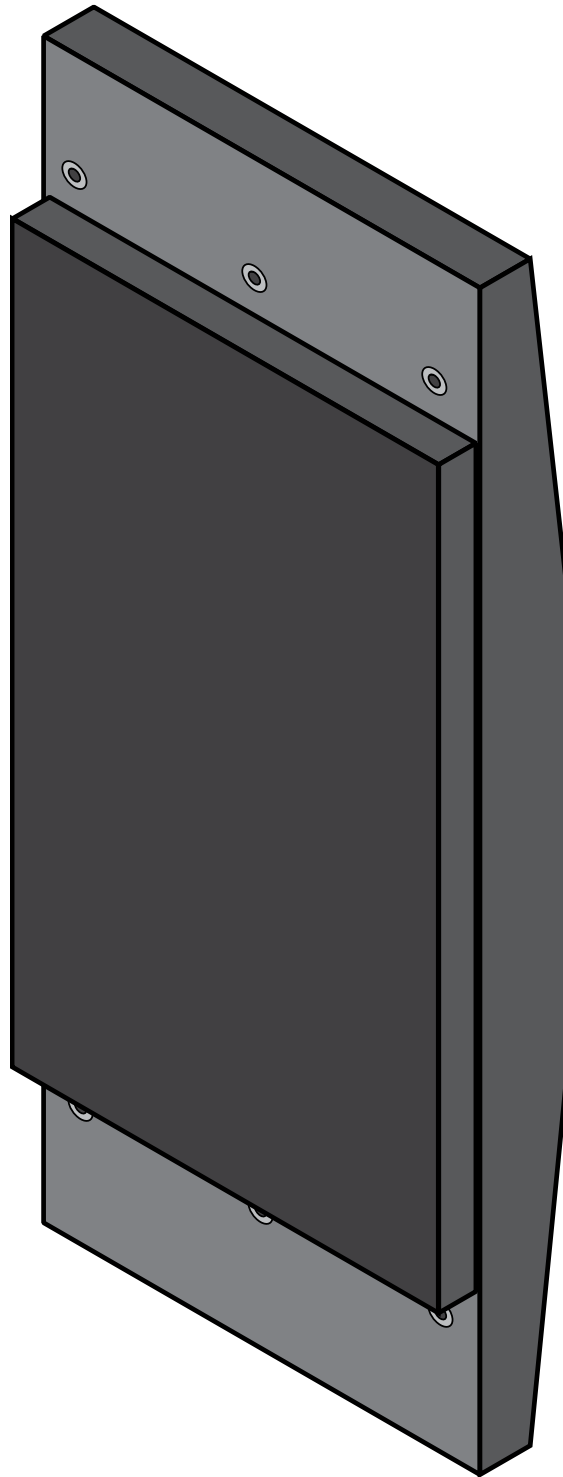


Installation Manual



ARTISON

Specifications

BOX CONTENTS

- (1) Sound Surface 40 or Sound Surface 80 Invisible Speaker (SURFACE-40-00, SURFACE-80-00)
- (6) M5 x 45 mm flathead screws (075-0216-xx)
- (1) Sound Surface Spacer Kit (015-0229-xx) - (6 spacers of various widths)
- (1) Surface Speaker 40 and 80 Cut-Out Template (009-0585-xx)
- (1) Installation Handle (169-0202-00)
- (1) Product Documentation Notice Insert (009-1683-00)

ADDITIONAL ACCESSORIES

- Sound Surface Pre-Construction Bracket (SURFACE-1PCB-xx)
- Installation Handle (SURFACE-1IH-xx)

Environmental	
Temperature	5° to 122° F (-15° to 50° C)
Humidity	10% to 90% Relative Humidity (non-condensing)
Dimensions and Weights	
Height	23.0 in (58.42 cm)
Width	9.75 in (24.77 cm)
Depth	(Speaker) 3.125 in (7.94 cm) (Mounting Cavity) 3.125 (7.94 cm)
Weight	Speaker: 7.2 lb (3.27 kg) Shipping 11.0 lb (5.00 kg)
Regulatory	
RoHS	Compliant
Recommended Power	
Surface 40	40 watts maximum
Surface 80	80 watts maximum
(overload protection built-in)	
Frequency Response	
80 Hz - 20 kHz +/- 2 db	
Sensitivity	
86 dB @ 1 meter/1W with .079 in (2 mm) plaster skim coat	
Dispersion Angle	
180° x 180° (H x V) Full Spectrum within 2dB	
Nominal Impedance	
8 Ohms	
Cabinet / Finish	
Acoustically tuned engineered aluminum enclosure. Aluminum honeycomb core, doped paper skin, composite acoustic panel.	

