the area should be free of construction dust and debris. AcoustiBuilt panels should be installed in areas where the building is enclosed, and conditioned to 25% - 55% RH and between 35° F and 120° F.

This product is not recommended for exterior applications, where standing water is present, or where moisture will come into direct contact with the ceiling. A finished AcoustiBuilt ceiling system features HumiGuard® Plus performance.

1.5 HVAC Design & Operation, Temperature & Humidity Control

HVAC should be designed, installed, and operated in accordance with ASHRAE Standard 62.1. It is also necessary for the area to be enclosed, and for the HVAC systems to be functioning and in continuous operations for the life of the product. AcoustiBuilt® is not intended for use where natural ventilation is part of the ventilation strategy. For installations with an open-air plenum (i.e. without ducted returns), refer to section 8 (page 17) of these instructions. AcoustiBuilt ceiling systems cannot be used in exterior applications.

1.6 Fire Performance

AcoustiBuilt panels with Fine-Texture Finish are tested to ASTM E84 and CAN/ULC S102 surface burning characteristics. Flame Spread Index 25 or less. Smoke Developed Index 50 or less (UL® labeled).

1.7 Seismic Performance

AcoustiBuilt Ceiling System has been engineered and tested for application in all Seismic Design Categories when installed using the following instructions for a wall-to-wall ceiling. Layouts that vary from wall to wall (floating trim, clouds, elevation changes) may require rigid bracing at the discretion of the code official or project engineer.

1.8 Compatible Systems

AcoustiBuilt is compatible with many Armstrong products, including those listed. Refer to the AcoustiBuilt Master Drawing Sheet for proper installation and common integration details:
armstrongceilings.com/acoustibuilt

Armstrong® Drywall Grid Solutions
- StrongBack™
- SimpleSoffit®
- Quikstix™

Ceiling Trims and Transitions
- Axiom® Classic with Axiom Bottom Trim for AcoustiBuilt
- Axiom One-Piece
- Axiom Knife Edge®
- Axiom Transitions
- Axiom Shade Pockets

Integrated Solutions
- Linear Lighting
- Axiom Direct, Indirect, and Field Light Coves
- CastWorks™ GFRG Access Panels
- Armstrong VidaShield UV24™ Air Purification System

2. DESIGN AND INSTALLATION CONSIDERATIONS

2.1 Panel Thickness

AcoustiBuilt panels are 7/8" thick. The installed height of the fixtures that interface with these panels, such as sprinkler heads and light fixture trims, must allow adjustment to accommodate this 7/8" thickness.

2.2 Finish Level

AcoustiBuilt is finished to a Level 4 drywall finish equivalent. Installing AcoustiBuilt requires special attention to the details. Light coves and low-angle lighting will exaggerate imperfections. Mock-ups and hands-on training are strongly recommended.

2.3 Fixture Integration

Independent support of MEP devices is required per manufacturer instructions. AcoustiBuilt panels may not bear load from lights, diffusers, speakers, or similar devices. Ensure detailed plans for integrations are established prior to panel installation.

2.4 Sprinklers

For questions about sprinklers, see NFPA 13 sprinkler code. Designers and installers are advised to consult a fire protection engineer, NFPA 13, and local codes for guidance where automatic fire detection and suppression systems are present.

2.5 Control Joints

Control joints are required following the standards used for gypsum board listed in ASTM C840, Section 20.

- Ceilings with perimeter relief cannot exceed 50 LF and 2500 SF between control joints
- Ceilings without perimeter relief cannot exceed 30 LF and 900 SF between control joints

Fastener connections of the suspension system to building structure are specified by the contractor and must follow the manufacturer's instructions and referenced code.

2.6 Sloped Installations

AcoustiBuilt® ceiling systems can be installed on slopes of any angle.

2.7 Soffits

AcoustiBuilt panels can be installed on soffits of any size or angle. For acoustical benefit, AcoustiBuilt panels are recommended on soffits 36" or greater in height (i.e., between finished corners). Standard drywall is recommended for soffits less than 36".

2.8 Armstrong VidaShield UV24™ System

AcoustiBuilt Ceiling System can be installed with the VidaShield UV24™ air purification system using the VidaShield UV24 Drywall/AcoustiBuilt Trim Kit Item BP52DACBTK. See VidaShield UV24 Drywall/AcoustiBuilt Trim Kit installation instructions for complete details.

3. SUSPENSION SYSTEM REQUIREMENTS

The requirements listed here represent the manufacturer's minimum acceptable installation recommendations and may be subject to additional requirements established by the local authority having jurisdiction.

- All installations should comply with ASTM C754 and C1858
- All references to grid component property testing are per ASTM E3090
- All grid components must meet the requirements of ASTM C645

3.1 Adhesive Requirements

The adhesive should meet the performance requirements of ASTM C557 and be recommended by the manufacturer for bonding to galvanized steel. Do not use a foaming type adhesive.

Recommended adhesives or equivalent:

- Titebond® 5252 ProVantage VOC Compliant Heavy Duty
- Titebond® 5262 Heavy Duty
- Titebond® 5342 Drywall Plus VOC Compliant
- Titebond® 5352 Professional Drywall
- Titebond® 3452 All Purpose

3.2 Grid, Panel, and Fastening Details

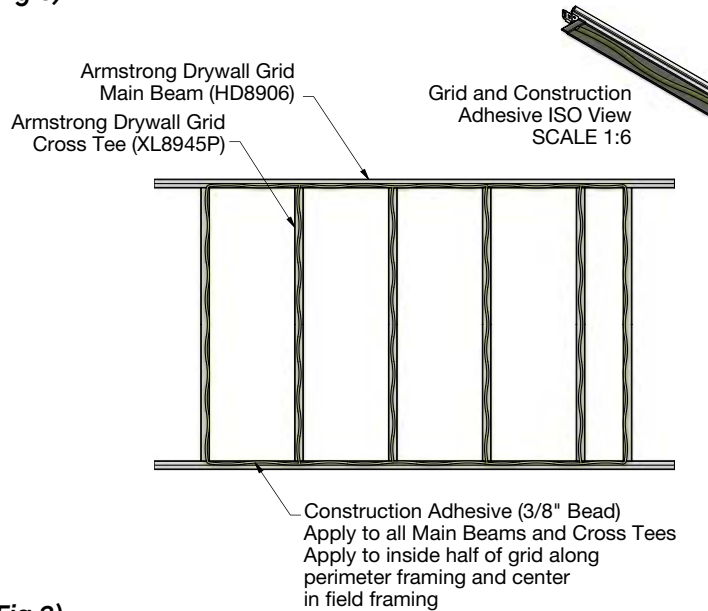### 3.2.1 Grid, Adhesive, and Panel Layout

Grid for AcoustiBuilt is installed with mains spaced 48" O.C. and cross tees spaced 16" O.C. Panels are installed with their long dimensions parallel to the mains. Adjacent rows of panel are offset by 32". As panels are installed, extra tees are added at 12' intervals so that all the 4-foot panel edges land on the center lines of cross tees. Grid should be wiped clean of any dirt, grease, or oil. *(Fig 2)*
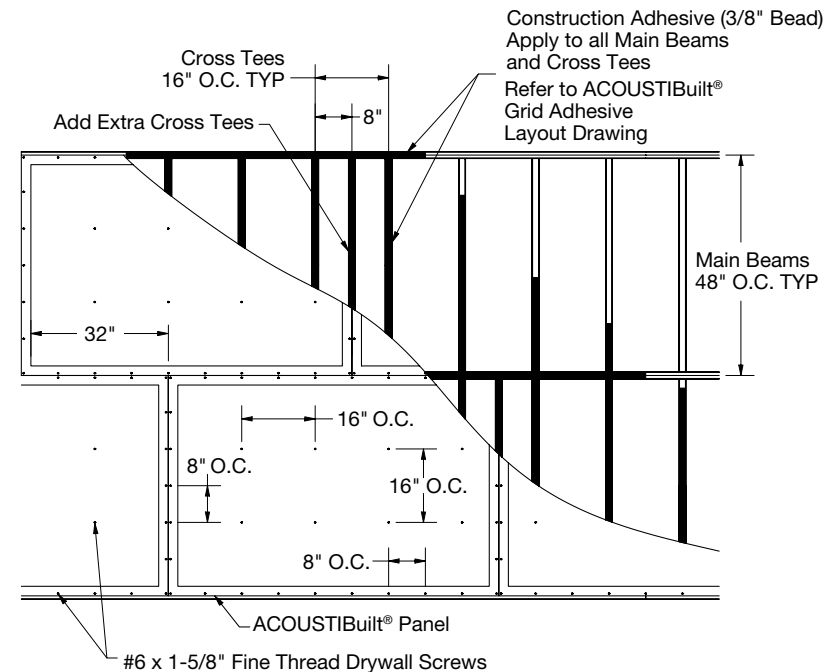
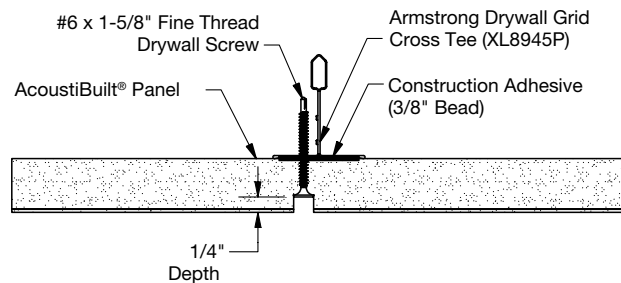
(Fig 2)

3.2.2 Adhesive Pattern and Usage

Construction adhesive is applied to all grid members including KAM, main beams, cross tees, and any additional framing members added for MEP integrations. Adhesive is applied as a continuous 3/8" bead. On grid members that will support the perimeter of the panel, the adhesive is applied only to the inside half of the grid flange. For the interior cross tees, the adhesive is applied to the center of the tee. Adhesive consumption is approximately two-thirds of a 28-oz. cartridge for each full panel (one 28-oz. cartridge per 36 sq. ft.). *(Fig 3)*

Armstrong Drywall Grid
Main Beam (HD8906)

Armstrong Drywall Grid
Cross Tee (XL8945P)

Grid and Construction
Adhesive ISO View
SCALE 1:6

Construction Adhesive (3/8" Bead)
Apply to all Main Beams and Cross Tees
Apply to inside half of grid along
perimeter framing and center
in field framing

(Fig 3)

3.2.3 Screw Layout and Installation

Screws are installed 8" O.C. around the perimeter of every panel and cutout. In the field, install screws 16" O.C. in every cross tee. Screws are driven about 1/4" beyond the face of the panel. *(Fig 4)*

#6 x 1-5/8" Fine Thread
Drywall Screw

Armstrong Drywall Grid
Cross Tee (XL8945P)

AcoustiBuilt® Panel

Construction Adhesive
(3/8" Bead)

1/4"
Depth

(Fig 4)

4. STEP-BY-STEP INSTALLATION INSTRUCTIONS

4.1 Grid Installation

Use FrameAll™ Drywall Grid with mains 48" O.C. and cross-tees 16" O.C. Be sure the grid is square and level.

