### SYSTEM COMPONENTS

Substituting different types of tape and finishing compounds can result in an unsatisfactory end visual.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Ordered Separately/Included with</th>
<th>Required for Install</th>
<th>Sold by the:</th>
<th>Pcs/Ctn</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUSPENSION SYSTEM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HD8906</td>
<td>12’ HD Drywall Main Beam</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Ctn</td>
<td>12</td>
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<tr>
<td>XL8945P</td>
<td>4’ Drywall Cross Tee</td>
<td>Ordered separately</td>
<td>Based on layout</td>
<td>Ctn</td>
<td>36</td>
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<tr>
<td>XL8965</td>
<td>6’ Drywall Cross Tee</td>
<td>Ordered separately</td>
<td>Based on layout</td>
<td>Ctn</td>
<td>36</td>
</tr>
<tr>
<td>KAM21020</td>
<td>2” 10’ Knurled Angle Molding – (.033” metal thickness)</td>
<td>Ordered separately</td>
<td>Based on layout</td>
<td>Ctn</td>
<td>10</td>
</tr>
<tr>
<td>7891</td>
<td>12 gauge hanger wire</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Bundle</td>
<td>140</td>
</tr>
<tr>
<td><strong>PANELS AND FASTENERS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2604</td>
<td>ACOUSTIBuilt™ Panel – tapered edges, 48” x 72’ x 7/8”</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Pallet</td>
<td>10 panels (240 SF)</td>
</tr>
<tr>
<td>Screws</td>
<td>#6 x 1-5/8” fine thread, sharp point or self-drilling drywall screw</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Varies</td>
<td>Varies</td>
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<tr>
<td>2119</td>
<td>Grip-Plate® Washer for ACOUSTIBuilt Panels (1-1/4” diameter)</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Bag</td>
<td>For every 10 panels (240 SF) – order 1 bag (250 pcs)</td>
</tr>
<tr>
<td><strong>TAPE, COMPOUND, AND FINISH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mesh Joint Tape</td>
<td>Self-adhesive mesh drywall joint tape</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Varies</td>
<td>Varies</td>
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<tr>
<td>Paper Tape</td>
<td>Paper tape for all corners</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Varies</td>
<td>Varies</td>
</tr>
<tr>
<td>Setting-Type Compound</td>
<td>Lightweight, setting-type drywall joint compound for first coats</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Varies</td>
<td>Varies</td>
</tr>
<tr>
<td>Drying-Type Compound</td>
<td>Pre-mixed drying-type topping compound that is light weight, easy to sand, and low shrinkage for top coats</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Varies</td>
<td>Varies</td>
</tr>
<tr>
<td>2605WH</td>
<td>Fine Texture Finish for ACOUSTIBuilt Panels – White Off-white tints may be custom ordered</td>
<td>Ordered separately</td>
<td>Yes</td>
<td>Pail</td>
<td>4 gal/pail</td>
</tr>
<tr>
<td><strong>PERIMETER TRIMS &amp; ACCESSORIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AX1PC – STR AX1PC – CUR</td>
<td>Axiom® One-Piece Drywall Trim Available for 4” and 6” heights – straight or curved</td>
<td>Ordered separately</td>
<td>Based on layout</td>
<td>Piece</td>
<td></td>
</tr>
</tbody>
</table>
## SYSTEM COMPONENTS
Substituting different types of tape and finishing compounds can result in an unsatisfactory end visual

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Ordered Separately/Included with</th>
<th>Required for Install</th>
<th>Sold by the:</th>
<th>Pcs/Ctn</th>
</tr>
</thead>
<tbody>
<tr>
<td>AX – STR</td>
<td>Axiom Classic</td>
<td>Available for 2”-16” heights – straight or curved</td>
<td>Ordered separately</td>
<td>Based on layout</td>
<td>Piece</td>
</tr>
<tr>
<td>AX – CUR</td>
<td>Axiom Bottom Trim for ACOUSTIBuilt Straight or Curved</td>
<td>Ordered separately</td>
<td>Required for Axiom Classic</td>
<td>Piece</td>
<td>10</td>
</tr>
<tr>
<td>AXBTA</td>
<td>Axiom® Angled Knife Edge Trim for ACOUSTIBuilt – Inside or Outside Corner</td>
<td>Ordered separately</td>
<td>Based on layout</td>
<td>Piece</td>
<td></td>
</tr>
</tbody>
</table>

## TOOLS AND EQUIPMENT

### SUSPENSION SYSTEM
- Standard drywall grid installation tools

### PANEL INSTALLATION
- **Impact or drill driver**: Impact or drill drivers are used to install screws with washers. A drywall screw gun with depth-sensitive nose-piece cannot be used due to interference with the washers.
- **Cutting tools**: Conventional drywall and acoustical panel cutting tools are used to cut ACOUSTIBuilt™ panels. Utility knife, jab saw, and rotary cut-out tools are recommended.