Pre Construction Bracket Install

The Artison Sound Surface 40 and Sound Surface 80 speakers are designed to be installed into a wall or ceiling. Once installed, the face of the speaker is then sheetrock mudded so the complete speaker is embedded into the wall and can't be seen. Installation of the speaker varies slightly depending on whether the install is done during initial construction or retrofitted after the drywall is already hung. Both installations are described below:

- For **NEW CONSTRUCTION**, follow the steps in section 1 - [Pre Construction Bracket Installation](#). After pre-construction bracket is installed, skip to section 4 [Attach Handle](#)
- For **RETROFIT INSTALLATIONS**, skip section 1 and start with section 2 - [Mark the Wall/Ceiling](#)

1) Pre-Construction Bracket Installation

A Sound Surface Pre-construction bracket (SURFACE-1PCB-00) is available for installs where the wall board is not installed.

- The pre-construction bracket is installed onto existing studs and will reserve an opening during the rough stage so the drywall can be installed around it.
- Pre-construction brackets (sold separately) are available for stud and joist openings that are either 12 or 16 inch on center.
- With the use of the Pre-construction bracket, a smaller cavity can be used. The clearances required for this installation are: (9 ³/₄ in x 23 ¹/₂ in x 3 ¹/₈ in) (248 mm x 597 mm x 80 mm) deep.
- The pre-construction bracket can be used for installations that include either 1/2 inch or 5/8 inch drywall. With rubber spacers installed, 5/8 inch drywall can be used. With spacers removed, 1/2 inch drywall can be used.

Follow instructions below to install Pre-construction bracket:

1. When 1/2 inch drywall is being installed, remove the rubber spacers from the rear of the bracket.
When 5/8 inch wall board is being installed, leave the rubber spacers intact.



HELPFUL! The face of the bracket should be slightly inset from the edge of the drywall. This allows for joint compound to be spread over bracket to create a level surface.

2. Attach the bracket to the wall studs or ceiling joists using the (5) pre-drilled countersunk holes positioned along the outside edge of the bracket. See Figure 1.



TIP! Use mounting screws (not provided) appropriate for the stud or joist type: wood, metal, etc.

3. After bracket is installed, proceed to section 4 - [Attach Handle](#). Skip the retrofit instructions on page 4 if this is new construction.

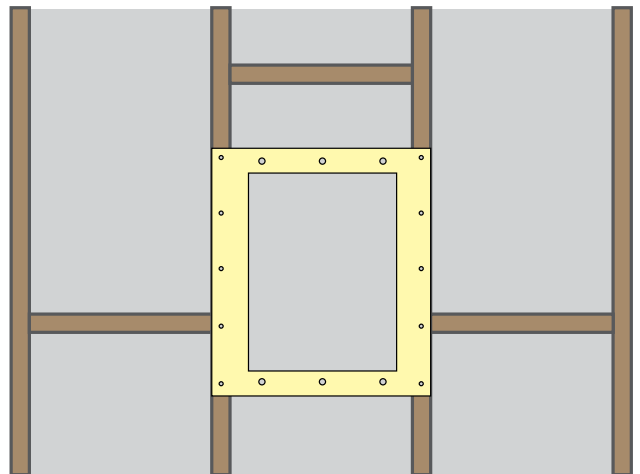


Figure 1.

Installation - Retrofit

2) Mark the Wall/Ceiling

1. Use a stud locator instrument or other approach to mark the location of studs and other items that may obstruct the installation of the speaker. See Figure 2 below.
2. The following clearances are required to install the speaker (with no obstruction from studs or other wall fixtures): (9 $\frac{3}{4}$ in x 26 $\frac{1}{2}$ in x 3 $\frac{1}{8}$ in) (248 mm x 675 mm x 80 mm). See Figure 3 below.

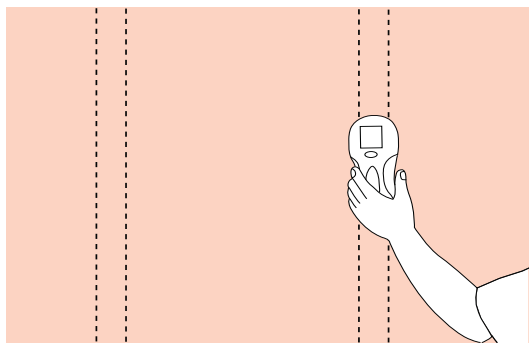


Figure 2.

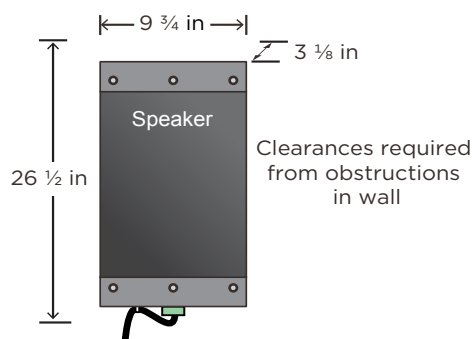


Figure 3.