1. Install Armstrong® Knurled Angle Molding (KAM) around the perimeter. AcoustiBuilt® panels are 7/8" thick, so install the KAM 7/8" above the desired finished ceiling height. Use a laser to ensure the KAM is level.

2. Install the DGS mains. Hang the mains 48" O.C. with hanger wires 48" O.C. and within 24" of the perimeter. Cut the ends of the mains at one of the center rout holes so that the tees can be installed 16" from the wall.

3. Install the 48" cross tees. Space the tees 16" O.C.

4. Level the grid to within 1/4" in 10'.

5. Square the grid within 1/8" over a 48" x 32" module. Attach the mains and perimeter cross tees to KAM with framing screws.

6. Install lights and any other fixtures. Support all fixtures using the grid or independent suspension. Adjust the height of the fixtures to accommodate the 7/8" panel thickness. For access panels and similar large openings, frame the entire perimeter of the fixture with grid, and attach the extra grid members with framing screws. Keep spans between grid members to no more than 16" O.C.

4.2 Panel Installation

AcoustiBuilt® panels are 48 × 72 × 7/8" and feature a tapered perimeter around all four edges. This feature enables flat and narrow joints. Install the panels with the long edges parallel to the mains.

1. Install a single cross tee 72" from the wall. This tee will support the end of your first panel. Attach the tee with framing screws.

2. Prepare the first panel. Mark the locations of the field screws 16" O.C. along both the length and width of the panel.
NOTE: The last row will land 8" from the end of the panel. Use only light pencil marks and avoid marking the panel in any location that won't be covered by joint compound.

3. Apply the adhesive to the grid one panel at a time. Apply a 3/8" bead to all the grid members (mains, cross tees, and KAM) that the panel will contact. On grid members that will support the perimeter of the panel, apply the adhesive only to the inside half of the grid flange. For the interior cross tees, apply the adhesive to the center of the tee. Use about two-thirds of a 28-oz. cartridge for each full panel.

4. Install the panel within a few minutes, before the adhesive skins over. Orient the panel so the long dimension is parallel to the mains. Align the panel edges with the center lines of the mains and tees. Once positioned, press the panel firmly against the grid to establish strong contact with the adhesive.

5. Install the screws. Space the screws 16" O.C. in the field, and 8" O.C. around the perimeter. AcoustiBuilt® panels are softer than drywall, so the screws themselves won't pull the panels tight to the grid. As you drive each screw, press the panel firmly to the grid close to the location of the screw. Use 1-5/8" fine thread sharp-point or self-drilling drywall screws.

6. Drive each screw about 1/4" beyond the face of the panel. The screw head will just break through the panel facing layer to create a small hole that is easily finished. Failing to break through the scrim leaves a larger indentation.

7. Scrape away any excess adhesive to prevent it from interfering with adjacent panels.

8. To start the second row, add an extra tee 40" from the wall. This tee should be offset exactly 32" closer to the wall than the extra tee you used to start the first row. Cut the new panel to end on the center of the new tee and install the panel with adhesive and screws like the previous panel.

9. Cut panels to size from the face side using a utility knife. Test the fit of cut panels before applying the adhesive.

10. Continue installing panels to fill out the entire ceiling. Since the panels are 72" long (not an even multiple of 16"), you will need to install an "extra" tee for every second panel in a run. Be sure to have a grid member behind all four edges of every panel installed. Orient any cut panels so that cut edges are positioned only at perimeters or against fixtures. Use only factory tapered edges for joints between panels.

11. Cut panel openings for MEP with a keyhole saw or rotary cutter. Apply adhesive and screws 8" O.C. around the full perimeter of each cutout.

4.3 Finishing the Joints and Fasteners

Keep the joints to no more than 8" wide to preserve the acoustical performance of the panels. Allow each coat to fully dry before applying the next. Joint compound may take longer to dry on AcoustiBuilt® than on traditional drywall. Use air movers to reduce the drying time.

1A. Hand Finishing – First fill any gaps or damaged areas with fast-setting compound (hot mud) or all-purpose compound. After the compound is dry, apply fiberglass mesh tape to all the joints. Coat the tape with fast-setting compound using a 5" or 6" taping knife. Apply only a thin narrow coat of setting compound; do not attempt to fill the recess with this coat. Use paper tape with ready mixed all-purpose compound in the corners only. Do not use paper tape on the flat seams.

1B. Automatic Taping and Finishing Tools (ATF) - First fill any gaps or damaged areas with fast-setting compound (hot mud) or all-purpose compound. Optionally, tape the joints with Fibafuse® tape and ready mixed all-purpose compound using a Bazooka® Automatic taping and finishing tool. Use paper tape with ready mixed all-purpose compound in the corners only. Do not use paper tape on the flat seams.


2. Spot-fill the field screws with fast-setting or all-purpose compound. Keep the finished area around each screw small. Do not "stripe" the screws.

3. After the compound is fully dry, lightly sand the joints and spot fill using 220 grit or finer sandpaper.

4. Next apply a coat of ready-mixed lightweight compound to the joints. Use an 8" or narrower taping knife or box. If using a box, remove one or both springs to minimize the force needed and avoid damaging the panels. A "Power Assist" box is also a great option. The wet compound will soften the panel, so avoid running the box multiple times on the same seam while the compound is still wet. Use a smoothing blade instead, if needed. Spot fill the field screws again, but this time using ready-mixed lightweight compound.
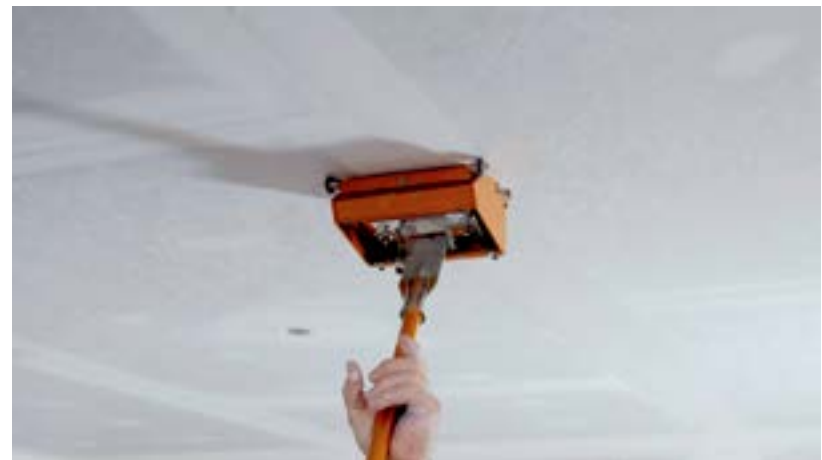
5. After the previous coat is fully dry, apply the final coat of ready mixed lightweight compound to the joints. Use an 8" taping knife or box. Finish the joints to no more than 8" wide to preserve the acoustical performance. Mud-in flanges, such as light fixture trims, may be floated out, as needed, to create a flat appearance. If needed, spot fill the screws for a final time.

6. When the compound is dry, lightly sand the seams and spot fill with 220 grit sandpaper. If you use a power sander, start at the slowest speed setting and apply gentle pressure to avoid sanding through the face of the panels. Sand (feather) the joint compound edges to eliminate any ridges.

4.4 Inspecting

Proper inspection is critical to ensuring a high-quality finished ceiling. Take the time to thoroughly inspect the finishing work and correct any defects before spraying.

1. Inspect the entire ceiling with grazing light from all four directions. Use a strong, 4500+ lumen light positioned within 6" of the ceiling. Inspect for crowned or hollow joints with a straight-edge tool. Check for ridges and a "feathered" transition at the edges of the joint compound.

2. Correct any issues and reinspect before proceeding to spray the Fine-Texture Finish.

Inspection in critical lighting conditions is essential to ensure a high-quality Level 4 equivalent finished installation. For best results, dim the light from other sources and inspect with a single light source shining across the ceiling plane. The surface should be smooth and free of tool marks and ridges.

Correct any imperfections before spraying the Fine-Texture Finish.

4.5 Applying Fine-Texture Finish for AcoustiBuilt® Panels

AcoustiBuilt® panels must be painted with Armstrong Fine-Texture Finish for AcoustiBuilt. Do not use paint of any other kind.

Before operating the spray equipment, read and understand all safety, operation, and maintenance information provided by the manufacturer. The user is solely responsible for using equipment safely and in accordance with the manufacturer. www.graco.com/content/dam/graco/tech_documents/ manuals/3A6/3A6342/3A6342EN-F.pdf

Fine-Texture Finish for AcoustiBuilt® is sprayed with the Graco® Mark V™ Airless Texture Sprayer and Low Pressure Rac X LP SwitchTip, LP525. The spraying procedure is designed to produce the Fine-Texture Finish and acoustical performance. Be sure to use the proper Graco equipment, along with your AcoustiBuilt Spray Calibration Sample available from the Armstrong Sample Center.
Email: *BPONationalSampleCenter@armstrongceilings.com* – Request sample: BPCS-6119 for White Fine-Texture Finish or BPCS-6981 for Black Fine-Texture Finish. For technical assistance, contact Armstrong Techline: *techline@armstrongceilings.com*

1. Mix the Fine-Texture Finish for AcoustiBuilt thoroughly with a high-speed drill and 4" spiral mixing blade (not a low-speed mud mixer) until the consistency is uniform. Be sure any settled material on the bottom of the pail is thoroughly mixed in. Strain the finish through a 10- to 20- mesh strainer into a clean bucket.