### FINISHING
- **Taping tools**: Hand-tools (taping knives or trowels that are 4”, 5”, 6”, and 8”) are used to apply joint compound. Finishing boxes may not be used on ACOUSTIBuilt™ panels.
- **Sanding tools**: Drywall power sanders may be used with 220 grit or finer sandpaper and the lowest RPM speed setting to avoid over sanding. Sanding poles and blocks may also be used with fine grit sandpaper. Firm sanding blocks are recommended to sand overfilled areas, and soft sanding blocks are recommended for compound edges. Wet sanding sponges are not recommended.
- **Inspection tools**: A site lite and hand-held LED light are required to inspect the finished ceiling. A 24-inch straight edge tool is required to inspect all finished areas.

### FINE TEXTURE FINISH FOR ACOUSTIBUILT™ PANELS
- **Pressure tank**: Binks® (or equivalent) pressure tank with dual air regulation and rated for 110 PSI or greater output pressure. A liner is recommended.
- **Air Compressors**: The spray gun requires continuous air delivery of 14.1 SCFM at 50 PSI. Air delivery can be achieved with one compressor or two in series. Consider the electrical load and circuit limit.
- **Spray Gun**: Graco® Model AirPro Conventional Spray Gun: Part #288934 Nozzle Size: 0.110” Air Cap Kit Needle/Nozzle Kit #289069 #289467
- **Spray Gun**: Binks® Model 95 Spray Gun: 68SS Fluid Nozzle #45-6801 68PB Air Caps #46-6032 668 Fluid Needle #47-66800
- **Spray Gun**: Binks® Model 2100 Spray Gun: 68SS Fluid Nozzle #45-6801 68PB Air Caps #46-6032 568 Fluid Needle #47-56800

### Hoses, fittings, and accessories
See Section 11 for more information
1. GENERAL

ACOUSTIBuilt™ panels are 7/8" thick, available in a nominal size of 48" x 72", and have tapered edges on all four sides. As ordered, ACOUSTIBuilt panels are scrimmed and unfinished. Panels are installed to Armstrong® Drywall Grid using drywall screws and washers. Joints between panels are subsequently taped and the joints and fasteners are covered with compound. Finally, the surface is coated with a fine texture finish.

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 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 one-year panel warranty.

1.3 Storage and Handling
Do not store the Fine Texture Finish or panels in unconditioned spaces with temperature lower than 40° F or higher than 100° F, or with humidity lower than 25% or higher than 55% RH. Panels shall be stored in a dry interior location and shall remain in packaging prior to installation to avoid damage. Panels must not be exposed to extreme temperatures, for example, close to a heating source or near a window in direct sunlight. Proper care should be taken when handling to avoid damage or soiling.

1.4 Site Conditions
Prior to installation, the area shall be free of construction dust and debris. ACOUSTIBuilt panels should be installed in areas where the building is enclosed and the HVAC is continuously functioning. 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 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. This product is not recommended in areas where a differential plenum pressure exists. Standard 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 Cleaning
See Section 12.

2. DESIGN AND INSTALLATION CONSIDERATIONS

2.1 Panel Layout
Panels are installed with long (6') edges parallel with the cross tees to allow for attachment at roughly 14-1/2" O.C. spacing. 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
- Ceiling without perimeter relief cannot exceed 30 LF and 900 SF between control joints

See section 7.2.3 for applicable details.

2.2 Directionality
Panels receive a uniform, non-directional finish.

2.3 Panel Offset/Fixture Integration
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" offset.

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 Plenum
Panels are screw attached from below to the face of the grid and do not require space in the plenum for installation. Light fixtures and air handling systems may determine the minimum plenum height for the installation.

2.5 Sprinklers
For questions about sprinklers, see NFBA13 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.

2.6 Approximate System Weight & Attachment to Deck
Overall system weight will combine the suspension system, panels, and finish components

- Drywall grid weighs approximately 0.4 lbs/SF
- ACOUSTIBuilt™ panels with Fine Texture Finish weigh approximately 1.1 lbs/SF

Fastener connections of the suspension system to building structure are specified by the contractor and must follow the manufacturer's instructions and referenced code.
2.7 Accessibility
Access panels can be integrated within the system following standard installation practices. Refer to the access panel manufacturer to verify compatibility with 7/8” thick panels and for installation details. Some access panels designed for 5/8” drywall may require a 1/4” shim to install flush with ACOUSTIBuilt panels.

2.8 Perimeters
ACOUSTIBuilt panels can be installed to tie into walls or integrate with Axiom® perimeter trim. See sections 5 and 7.2.3 for details.

The perimeter detail may impact the need for and spacing of control joints.

2.9 Seismic Installations
ACOUSTIBuilt has been seismically tested for installation in all Seismic Design Categories. See section 9 for requirements and additional information.

2.10 Sloped Installations
ACOUSTIBuilt Ceiling Systems can be installed on slopes of any angle.

2.11 Soffits
ACOUSTIBuilt can be installed on soffits of any size or angle. For acoustical benefit, AcoustiBuilt is recommended on soffits 36” or greater in height. Standard drywall is recommended for soffits less than 36”.

3. ACCESSORIES

3.1 Panel Accessories

3.1.1 Washers
The Grip-Plate® washer for ACOUSTIBuilt panels (1-1/4” diameter) is required for panel attachment to the grid system.

3.1.2 Screws
#6 x 1-5/8” fine thread drywall screws are required. Sharp point and self-drilling screws are both acceptable.

4. SUSPENSION SYSTEM

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 be in compliance 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

4.1 System Components

4.1.1 Main Beams
ACOUSTIBuilt is installed on Heavy-Duty drywall main beams (HD8906/HD890610).

4.1.2. Cross Tees
4’ drywall cross tees (XL8945P) or 6’ drywall cross tees (XL8965) can be used.

4.1.3 Angle Molding
Perimeters of the installation that interface with walls must be supported with KAM.

4.1.4 ShortSpan® Framing
ACOUSTIBuilt Ceiling Systems can also be installed on 8’ (S7708P), 10’ (S7710P), 12’ (S7712P), and 14’ (S7714P) ShortSpan Tees.

4.2 Suspension/Hanger Rules
Hanger wires must be installed on the mains within 24” of the perimeter and no more than 48” O.C. along the mains.

4.3 Drywall Grid/Framing Layout
When determining the grid layout, consider the long edges of the boards must run parallel with the cross tees.

- Main beams must be installed at 48” or 72” O.C. (depending on what DGS cross tees are being used).
- Cross tees must be installed at 16” O.C.

4.4 Squaring and Leveling the Grid
This system relies on a square grid system to ensure panel edges align at centers of cross tees. If the installation does not meet these squareness requirements, the panel edges may run off of the grid system.

- The system must be square to within 1/8” over a 48” x 48” module.

To check squareness of the system, measure across the diagonals of a 48” x 48” opening. The measurements (A and B) must be equal within 1/8”. See detail:

- The suspension system must be leveled to within 1/4” in 10’.

4.6 Perimeter Attachment to Wall Molding
All grid that interfaces with the perimeter must be secured to the perimeter with a framing screw.
5. FLOATING PERIMETERS / TRIM FOR DISCONTINUOUS CEILINGS

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 from 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

5.2.1 Axiom One-Piece Drywall Trim

- 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.

- 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.

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

5.2.2 Axiom Classic with Bottom Trim

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’s 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 predrilled holes. Use only the holes closest to the face to attach the bottom trim to the Axiom Classic.
- Before installing the screws, create a bevel in the AXBTA hole using a countersink tool or step bit.

See Section 7.2.3.2 for additional details.
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 attaching to the Axiom Transitions should be supported to structure within 8" of the transition.

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 attaching to the Axiom transition should be supported to structure within 8" of the transition.

6.2 Transition Molding

Transition Molding can be used for transitions on the same plane between ACOUSTIBuilt panels and other acoustical ceiling products.

7. PANELS

ACOUSTIBuilt panels are 4' x 6' and feature a tapered perimeter around all four edges. This feature eliminates the need for butt joints. Panels can be field-cut to fit layout conditions like other acoustical panels and drywall. Field cut edges should only be placed at walls, other perimeters, or MEP. Wherever two panels are adjacent to each other, use only the factory tapered edges. Lift and handle panels carefully to avoid breaking or indenting the material that is soft compared to drywall.