2. Remove the filter from the Graco Mark V Airless Texture Sprayer. Follow the setup and startup procedure from Graco.

PRO TIPS:

- Clean and flush the sprayer with water before use
- Use the ceramic intake valve ball (instead of the stainless-steel ball)
- Cover the opened pail with a wet rag to keep the finish from drying out
- When not actively spraying, relieve pressure to avoid packing out the finish and clogging the sprayer
- Set the spray tip in water between coats

3. Using the LP525 tip, test your spray pattern on a dark surface. Begin at a low pressure, approximately 1300 PSI, and gradually increase the pressure to eliminate heavy edges. Hold the gun at least 24" from the surface.

(Fig A)

4. Adjust your pressure and speed to match the Test Pattern Closeup in *(Fig A)*. Note that the correct machine pressure may vary, since your application speed, spray tip, distance from the board, and other factors all affect the spray pattern. The spray pattern should be fine and uniform.

5. Apply the finish to the ceiling in four to five fine, light coats. Compare the coverage to the calibration sample after each coat. With proper application, the joint compound will remain visible after the third coat and gradually disappear by the fourth or fifth coat. Move the gun swiftly and overlap each pass by 50%. Trigger the gun after moving and release before stopping. Reverse the spray tip to quickly clear clogs, pointing the gun away from the ceiling.

| Low Pressure (Spray pressure is too low) | Correct Pressure (Spray pressure is Correct) | High Pressure (Spray pressure is too high) |

6. Allow the finish to dry for at least 40 minutes between coats. For each coat, alternate spray directions and inspect the ceiling once dry. Brush down any dry texture standing out from the surface with a knockdown squeegee trowel.

7. When the coverage is uniform and the finish is fully dry, assess the final appearance. Unblock any windows to view the ceiling in the natural site lighting conditions. If necessary, touch up any light areas with an additional coat.


8. Follow the cleanup procedure from the equipment manufacturer.

NOTE: Store the finish between 20°F and 100°F and use within 3-5 days after opening. For best pump performance, store the finish at room temperature (60°F to 80°F) for 3-5 days prior to spraying. Colder finish temperature may require higher sprayer pressure. Extended dry times may be required between coats in humid or cold conditions. For additional information, call an Armstrong Ceilings representative, 1 877 276-7876.
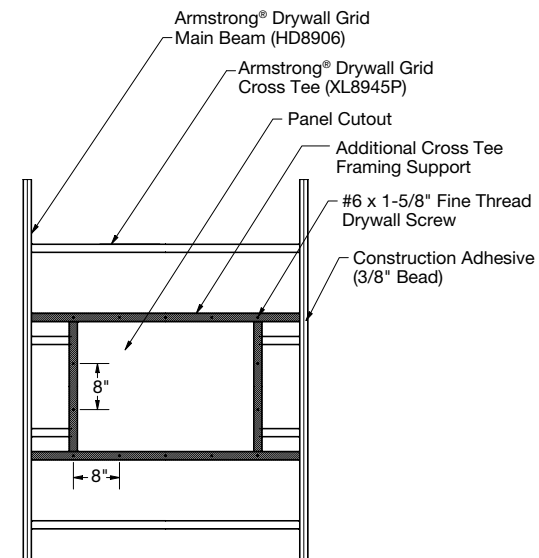
4.6 MEP Integration

The installed height of fixtures, such as sprinkler heads and light fixture trims, must be able to be adjusted to accommodate the 7/8" panel thickness. AcoustiBuilt® panels are not intended to support any load from lights, diffusers, speakers, or similar devices. All fixtures must be supported by framing members or independently per the manufacturer's instructions. *(Fig 5)*
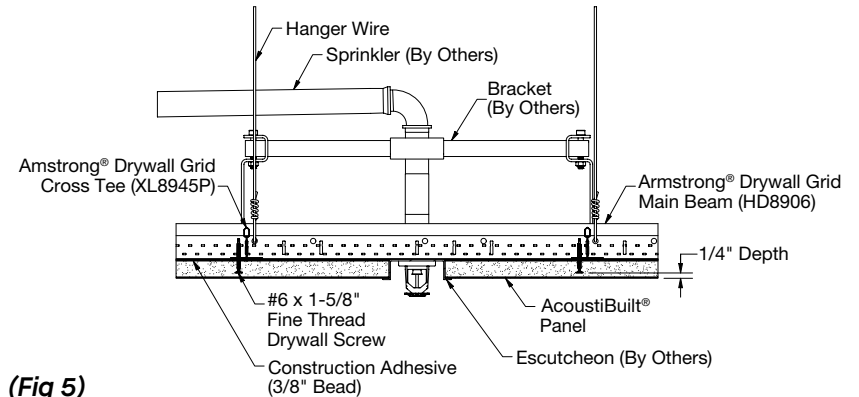

(Fig 5)

When panels are cut to accommodate fixtures, fasteners should be added to ensure the panels are fully supported.

If the largest dimension of the required cutout is more than about 12", then additional cross tees should be added around the perimeter of the opening, and fasteners should be added around this perimeter at no more than 8" O.C. *(Fig 6)*


(Fig 6)

Access panels can be integrated within the system following standard installation practices. CastWorks™ access panels are designed for seamless integration with AcoustiBuilt® panels as frames are 7/8" thick. Learn more at *www.armstrongceilings.com/ castworksaccesspanels*. *(Fig 7)*
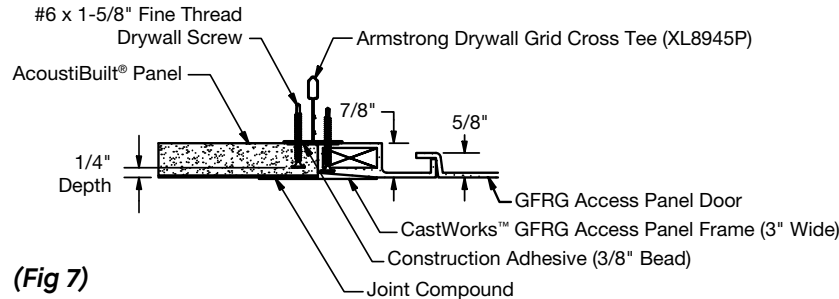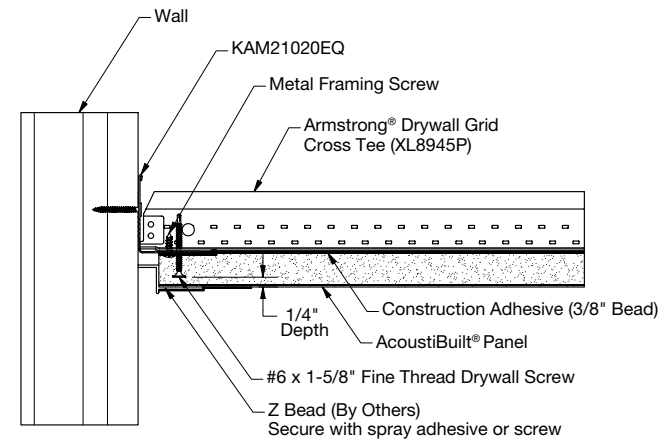

(Fig 7)

4.7 Finishing to Walls

AcoustiBuilt panels can be finished directly to the wall. Alternatively, AcoustiBuilt panels can be finished to create a reveal at the wall. *(Figs 8 & 9)*
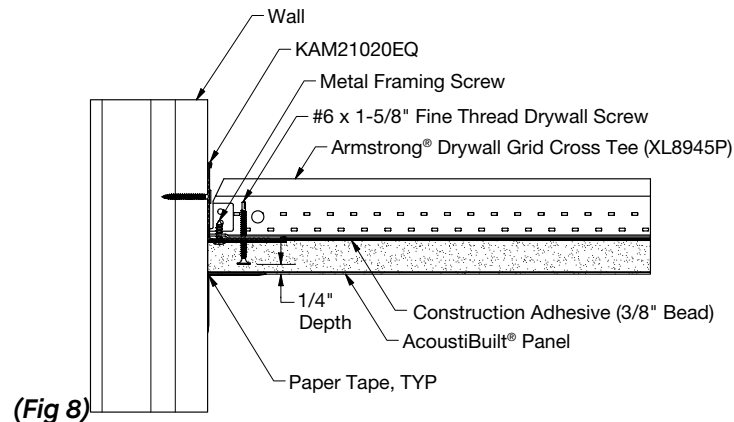
(Fig 8)

(Fig 9)

5. AXIOM® FLOATING PERIMETERS

Floating perimeters must be trimmed with either Axiom® One-Piece Drywall Trim or Axiom® Classic with Bottom Trim for AcoustiBuilt. Refer to the installation instructions for the Axiom product you are using for instructions specific to the trim product. The following sections address requirements in addition to the standard Axiom instructions that must be followed for integration with AcoustiBuilt installations.

5.1 Suspension Rules

Based on the layout, the system may require additional suspension points when compared to the Axiom trim instructions.

When Axiom trim is not directly supported, the following suspension rules must be followed:
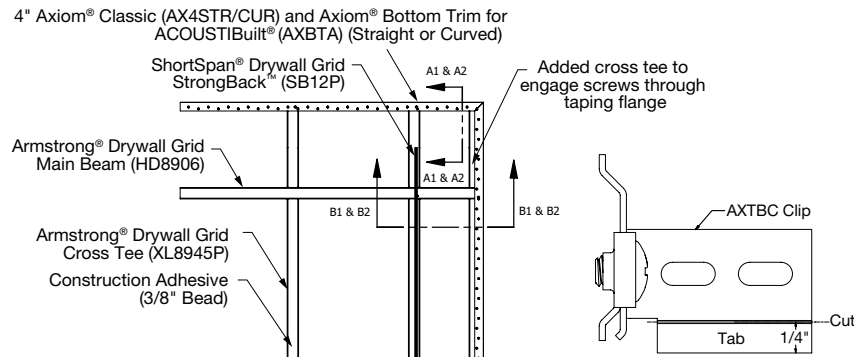
- All splices (including corners) must be supported by a connecting grid member within 24" on either side of the splice. Situations where there is no grid member that interfaces the Axiom Trim within 24" of the splice will require supplemental support directly from the Axiom Trim to structure
- Axiom must be supported by grid members no more than 72" O.C., or be directly supported by the structure
- All grid supporting Axiom trim must have a wire at a distance no greater than half the length of the grid member, up to a max of 12" (up to 8" in seismic installations), from the Axiom Trim
- Refer to Axiom Classic instructions for additional installation requirements for Axiom 10" tall or greater
- Lateral bracing may be required to square the grid and stabilize the ceiling for finishing steps

5.2 Grid Attachment

Refer to *Figures 10 - 13* for typical installation details of Axiom Trims with AcoustiBuilt® panels.
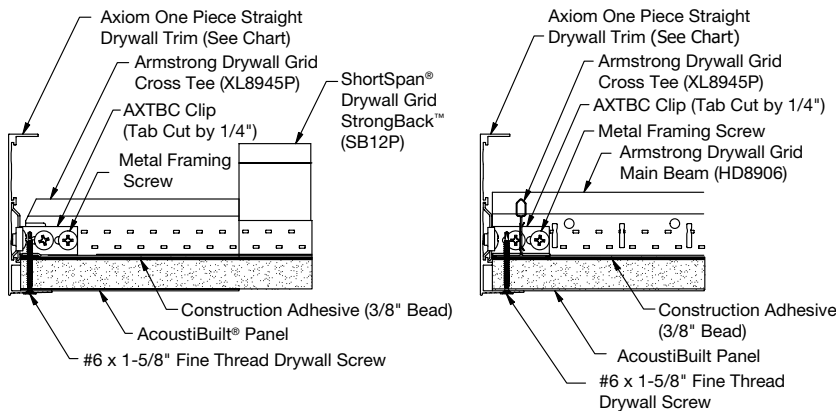
5.2.1 Axiom® One-piece Drywall Trim *(Fig 12)*

· The 1/4" tabs on all Axiom® T-Bar Connection Clips (AXTBC) or Axiom T-Bar Connector Twist Clips (ACCLT) must be trimmed off, typically using tin snips *(Fig 11)*

· The grid flange is registered against the bottom of the AXTBC, creating the required 7/8" to 15/16" gap between the face of the grid and the Axiom taping flange *(Fig 10)*

· All mains and cross tees are attached to the AXTBC clips by two metal framing screws

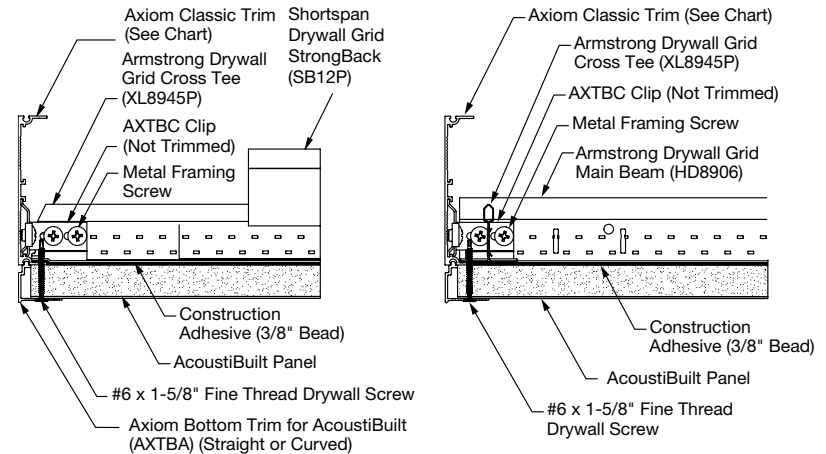4" Axiom® Classic (AX4STR/CUR) and Axiom® Bottom Trim for ACOUSTIBuilt® (AXBTA) (Straight or Curved)
ShortSpan® Drywall Grid StrongBack™ (SB12P)
A1 & A2
Added cross tee to engage screws through taping flange
Armstrong® Drywall Grid Main Beam (HD8906)
A1 & A2
B1 & B2
B1 & B2
Armstrong® Drywall Grid Cross Tee (XL8945P)
Construction Adhesive (3/8" Bead)
AXTBC Clip
Tab   1/4"
Cut

(Fig 10)   **(Fig 11)**

Axiom One Piece Straight Drywall Trim (See Chart)
Armstrong Drywall Grid Cross Tee (XL8945P)
AXTBC Clip (Tab Cut by 1/4")
Metal Framing Screw
ShortSpan® Drywall Grid StrongBack™ (SB12P)
Construction Adhesive (3/8" Bead)
AcoustiBuilt® Panel
#6 x 1-5/8" Fine Thread Drywall Screw

(Fig 12 – Section A1)

Axiom One Piece Straight Drywall Trim (See Chart)
Armstrong Drywall Grid Cross Tee (XL8945P)
AXTBC Clip (Tab Cut by 1/4")
Metal Framing Screw
Armstrong Drywall Grid Main Beam (HD8906)
Construction Adhesive (3/8" Bead)
AcoustiBuilt Panel
#6 x 1-5/8" Fine Thread Drywall Screw

(Fig 12 – Section B1)

5.2.2 Axiom Classic with Bottom Trim *(Fig 13)*

Axiom Bottom Trim for AcoustiBuilt (AXBTA) is designed specifically for the 7/8" thickness of AcoustiBuilt panels.

· Cut off the tapered edges of panels at perimeters where Axiom Classic with Bottom Trim is used

· AXTBC clips are installed as normal, without being trimmed, so that the drywall grid rests on the Axiom Classic flange

· After the panels are installed, the bottom trim is aligned in the groove of the Axiom Classic Trim and fastened with drywall screws through the taping flange of the trim into the bottom flange of the Axiom Classic trim. The bottom trim has two rows of pre-drilled holes. Use only the holes closest to the face to attach the bottom trim to the Axiom Classic trim

· Before installing the screws, create a bevel in the AXBTA hole using a countersink tool or step bit.

Axiom Classic Trim (See Chart)
Shortspan Drywall Grid StrongBack (SB12P)
Armstrong Drywall Grid Cross Tee (XL8945P)
AXTBC Clip (Not Trimmed)
Metal Framing Screw
Construction Adhesive (3/8" Bead)
AcoustiBuilt Panel
#6 x 1-5/8" Fine Thread Drywall Screw
Axiom Bottom Trim for AcoustiBuilt (AXBTA) (Straight or Curved)

Axiom Classic Trim (See Chart)
Armstrong Drywall Grid Cross Tee (XL8945P)
AXTBC Clip (Not Trimmed)
Metal Framing Screw
Armstrong Drywall Grid Main Beam (HD8906)
Construction Adhesive (3/8" Bead)
AcoustiBuilt Panel
#6 x 1-5/8" Fine Thread Drywall Screw

(Fig 13 – Section A2)   **(Fig 13 – Section B2)**

5.3 Panel Attachment at Floating Trim Perimeter *(Fig 10)*

When panels are cut to size to fit within Axiom with a taping flange (Axiom One-Piece Trim and Bottom Trim for AcoustiBuilt ceiling system), screws should be inserted through the taping flange, securing the panels to cross tees at no more than 16" O.C. Additional cross tees may be required along the perimeter to meet this requirement.
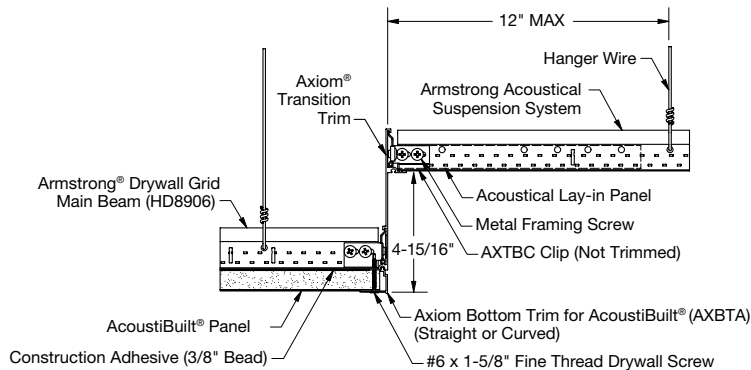
6. TRANSITIONS

The AcoustiBuilt® ceiling system can be transitioned on the same plane or to different elevations.

6.1 Axiom® Transitions

6.1.1 Elevation Change Transitions 2"- 10"

Axiom Transitions Trim (Items AXTR2 – AXTR10) can be used for elevation change transitions utilizing the Axiom Bottom Trim for AcoustiBuilt, and following the steps in Section 5.2.2.

Each suspension system attached to the Axiom transitions should be supported to structure within 8-12" of the transition. *(Fig 14)*

(Fig 14)

6.1.2 No Elevation Change

Axiom transitions that have an integrated taping flange for drywall can be used with AcoustiBuilt panels by modifying the AXTBC in the same method as in Section 5.2.1.

Each suspension system attached to the Axiom transition should be supported to structure within 8" of the transition. *(Fig 15)*
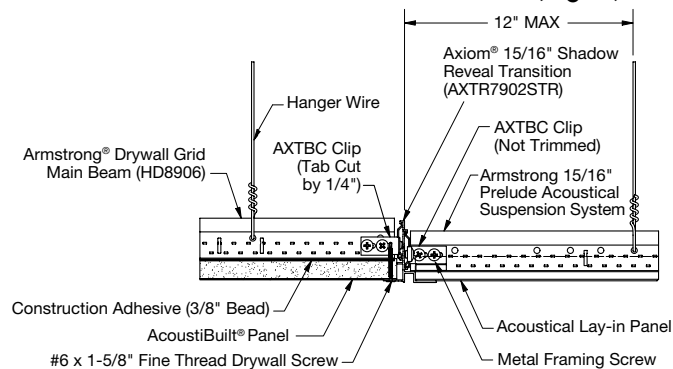
(Fig 15)