7.1 Layout Rules and Overview

ACOUSTIBuilt panels require specific fastener spacing. The panels must be oriented so the 6' edges run parallel with the cross tees, which are spaced at 16" O.C. Screws with washers are installed approximately 14-1/2" O.C. along each row of cross tees. This will provide four rows of six fasteners supporting each panel. Eight of these fasteners will be within the field of the panel (field fasteners), and 16 will be located at the edge of the panel (edge fasteners) and shared between adjacent panels.
It is recommended to lightly pre-mark the screw locations on each using a carpenter pencil. Marks may not extend outside of the small fastener area where compound will be applied, as the finish coating may not hide the marks. Panels are suspended first by the eight field fasteners. Panel edges are aligned carefully with the center lines of cross tees.

The panels should be staggered so that the short edges are offset by approximately 29" between adjacent rows. This will ensure proper spacing of edge fasteners along the perimeter of each panel. Edge fasteners, which are shared between panels, are installed only after the adjacent board(s) are suspended.

7.2 Panel Installation

7.2.1 Fastener Attachment Guidelines
All panels are attached to cross tees with the screws and washers listed in section 3.

The screws and washers are installed using a standard impact driver or drill/driver. Drywall screw guns with nose cones cannot be used due to interference with the washers.

Fasteners are set to a depth of no more than 1/32" past the board surface. Depth is checked with a straight-edge to ensure each fastener is minimally recessed. Over-tightened fasteners will require additional steps to finish and compromise the final appearance.

It is recommended to practice installing fasteners on scrap board to ensure proper depth is achieved.

Edge fasteners are installed to the tapered perimeter, and are not installed as deeply because the taper provides a natural recess.

To attach taping flanges (such as L-trims, expansion beads, and fixture mud rings), screws that penetrate the flanges are installed without washers.

7.2.2 Panel Attachment
Panels should be handled by two people to avoid damaging or breaking the board edges. Board lifts may be used in a careful manner that avoids surface indentation or edge damage.
ACOUSTIBuilt™ panels are carefully lifted to the grid with the long edges aligned with the centerlines of the cross tees. The weight of the panels must be supported until all eight field fasteners are installed.

Edge fasteners are installed in the center of panel joints after adjacent panels are suspended by their eight field screws.

### 7.2.3 Panel Attachment at Perimeter

#### 7.2.3.1 Panel Attachment at Wall Perimeter

When panels are cut to size to fit along a perimeter, they should be fastened to the KAM at no more than 16" O.C. along the entire cut edge.

ACOUSTIBuilt panels can be finished directly to the wall.

Alternatively, ACOUSTIBuilt panels can be finished to create a reveal at the wall.

### 7.2.3.2 Panel Attachment at Floating Trim Perimeter

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 without washers 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.

### 7.2.3.3 Panel Attachment at Perimeter of Cutouts

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 16" O.C.
8. MEP

The installed height of the fixtures that interface with these panels, 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 supported per the manufacturer’s instructions.

9. SEISMIC

ACOUSTIBuilt ceiling system has been engineered and tested for application in all Seismic Design Categories when installed following these 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.

10. FINISHING RULES, TOOLS, AND MATERIALS OVERVIEW

ACOUSTIBuilt™ panels are acoustical and have unique finishing requirements:

- **Joint compound at panel joints (all four tapered sides) is kept to 8 inches** to preserve acoustical performance. *Mud-in flanges, such as light fixture trims, may be floated out as-needed to create a flat appearance.*
- **Joint compound at field fasteners is kept to 4 inch by 4 inch areas.**
- **Fiberglass mesh tape** is used on all ACOUSTIBuilt panel joints. Paper tape may be used at corners.
- **Setting-type drywall joint compound** is used for the first coats (See 10.1).
- **Pre-mixed drying-type topping compound**, that is light weight, easy to sand, and low-shrinkage, is used for the finish/top coats (See 10.1).
- **Hand tools (taping knives or trowels) are used to apply the compound.** Edges are pulled tightly to the panel to eliminate ridges. Finishing boxes may not be used on ACOUSTIBuilt panels.
- **Drywall power sanders** may be used with 220 grit or finer sandpaper and the lowest RPM speed setting to avoid over sanding.
- As recommended by the manufacturer, some trims and beads may be applied with spray adhesive and screws or 3/4-inch staples.
- **The entire finished ceiling must be inspected 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 ceiling is flat before spraying. All compound shall be smooth and free of tool marks and ridges.