6.2 Transition Molding

Transition molding can be used for transitions on the same plane between AcoustiBuilt panels and other acoustical ceiling products. *(Fig 16)*
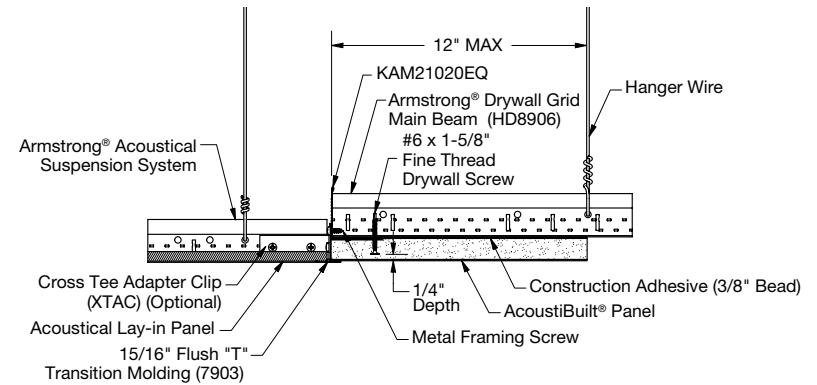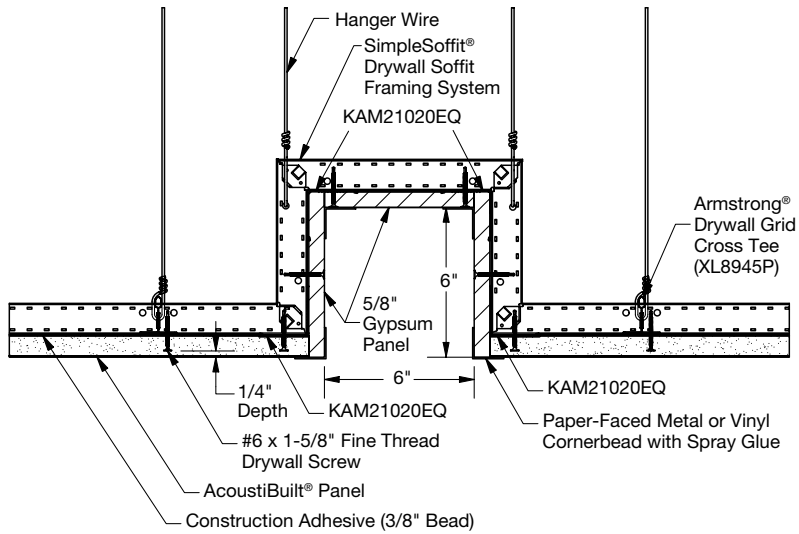
(Fig 16)

7. SIMPLESOFFIT®

SimpleSoffit® can be used to create soffits of virtually any geometry with AcoustiBuilt®. *(Figs 17 & 18)*
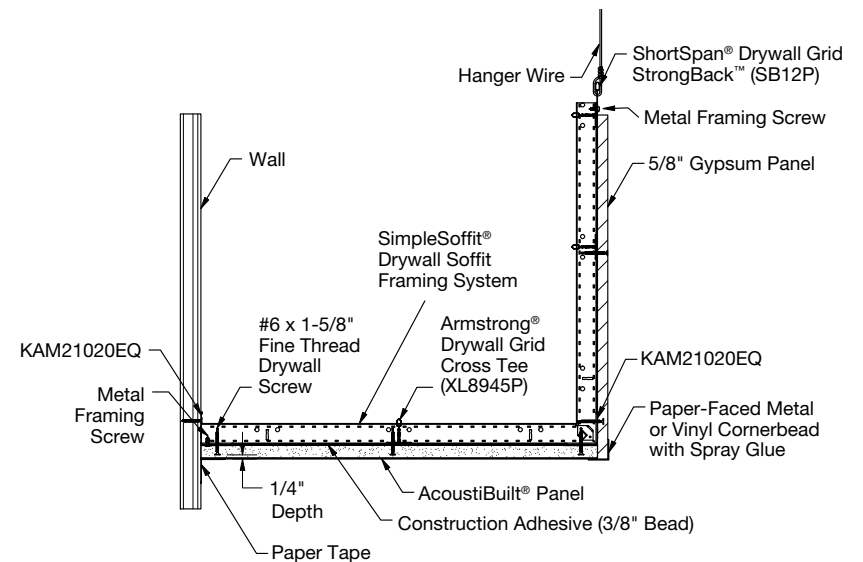
(Fig 17)

(Fig 18)

8. OPEN-AIR PLENUM INSTALLATION

When using AcoustiBuilt® panels in a ceiling with an open-air plenum (i.e. without ducted returns), the installation is modified to include a layer of drywall between the grid and the AcoustiBuilt panels. For this type of installation, follow the same procedures as the standard installation method but with the following changes *(Fig 19)*.

1. Install mains 48" O.C. with cross tees spaced a maximum of 24" O.C. "Extra" tees every 12 feet are not needed. Remember to account for the thickness of both the drywall and AcoustiBuilt boards (1-1/2" total) when setting the grid elevation. Also, be sure that all lights and MEP can accommodate this thickness.

2. Install 5/8" drywall in a bond pattern to the DGS grid with the long direction of the boards parallel to the mains. Use 1-1/4" fine thread sharp point drywall screws to attach the drywall to the cross tees. Space the screws a maximum of 12" O.C.

3. Apply tape and one coat of compound to the joints to prevent air flow through the joints.

4. When the joint compound is dry, install AcoustiBuilt panels to the drywall. Plan the layout with the AcoustiBuilt panels running perpendicular to the drywall and offset the AcoustiBuilt panel joints so they do not coincide with the drywall joints.
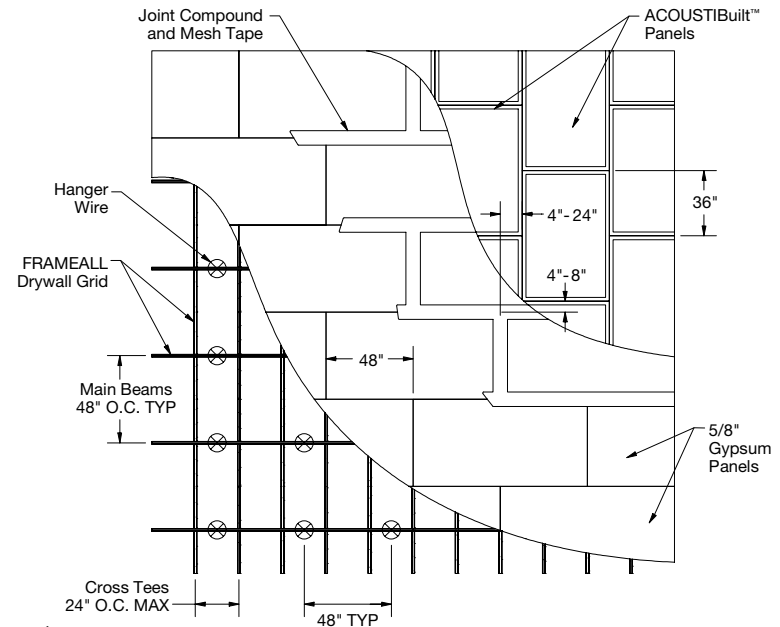

(Fig 19)

5. Apply a 3/8" bead of construction adhesive to the back of each AcoustiBuilt panel *(Fig 20)*. For cut panels, apply adhesive around the entire perimeter, and stripes in the center spaced no more than 16" O.C. Use about 2/3 of a 28 oz cartridge for each full panel.


(Fig 20)

17
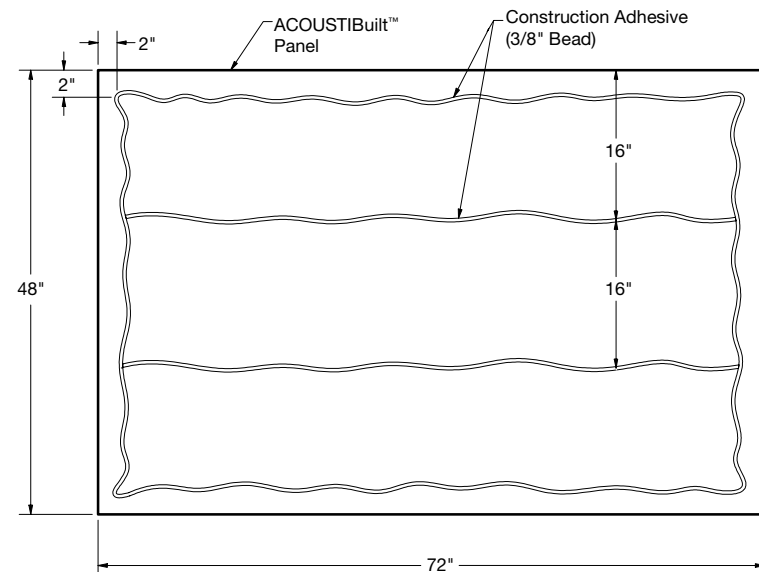
6. Lift the AcoustiBuilt® panel into position against the drywall. Firmly press around the perimeter and along all the lines of adhesive to ensure the adhesive bead is spread out and the AcoustiBuilt panel is flush against the drywall. Screw the panel to the drywall using #10 × 1-1/2" laminating screws *(Fig 21)*.
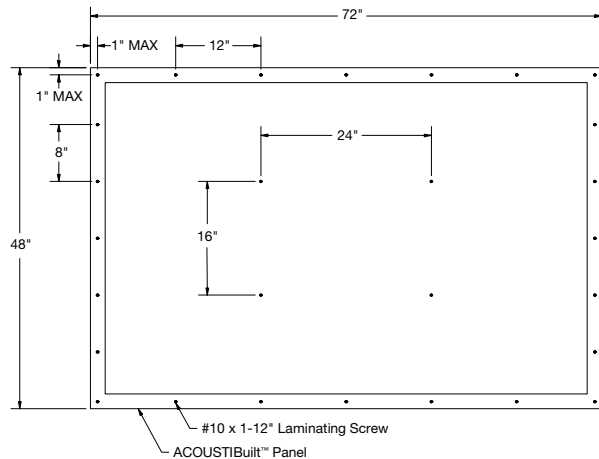
(Fig 21)

7. AcoustiBuilt is softer than drywall, so the screws alone won't pull the AcoustiBuilt panels tight to the drywall. As you drive each screw, press the panel firmly to the drywall ceiling above. Drive the screws through the scrim on the AcoustiBuilt panel until the scrim rebounds, about 1/4" beyond the face *(Fig 22)*.
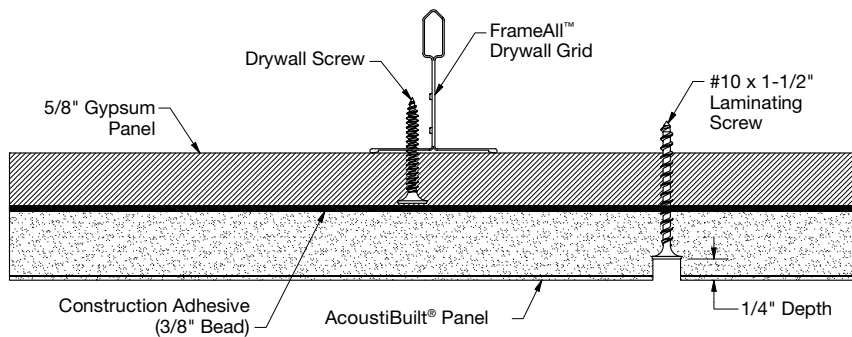

(Fig 22)

8. Complete the installation using the finishing steps in Section 4 of these instructions.
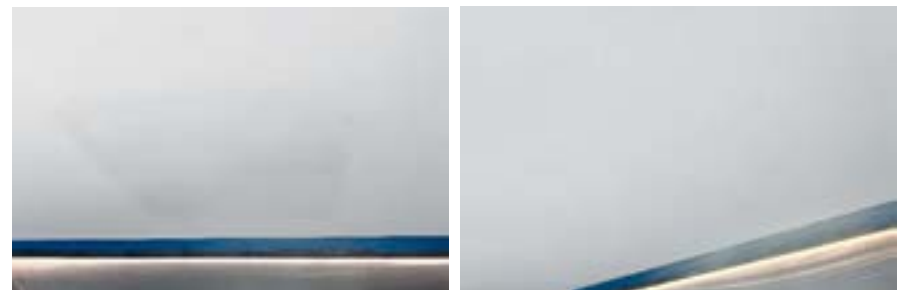
9. TOUCHUP AND REPAIR

AcoustiBuilt is a patchable and repairable system; however, it is best to plan integrations to avoid patching the finished ceiling. Patched areas are covered with joint compound, diminishing the sound-absorbing performance. Custom colors may be more challenging to match perfectly.