10.1 Finishing Procedure:

1. Pre-fill all fasteners with two coats of setting-type compound.
2. Tape the joints with fiberglass mesh tape (paper for corners).
3. Apply setting-type compound over the tape. Pull the compound tight to allow room for the topping coats.
4. Apply a coat of pre-mixed topping compound to field fasteners.
5. Apply a coat of pre-mixed topping compound to joints.
11. SPRAYING FINE TEXTURE FINISH

11.1 Site Preparation

Before spraying, inspect all finished ceiling areas for high/low spots with critical light and a 24 inch straight edge. Check every finished fastener and all joints every 2-3 feet. Touch up any high/low spots and confirm the entire ceiling is flat before spraying.

Protect the site and fixtures from overspray with masking film, tape, and drop cloths as necessary. Locate electrical and water supplies for the spray equipment.

11.2 Safety Considerations

Equipment described in this document is manufactured by others, not Armstrong. Diagrams and depictions herein are for illustrative purposes only. Before operating the equipment, you should read and understand all safety, operation, and maintenance guidelines provided by the manufacturer.

The user is solely responsible for safe operation of equipment in accordance with the manufacturer guidelines, safety requirements, and other information.


Binks® Pressure Tanks: https://www.carlisleft.com/en/products/product/binks-pressure-tanks1

Safety information about the Fine Texture Finish for ACOUSTIBuilt™ is provided on the product label. Avoid exposure to airborne dusts/fumes/gas/mist/vapors/ sprays; use only with adequate ventilation. If high dust levels are expected, use an appropriate NIOSH certified dust mask. Avoid contact with eyes and skin. Foam lined safety glasses and coveralls are recommended. Wash skin thoroughly after handling.
### 11.3 Utilities

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>Establish electrical supplies per the compressor requirements. Typically a dedicated 240 volt supply or two dedicated 120 volt supplies are required. Refer to the manufacturer of your air compressor(s).</td>
</tr>
<tr>
<td>Water</td>
<td>Water is needed to clean the spray system during and after use.</td>
</tr>
</tbody>
</table>

### 11.4 Spray Equipment (by others)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spray gun</td>
<td><strong>Requirement:</strong> One of the following models.</td>
</tr>
<tr>
<td></td>
<td>• Binks® Model 2101-5111-5 Conventional Spray Gun</td>
</tr>
<tr>
<td></td>
<td>• Binks® Model 95 Spray Gun with 68ss Fluid Nozzle, 68PB Air Caps, and 668 Fluid Needle</td>
</tr>
<tr>
<td></td>
<td>• Graco® Model 288934 AirPro Conventional Spray Gun</td>
</tr>
<tr>
<td>Pressure tank</td>
<td><strong>Requirement:</strong> Dual air regulation and rated for 110 PSI or greater.</td>
</tr>
<tr>
<td></td>
<td><strong>Recommended models:</strong></td>
</tr>
<tr>
<td></td>
<td>• Binks® Model 183S-520 or equivalent (5-gallon)</td>
</tr>
<tr>
<td></td>
<td>• Binks® Model 183S-220 or equivalent (2-gallon)</td>
</tr>
<tr>
<td>Air compressors</td>
<td><strong>Requirement:</strong> Air supply to meet the demand of the spray gun.</td>
</tr>
<tr>
<td></td>
<td>The Binks® 2100 spray gun requires air delivery of 14.1 CFM at 50 PSI. Equipment selection (fittings sizes, hose lengths, etc.) may affect the required air supply. Air can be supplied from two 120 volt compressors in parallel or one 240 volt compressor.</td>
</tr>
<tr>
<td>Hoses and fittings</td>
<td>Assemble equipment with appropriate hoses, fittings, and parts in accordance with the manufacturer requirements and pressure ratings. It is recommended to size fittings and hoses to minimize flow restriction.</td>
</tr>
</tbody>
</table>
An example equipment arrangement is provided below for illustrative purposes only. The user is solely responsible to use equipment safely and in accordance with the manufacturer. This document is not a substitute for information or requirements from the manufacturer.

### WARNING

Equipment is manufactured by others, not Armstrong. Operate and assemble per the manufacturer. Before assembling and operating equipment, read and understand all safety, operation, and maintenance information provided by the manufacturer.

Additional items may be required. Fittings and hoses may be substituted. It is recommended to not exceed 75 FT hose lengths between the pressure tank and spray gun. Air supply requirements depend on factors including fittings, hose lengths, and spray elevation. The provided air supply guidance is the minimum. Contact your Armstrong representative and local distributor for assistance.