1. Cut away and replace the damaged area with a piece of drywall or AcoustiBuilt panel. Add framing and adhesive, as needed, to support the patch. Set the new piece slightly recessed from the surrounding ceiling. Sand the finish texture smooth around the perimeter of the patch. Apply mesh tape and joint compound as typical to finish the patch. Float out the joint compound to create a flat and even surface. Use a lightweight or topping compound on the final coats. Inspect with critical light and a straight-edge tool.
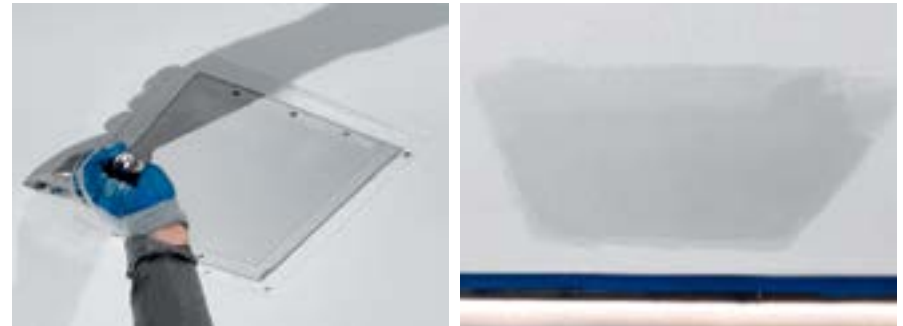
2. Apply about four light coats of Fine-Texture Finish for AcoustiBuilt panels with a portable electric HVLP sprayer. Strain the finish, calibrate the spray pattern, and allow dry time between coats as described in Section 4.5. Feather the final coat into the surrounding area until the appearance is uniform.

SYSTEM COMPONENTS

Item No.	Description	Ordered Separately / Included with	Required for Install?	Sold by the	Qty
SUSPENSION SYSTEM					
HD8906	12' HD Drywall Main Beam	Ordered separately (by Armstrong)	Yes	Ctn	12
XL8945P	4' Drywall Cross Tee	Ordered separately (by Armstrong)	Yes	Ctn	36
KAM10 or KAM12	12' Knurled Angle Molding	Ordered separately (by Armstrong)	Based on layout	Ctn	10
7891	12-gauge hanger wire	Ordered separately (by Armstrong)	Yes	Bundle	140
PANELS AND ADHESIVE					
2604	AcoustiBuilt® Panel – tapered edges, 48 × 72 × 7/8"	Ordered separately (by Armstrong)	Yes	Pallet	10 panels (240 sq. ft.)
Screws	#6 × 1-5/8" fine thread, sharp point or self-drilling drywall screw	Ordered separately (by others)	Yes	Varies	Varies
Construction Adhesive	Recommended: Titebond® 5252 ProVantage VOC Compliant Heavy Duty, Titebond® 5262 Heavy Duty, Titebond® 5342 Drywall Plus VOC Compliant, Titebond® 5352 Professional Drywall, Titebond® 3452 All Purpose. Other adhesives must meet the requirements of ASTM C557 and be recommended by the manufacturer for use with galvanized steel. Foaming type adhesives should not be used.	Ordered separately (by others)	Yes	Varies	Varies
TAPE, COMPOUND, AND FINISH					
Mesh Joint Tape	Self-adhesive mesh drywall joint tape	Ordered separately (by others)	Yes	Varies	Varies
Paper Tape	Paper tape (for corners only)	Ordered separately (by others)	Yes	Varies	Varies
FibaFuse® Fiberglass joint tape	Paperless nonwoven fiberglass joint tape (for use with automatic taping and finishing tools only)	Ordered separately (by others)	Yes	Varies	Varies
Fast-Setting Compound (hot mud)	Setting-type drywall joint compound, 5- to 90-minute, to embed mesh joint tape	Ordered separately (by others)	Yes	Varies	Varies
Ready Mixed Lightweight Compound	Ready mixed lightweight or topping drywall joint compound that is easy to sand and low shrinkage (NOT All-Purpose)	Ordered separately (by others)	Yes	Varies	Varies
Ready Mixed All-Purpose Compound	Ready mixed all-purpose or taping compound, used to embed Fibefuse joint tape and paper tape (in corners only)	Ordered separately (by others)	Based on layout	Varies	Varies
2605WH (White) 2605BL (Black)	Fine-Texture Finish for AcoustiBuilt Panels – White and Black Custom colors available to order	Ordered separately (by Armstrong)	Yes	Pail	4 gal/pail
PERIMETER TRIMS & ACCESSORIES					
AX1PC – STR AX1PC – CUR	Axiom® Classic Available for 2"-16" heights – Straight or Curved	Ordered separately (by Armstrong)	Based on layout	Piece	1
AXBTASTR AXBTACUR	Axiom Bottom Trim (7/8") for AcoustiBuilt – Straight or Curved	Ordered separately (by Armstrong)	Required for Axiom Classic	Piece	10
AXAKEACBSTR AXAKEACBIC AXAKEACBOC	Axiom® Angled Knife Edge® Trim for AcoustiBuilt – Inside or Outside Corner	Ordered separately (by Armstrong)	Based on layout	Piece	1

TOOLS AND EQUIPMENT

SUSPENSION SYSTEM
Standard drywall grid installation tools
PANEL INSTALLATION
Impact driver or drill driver
Adhesive gun (Recommended: Cordless 28-oz. adhesive gun)
Cutting tools (Recommended: Utility knife, rotary cutout tools)
PANEL FINISHING
Knives or Automatic Finishing Tools (Bazooka® and box up to 8" wide)
Power sander or pole sander and firm sanding blocks (not sanding sponge) (Recommended: 220 grit sandpaper)
Inspection tools (Recommended: 4500+ lumen light and 12" straight-edge tool)
FINE-TEXTURE FINISH FOR ACOUSTIBUILT® PANELS
Required: Graco® Mark V Airless Texture Sprayer (Standard, ProContractor, or IronMan) with Low Pressure RAC X LP SwitchTip Pressure-tank assemblies with a specific spray gun may be used as an alternative to the Graco Mark V. Contact your Armstrong rep for more information. For small touchups, a portable electric HVLP sprayer is recommended.
Graco LP421 Spray Tip (Recommended for detailed spray work only.)
Graco LP525 Spray Tip (Recommended for spraying the ceiling)

AcoustiBuilt® Seamless Acoustical Wall System Overview

Assembly and Installation Instructions

This installation guide contains instructions for installing and finishing AcoustiBuilt® wall applications. This guide is a supplement to the standard AcoustiBuilt Installation Instructions, "AcoustiBuilt Seamless Acoustical Ceiling System Overview". Refer to that document for additional information about product requirements and Fine-Texture Finish application.

APPLICATIONS

The AcoustiBuilt System can be installed to walls or interior partitions at least 7 feet above the floor. It can be installed as an acoustical treatment to a new or existing drywall wall assembly. *(Fig 1)*
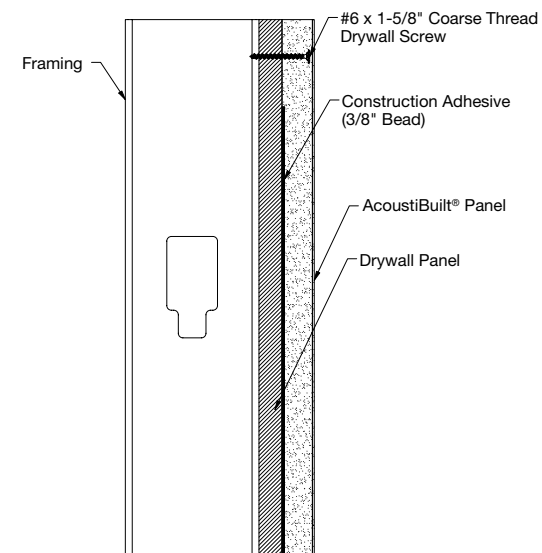
INSTALLATION CONSIDERATIONS

Wall or Partition Assembly

AcoustiBuilt panels with Fine-Texture Finish weigh approximately 1.1 lb/sq. ft. The framing and drywall assembly to receive AcoustiBuilt panels must be constructed in accordance with local code and manufacturer requirements. The drywall must be properly fastened to framing, and the framing must be installed and braced properly with considerations to load-carrying capacity. The drywall joints should be finished to at least Level 1. AcoustiBuilt panels are not intended to support fixtures or wall hangings.

Surface Considerations

Surfaces must be dry and free of dust, grease, oil, dirt, or any other material that may inhibit adhesion. If the drywall paint is flaking or peeling it must be removed. Existing finish paint must be well bonded. Avoid applying to a newly painted wall or partition. Glossy painted surfaces must be abraded. It is recommended that the wall surface for attachment be free of irregularities and be flat within 1/4" in 12'.

Framing

#6 x 1-5/8" Coarse Thread Drywall Screw

Construction Adhesive (3/8" Bead)

AcoustiBuilt® Panel

Drywall Panel

(Fig 1)

Armstrong®
World Industries

PANEL INSTALLATION

Panel Installation Overview

AcoustiBuilt® panels can be installed in vertical or horizontal orientations. AcoustiBuilt panel joints should be offset from the drywall joints beneath. When installing more than one row of panels, stagger the rows 36" so the short joints intersect at the midpoints of the adjacent panels. AcoustiBuilt panels are attached to drywall using screws and a recommended construction adhesive (from the list on page 26 of this document) *(Figs 2 & 3)*
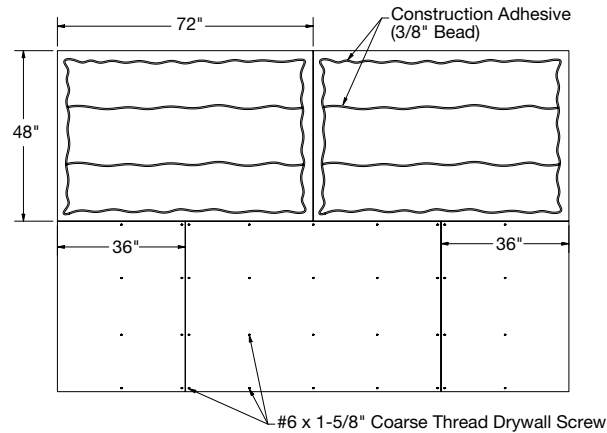

(Fig 2)
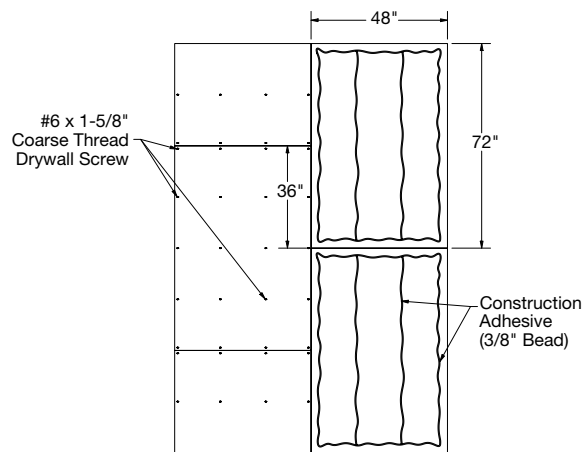
(Fig 3)

Adhesive application

Use adhesive in accordance with all manufacturer requirements. Apply a 3/8" bead of adhesive around the full perimeter of the back of the panel, 2 to 4 inches from the edges. Apply additional beads across the full length of the panel spaced no more than 16" apart. Join the AcoustiBuilt panel to the drywall within 15 minutes of application. Confirm the fit of precut panels before applying the adhesive. If a panel must be repositioned, reapply adhesive. *(Fig 4)*
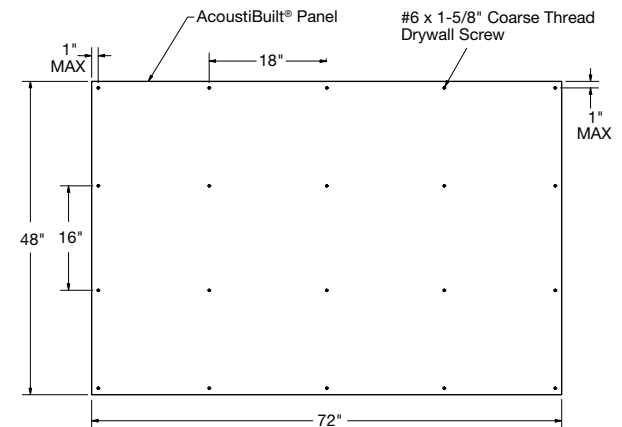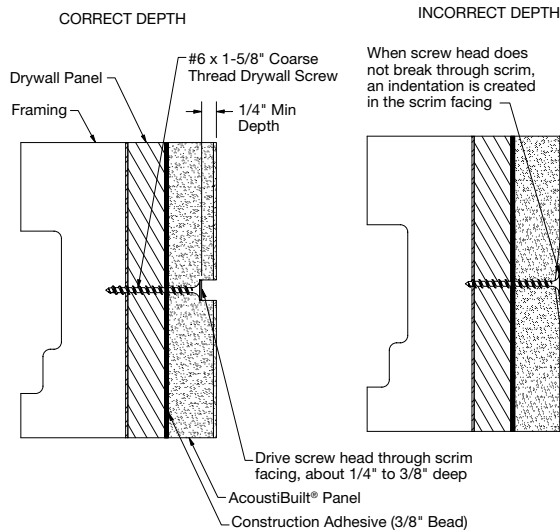

(Fig 4)

Screw installation

Position the panel to the wall or partition and install the field screws to hold the panel in place. Along all the glue lines, press the panel firmly against the wall to spread the adhesive and ensure the panel is flush with the drywall surface. Finally, install the perimeter screws within 1" of the panel edges. The location of the screws should coincide with the adhesive. Space screws 18" O.C. along the panel length, and 16" O.C. along the panel width. *(Fig 5)*
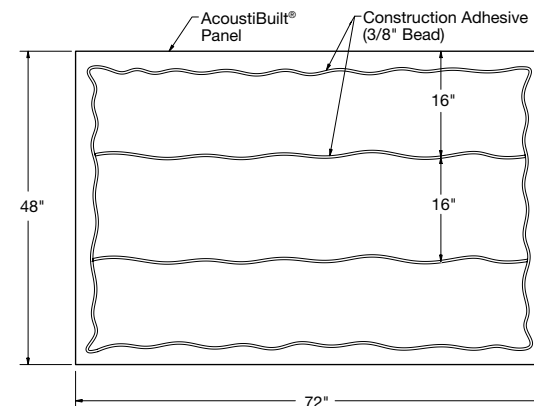
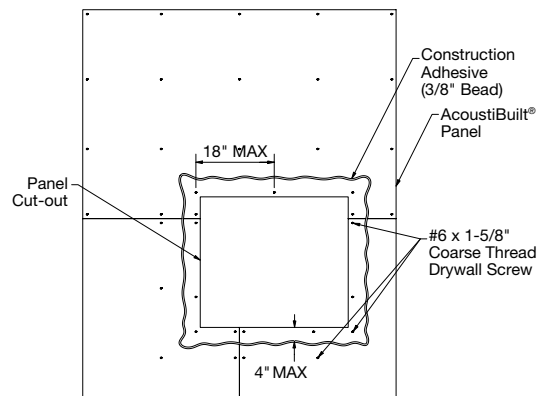*(Fig 5)*

Driving the screws

Install the screws using a drill driver or impact driver. Drive each screw 1/4" to 3/8" into the face of the panel. At this depth, the screw head will break through the panel facing layer to create a small hole that is easily finished. Failing to break through the facing creates a larger indentation. It is also important to drive the screw heads at least 1/4" deep to prevent "screw pops." *(Fig 6)*

CORRECT DEPTH   INCORRECT DEPTH

Drywall Panel

#6 x 1-5/8" Coarse Thread Drywall Screw

Framing

1/4" Min Depth

When screw head does not break through scrim, an indentation is created in the scrim facing

Drive screw head through scrim facing, about 1/4" to 3/8" deep

AcoustiBuilt® Panel

Construction Adhesive (3/8" Bead)

(Fig 6)

Panel Cutouts and Integrations

When installing field-cut AcoustiBuilt® panels, apply a 3/8" bead of adhesive around the perimeter of the cut section 2 to 4 inches from the edge. Install the panel with screws at each corner of the cutout and intersecting joints, and no more than 18" O.C. around the perimeter. *(Fig 7)*

Construction Adhesive (3/8" Bead)

AcoustiBuilt® Panel

18" MAX

Panel Cut-out

#6 x 1-5/8" Coarse Thread Drywall Screw

4" MAX

(Fig 7)

Screw installation

Position the panel to the wall or partition and install the field screws to hold the panel in place. Along all the glue lines, press the panel firmly against the wall to spread the adhesive and ensure the panel is flush with the drywall surface. Finally, install the perimeter screws within 1" of the panel edges. The location of the screws should coincide with the adhesive. Space screws 18" O.C. along the panel length, and 16" O.C. along the panel width.

FINISHING

Tape and Joint Compound

Tape the joints with fiberglass mesh tape. Apply setting-type compound over the tape using a 5- or 6-inch taping knife. Pull the compound tight to fully embed the mesh but allow room for the topping coats.

Apply setting-type compound to the field screw locations. If the compound bulges, hold the knife nearly perpendicular to the face of the panel and scrape the bulge flat. Do not "stripe" the field fasteners. Apply compound only in a small area around the screws.

After the setting compound is fully dried, apply a coat of premixed topping compound to the joints and perimeters using a 6- or 8-inch taping knife. Also apply a coat of topping compound to the field screws.

After the first coat of topping compound is dry, apply a second coat of topping compound to the joints and perimeters using an 8-inch taping knife. Also apply a coat of topping compound to the field screws, if needed.

Sanding and Inspecting Procedure

Sand all finished areas flat with fine, 220 grit sandpaper. Inspect frequently with critical light and a straight-edge tool. Use care to avoid damaging the panel facing. Drywall power sanders may be used with care, operating with 220 grit paper on a low-speed setting. Soft sanding blocks are recommended to eliminate ridges at compound edges.