---

<table>
<thead>
<tr>
<th>Label</th>
<th>Quantity</th>
<th>Item Description</th>
</tr>
</thead>
</table>
| A     | 1        | 2101-5111-5, 2100 Gun 68SS X 68PB (P)  
Fluid Inlet Size = 3/8” NPS  
Air Inlet Size = 1/4” NPS |
| B     | 1        | 183s-520, 5-Gal Stainless Steel Pressure Tank  
with Dual Regulation Rated for 110 PSI  
Air Outlet Size = 1/4” NPT (M)  
Fluid Outlet Size = 3/8” NPT (M) |
| C     | 1 or 2   | Electric Portable Air Compressor(s)  
14.1 CFM Or Greater @ 50 PSI Minimum |
| D     | 1        | Hose Assembly, Fluid 3/8” x 75' |
| E     | 1        | Hose Assembly, Air 3/8” x 25’, 1/4” Male Fittings |
| F     | 2        | Hose Assembly, Air 3/8” x 75’, 1/4” Male Fittings |
| G     | 2        | Hose 3/8” x 3’, 3/8” NPT |
| H     | 2        | In-Line Check Valve, 3/8” |
| I     | 2        | 1/4” x 1-1/2’ Nipple And 3/8” x 1/4” Bushing Size To Compressor Air Outlet |
| J     | 1        | F. Tee, 3/8” NPT |
| K     | 4        | Plug, 1/4” F, Hi-Flow |
| L     | 2        | Plug, 3/8” M, Hi-Flow |
| M     | 2        | Plug, 3/8” F, Hi-Flow |
| N     | 3        | Coupler, 1/4” F, Hi-Flow |
| O     | 2        | Coupler, 3/8” F, Hi-Flow |
| P     | 3        | Coupler, 3/8” M, Hi-Flow |

---

### Item Description

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Lights</td>
<td>Site light and LED hand light to inspect the ceiling and finish critically.</td>
</tr>
<tr>
<td>Masking Protection</td>
<td>Masking film, masking tape, and drop cloth to protect fixtures and surroundings from overspray.</td>
</tr>
<tr>
<td>Mixing Paddle</td>
<td>Mixing paddle to mix the finish to a uniform consistency.</td>
</tr>
<tr>
<td>Paint Strainers</td>
<td>10 to 20 Mesh (2,000 to 850 micron) strainers to filter debris out of finish.</td>
</tr>
<tr>
<td>Cardboard or Brown Paper</td>
<td>Dark surface to calibrate spray pattern.</td>
</tr>
<tr>
<td>Knockdown Squeegee Trowel</td>
<td>Flexible, rubber drywall squeegee trowel to knock down dry texture.</td>
</tr>
<tr>
<td>Water Buckets</td>
<td>Water buckets to soak the spray gun tip between coats and to clean the spray system.</td>
</tr>
</tbody>
</table>
11.4 Equipment Preparation

Before operating spray equipment, read and understand all safety, operation, and maintenance information provided by the manufacturer. The user is solely responsible to use equipment safely and in accordance with the manufacturer.

Mix the Fine Texture Finish for ACOUSTIBuilt™ thoroughly with a mixing paddle until it reaches a uniform consistency (about 5 minutes). Filter the finish through a 10 to 20 Mesh (2,000 to 850 micron) strainer. Allow the finish to filter completely through the strainer; only remove and discard large clumps and debris. It is recommended to filter the finish after mixing or if dry debris falls into the pail. Note the storage requirements and expiration date of the finish. Use each pail within 3-5 days after opening.

Load the finish into the pressure tank. Set the air pressure gage to about 40 PSI and the tank pressure gage according to your fluid hose length as a starting point. Reference the chart below. Add about 10 PSI of tank pressure for every 10 FT of elevation the spray gun is held above the pressure tank. Pressures will be adjusted to produce the proper spray pattern in 11.8.1. The correct settings depend on the particular equipment and fittings being used.

Starting Settings for Calibration

<table>
<thead>
<tr>
<th>Air / Finish Hose Lengths (3/8&quot; ID)</th>
<th>Tank Pressure Setting*</th>
<th>Air Pressure Setting*</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 FT</td>
<td>20 PSI</td>
<td>40 PSI</td>
</tr>
<tr>
<td>50 FT</td>
<td>40 PSI</td>
<td>40 PSI</td>
</tr>
<tr>
<td>75 FT</td>
<td>60 PSI</td>
<td>40 PSI</td>
</tr>
</tbody>
</table>

*Approximate working pressures (when the spray gun trigger is engaged) of the equipment described in 11.3. Add about 10 PSI of Tank Pressure for every 10 FT of spray elevation. Consider the pressure ratings of the equipment. Pressures will be tuned to deliver the correct pattern in the Calibration section.