Inspect the entire installation for high/low spots with critical light and a 24-inch straight edge. Check every finished fastener and joint every 2-3 feet. Touch up any high/low spots and confirm the entire installation is flat before spraying the Fine-Texture Finish. All compound should be smooth and free of tool marks and ridges.
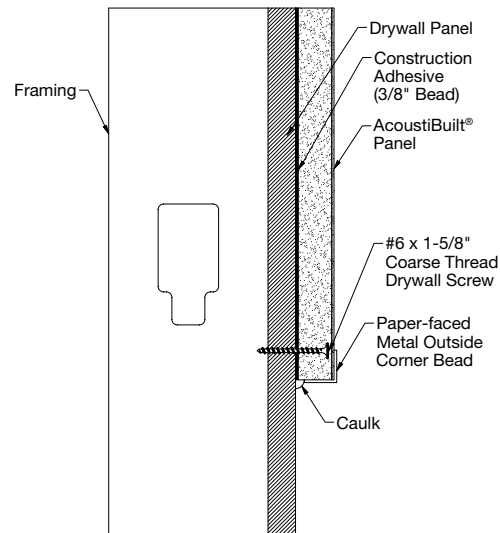
PERIMETERS AND TRANSITIONS

Perimeters

Around the perimeter, the Trim-Tex™ AS 7/8" L Bead (AS3450) is recommended. Apply using spray adhesive and mesh tape. Apply caulk bead where the trim meets drywall. Perimeters may also be finished with paper-faced beads. Tear away part of the paper on the 7/8" edge, if necessary. *(Figs 8 & 9)*
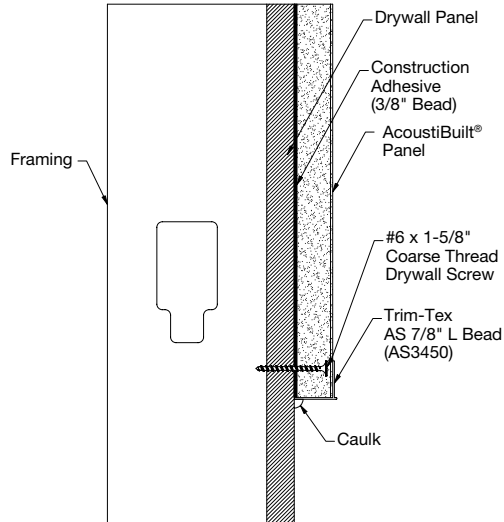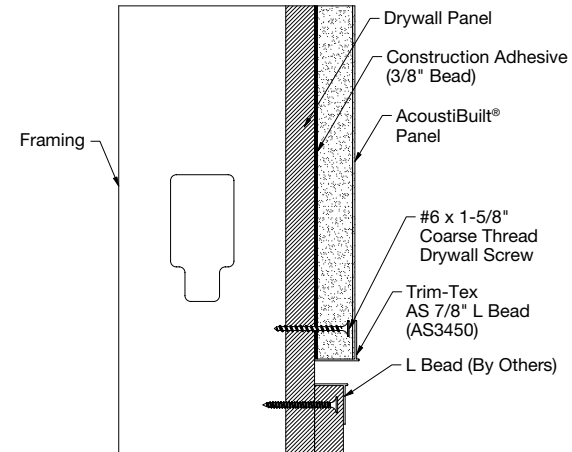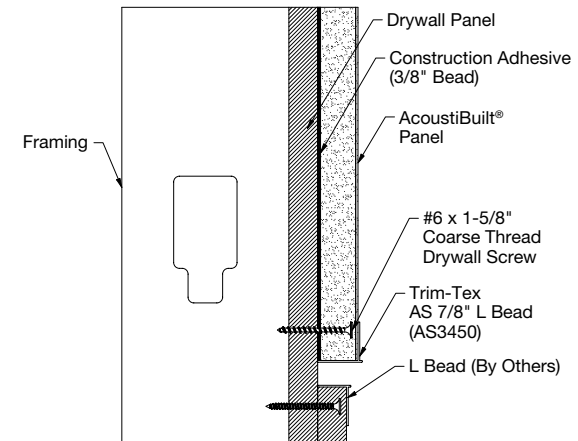
(Fig 8)

(Fig 9)

Transitions

The AcoustiBuilt® System can be transitioned to other wall and ceiling assemblies. Drywall beads may be used to create reveals or finished edges where the system transitions to other wall finishes.
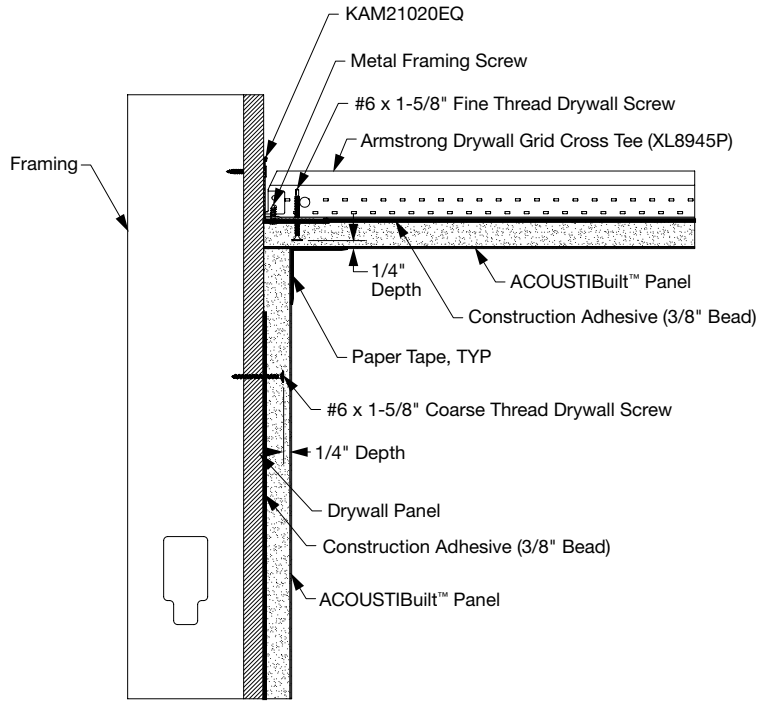
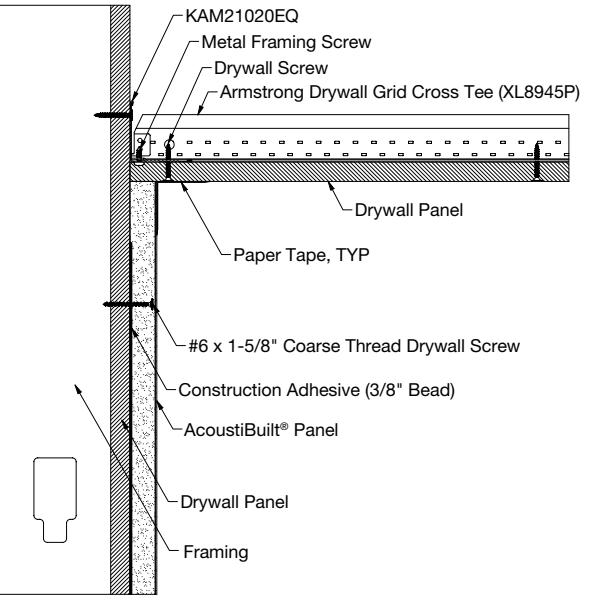Finish inside corners with paper tape and joint compound, as shown in *(Figs 10 – 13)*.

(Fig 10)

(Fig 11)

24

FINE-TEXTURE FINISH

Apply Fine-Texture Finish for AcoustiBuilt® per Section 4.5 on page 11 of this installation guide.

Framing

KAM21020EQ

Metal Framing Screw

#6 x 1-5/8" Fine Thread Drywall Screw

Armstrong Drywall Grid Cross Tee (XL8945P)

1/4" Depth

ACOUSTIBuilt™ Panel

Construction Adhesive (3/8" Bead)

Paper Tape, TYP

#6 x 1-5/8" Coarse Thread Drywall Screw

1/4" Depth

Drywall Panel

Construction Adhesive (3/8" Bead)

ACOUSTIBuilt™ Panel

(Fig 12)

KAM21020EQ

Metal Framing Screw

Drywall Screw

Armstrong Drywall Grid Cross Tee (XL8945P)

Drywall Panel

Paper Tape, TYP

#6 x 1-5/8" Coarse Thread Drywall Screw

Construction Adhesive (3/8" Bead)

AcoustiBuilt® Panel

Drywall Panel

Framing

(Fig 13)

System Components

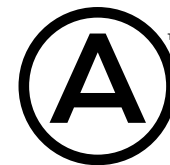| Item No.	Description	Ordered Separately / Included with	Required for Install?	Sold by the:	Pcs/Ctn
PANELS AND ADHESIVE					
2604	AcoustiBuilt® Panel – tapered edges, 48 × 72 × 7/8"	Ordered separately (by Armstrong)	Yes	Pallet	10 panels (240 SF)
Screws	Coarse-thread drywall or laminating screws	Ordered separately (by others)	Yes	Varies	Varies
Construction Adhesive	Recommended: Titebond® 5252 ProVantage VOC Compliant Heavy Duty, Titebond® 5262 Heavy Duty, Titebond® 5342 Drywall Plus VOC Compliant, Titebond® 5352 Professional Drywall, Titebond® 3452 All Purpose. Other adhesives must meet the requirements of ASTM C557 and be recommended by the manufacturer for use with galvanized steel. Foaming type adhesives should not be used.	Ordered separately (by others)	Yes	Varies	Varies
TAPE, COMPOUND, AND FINISH					
Mesh Joint Tape	Self-adhesive mesh drywall joint tape	Ordered separately (by others)	Yes	Varies	Varies
Paper Tape	Paper tape (for corners only)	Ordered separately (by others)	Yes	Varies	Varies
FibaFuse® Fiberglass joint tape	Paperless nonwoven fiberglass joint tape (for use with automatic taping and finishing tools only)	Ordered separately (by others)	Yes	Varies	Varies
Fast-Setting Compound (hot mud)	Setting-type drywall joint compound, 5- to 90-minute, to embed mesh joint tape	Ordered separately (by others)	Yes	Varies	Varies
Ready Mixed Lightweight Compound	Ready mixed lightweight or topping drywall joint compound that is easy to sand and low shrinkage (NOT All-Purpose)	Ordered separately (by others)	Yes	Varies	Varies
Ready Mixed All-Purpose Compound	Ready mixed all-purpose or taping compound, used to embed paperless joint tape and paper tape (in corners only)	Ordered separately (by others)	Based on layout	Varies	Varies
2605WH (White) 2605BL (Black)	Fine-Texture Finish for AcoustiBuilt Panels – White and Black Custom colors available to order	Ordered separately (by Armstrong)	Yes	Pail	4 gal/pail
PANEL FINISHING					
Knives or Automatic Finishing Tools (Bazooka® and box up to 8" wide)					
Power sander or pole sander and firm sanding blocks (not sanding sponge) (Recommended: 220 grit sandpaper)					
Inspection tools (Recommended: 4500+ lumen light and 12" straight-edge tool)					
FINE-TEXTURE FINISH FOR ACOUSTIBUILT PANELS					
Required: Graco® Mark V™ Airless Texture Sprayer (Standard, ProContractor, or IronMan) with Low Pressure RAC X LP SwitchTip Pressure-tank assemblies with a specific spray gun may be used as an alternative to the Graco Mark V. Contact your Armstrong rep for more information. For small touchups, a portable electric HVLP sprayer is recommended.					
Graco LP421 Spray Tip (Recommended for detailed spray work only.)					
Graco LP525 Spray Tip (Recommended for spraying the ceiling)					

MORE INFORMATION

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

For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 1 877 276-7876 or FAX 1 800 572-TECH.

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