11.5 Spraying Procedure

Fine Texture Finish for ACOUSTIBuilt is applied in multiple coats, layered to create a uniform appearance and maintain the acoustical performance of the system. Practice spraying on scrap material and mockups prior to the installation. Contact your installation representative for assistance.

11.5.1 Calibration

Calibrate your spray pattern at similar elevation to the ceiling to be sprayed. It is recommended to spray with the gun no higher than 40 FT above the pressure tank to reduce the required tank pressure. Consider the pressure ratings of your equipment. Spray a dark surface such as cardboard with a single stroke to observe your spray pattern. Adjust your stroke speed and pressure settings until the spray pattern matches Image A. Maintain the spray gun 12 to 18 inches from the surface.

Image A – Correct spray pattern on cardboard

If the spray pattern is too coarse (large droplets), increase the air pressure or decrease the tank pressure. If the spray pattern is too fine (small droplets), decrease the air pressure or increase the tank pressure.

If the spray pattern is too dense, speed up your stroke. If the spray pattern is too sparse, slow down your stroke.

If the pattern is non-uniform, refer to the spray gun manual for troubleshooting information. A common cause is a clog of dried material around the fluid or air nozzles.

Reference the spray gun manual for information about gun handling and adjustment controls, including how to set the fan width and fluid control screw.

WARNING

High pressure can cause serious injury. Pressure is maintained in the pressure tank after the system has been shut down. Follow the pressure-relief procedure from the equipment manufacturer.

11.5.2 Application
Apply the spray pattern of Image A in four coats, overlapping each stroke by 50% (i.e. each coat is two overlapped layers of the calibrated pattern). Allow at least 40 minutes for drying between coats. Allow additional dry time for humid conditions. Alternate the spray direction of each coat. For example, spray the first and third coats North/South and the second and fourth coats East/West.

Assess the appearance after each coat with direct and side lighting. With proper application rate, the joint compound will remain visible after the third coat, but disappear behind the finish after the fourth (Image B).

Image B – Coats 1 through 4

If joint compound remains visible after the fourth coat, apply a fifth coat to the transparent areas. Apply additional finish only until the joint compound is concealed and the appearance is uniform. Excessive coating, beyond the point of hiding the joint compound, may degrade the acoustical performance of the system.

Refill the pressure tank between coats to avoid interrupting the spraying process. Submerge the spray gun tip in water between coats to avoid clogs. After the second and fourth coats have dried, knock down any dry texture standing out from the surface with a drywall squeegee trowel.

11.5.3 Spray Techniques
For general spraying guidance, refer to the spray gun manufacturer. Overlap each stroke by 50%. Maintain the gun 12 to 18 inches from the ceiling for high transfer efficiency. When changing directions, move the gun before pulling the trigger and continue the stroke after releasing the trigger. To avoid creating glossy areas, ensure each coat has fully dried before spraying the next.

11.5.4 Finish Consumption
The net consumption for standard white finish is 0.012 gal/ft², applied as four coats of 0.003 gal/ft². A pail contains 4 gallons of finish. For example, a 2,500 ft² flat ceiling consumes net 30 gallons. Each coat consumes 7.5 gallons, or nearly two pails.

<table>
<thead>
<tr>
<th>Ceiling Area</th>
<th>Net Consumption</th>
<th>Per Coat Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area x 0.012</td>
<td>Area x 0.003</td>
</tr>
<tr>
<td>200 ft²</td>
<td>2.4 gal.</td>
<td>0.6 gal.</td>
</tr>
<tr>
<td>2,500 ft²</td>
<td>30.0 gal.</td>
<td>7.5 gal.</td>
</tr>
<tr>
<td>5,000 ft²</td>
<td>60.0 gal.</td>
<td>15.0 gal.</td>
</tr>
</tbody>
</table>

Plan to spray the ceiling in sections to refill the pressure tank and avoid running it empty. For example, consider that a four-gallon pail will cover a 1,333 ft² area with a single coat. It is recommended to break around 1,000 ft² to refill the pressure tank.

For colors other than standard white, expect to consume up to 25% additional finish.

11.5.5 Fine Texture Finish on Other Materials
Fine Texture Finish for ACOUSTIBuilt™ can be sprayed onto other materials, including drywall and trims, to match the appearance of ACOUSTIBuilt. Spray multiple, light coats per the standard procedure. Prime metal surfaces and clean away any grease before spraying.
12. ACOUSTIBUILT™ MAINTENANCE AND REPAIR GUIDE

Disclaimer: Repairs that add joint compound or finish to ACOUSTIBUILT™ Ceiling System may degrade its acoustical performance.

<table>
<thead>
<tr>
<th>Overview</th>
<th>Finish Touch-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean</td>
<td>Remove dirt with a medium bristled paint brush, compressed air on low pressure, or vacuum cleaner with soft brush. Remove soot with a dry soot cleaning sponge.</td>
</tr>
<tr>
<td>Sprinkle</td>
<td>Spray-apply Fine Texture Finish for ACOUSTIBUILT per Section 11 with the standard equipment or a portable electric HVLP sprayer.</td>
</tr>
<tr>
<td>Dents or Finish Defects</td>
<td>Fill indentations with joint compound and sand the area smooth. Follow the finish touch-up procedure.</td>
</tr>
<tr>
<td>Patch</td>
<td>Cut out damaged area and patch the hole with drywall or ACOUSTIBUILT panel. Apply tape and joint compound. Follow the finish touch-up procedure.</td>
</tr>
</tbody>
</table>

12.1 Cleaning

To remove dry dirt or debris, brush away the dirt with a medium bristled dry paint brush, or blow away the dirt with compressed air or a vacuum on low setting with a soft brush. To remove soot stains, blot or brush away the dirt with a dry soot cleaning sponge.

Dry finish texture standing out from the surface can be knocked down with a squeegee trowel or 220 grit sand paper.

12.2 Finish Touch-Up

The finish must be spray applied as specified. Do not brush or blot.

ACOUSTIBUILT ceilings can be refreshed or touched up with fresh coats of Fine Texture Finish. The finish can be applied with the standard pressure-feed equipment in Section 11, or with a portable electric HVLP sprayer.

12.2.1 Standard Pressure-Feed Equipment

Follow Section 11 to calibrate the spray pattern. Apply the finish to the ceiling in multiple, light coats until the appearance and texture match the surrounding ceiling. Allow the finish to dry between coats. Feather the final coat into the adjacent ceiling area.

12.2.2 Portable Electric Sprayer

- Use an electric HVLP paint sprayer with at least 0.10 inch (2.6mm) nozzle from a local hardware store or online. Contact your local installation representative for guidance.
- Review the safety and operational information from the spray gun manufacturer.
- Thoroughly mix and strain the Fine Texture Finish for ACOUSTIBUILT with a 10 to 20 mesh paint strainer. Pour the finish into the spray gun container.
- Calibrate the spray pattern against a dark surface, per Section 11. Adjust the spray gun controls as necessary to achieve the fine texture pattern.
- Apply the finish to the ceiling in multiple light coats until the appearance and texture match the surrounding ceiling. Allow the finish to dry between coats. Feather the final coat into the adjacent area.

12.3 Dents or Finish Defects

To correct glossy finish, indentations, or cracks, sand the local area and apply fresh coats of finish.

- (If applicable) Fill indentations with joint compound prior to sanding. Use light weight joint compound as the top layer.
- Sand the joint compound or glossy area with 100 grit paper until the surface is smooth. Sand the finish texture 6 inches beyond the damaged area.
- Verify the area is flat with a long straight edge and critical light.
- Spray light coats of Fine Texture Finish for ACOUSTIBUILT per section 12.2.2.

12.4 Patch

To correct structural damage, patch the ceiling with a piece of ACOUSTIBUILT Panel or drywall.

- Cut out the damaged area and cut a new patch of the same size from ACOUSTIBUILT panel or drywall.
- Install framing as needed and secure the new patch with drywall screws (and Grip-Plate® washers if the new patch is cut from ACOUSTIBUILT panel). Shim the patch as needed to make it 1/8” recessed from the surrounding ceiling.
- Sand the finish texture where joint compound will be applied with 100 grit paper.
- Apply fiberglass mesh tape with setting compound around perimeter of the patch. Apply ultra light weight joint compound as the top coat and float the joints to create a flat surface.
- Sand the joint compound and finish texture 6 inches beyond the perimeter of the patch.
- Verify the area is flat with a straight edge and critical light.
- Spray light coats of Fine Texture Finish for ACOUSTIBUILT per section 12.2.2.
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.

For the latest product selection and specification data, visit armstrongceilings.com/commercial

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