3) Cut the Drywall

1. Place the Drywall Scoring Template onto the wall or ceiling where the speaker will be installed. As described in step 2 above, ensure no studs or other obstructions are directly behind the wall where the cuts will be made (Figure 3 above shows the clearances required).
2. Trace a thin line along the two longest sides of the template. The template incorporates a pencil illustration  where the lines need to be made. See Figure 4 below.
3. Trace a thin line along the two slits at the top and bottom of template. These slits are also referenced with a pencil illustration .

IMPORTANT! Do not mark a line along the top and bottom edges of the template. The cut line should be made using the slits at the top and bottom of template.

4. Mark the six speaker mounting holes located at the top and bottom of template.
5. Remove template.
6. With a utility knife and straight edge ruler, score lines made in steps 2 and 3 above. Use care to cut through the PAPER LAYER only.
7. With a drywall saw, cut the drywall on the INSIDE of the utility knife cut made in step 6 above. This ensures the clean, sharp edge of the cut made with the utility knife is maintained. See Figure 5 below.
8. Insert the face of the speaker into the hole cut in step 7 above (dry fit). There should be about .079 in (2 mm) of clearance around the perimeter of the speaker. Set speaker aside.
9. Drill a $\frac{3}{16}$ inch hole for each speaker mounting hole made in step 4 above.

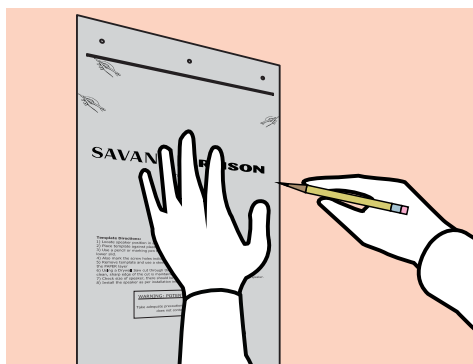


Figure 4.

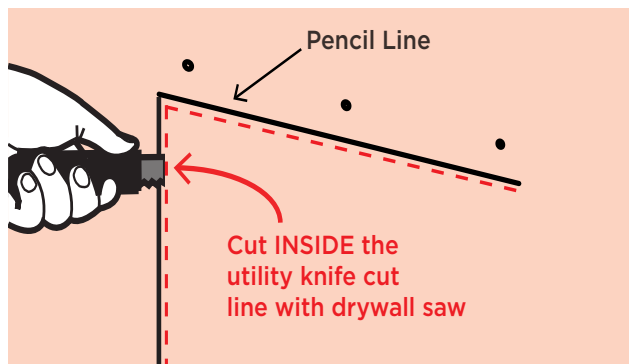


Figure 5.

Installation

4) Attach Handle (Optional)

To ease speaker installation, a Z-shaped handle and screws are included with each speaker. This handle attaches to the front panel of the speaker and is used to help install the speaker into the wall or ceiling.

1. Place handle onto face of speaker as shown in Figure 6 and line up the four holes.
2. Install the (4) pan head screws supplied with the handle. Tighten the screws until they are snug. Take care to not overtighten.

NOTE: The handle will be removed after speaker is mounted.

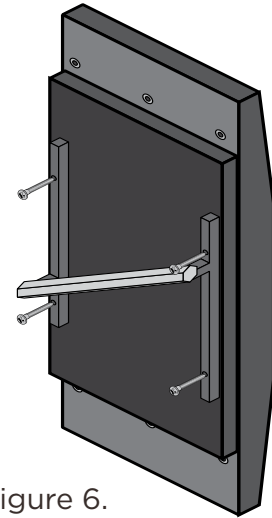


Figure 6.

5) Install Spacers

To ensure the face of the speaker is inset $\frac{1}{16}$ inch (1.5 mm) from the face of the drywall, spacers need to be added to the speaker. Follow steps below to determine which spacers are needed and then install.

1. Measure the thickness of the drywall present at the mounting location.
2. Refer to the chart below to determine which spacer or spacers are needed so the front of the speaker is recessed $\frac{1}{16}$ in (1.5 mm) from the finished side of the drywall.
3. Using the double sided tape, adhere the spacers to the front side of the speaker as shown in Figure 7. Use the speaker installation screws to line up holes.
4. Place a spare piece of drywall onto the spacer. Verify the face of the speaker is inset $\frac{1}{16}$ in from face of the drywall cutout.

NOTE: The chart below is provided as a guide only. Test fit speaker with spacers before securing to wall.

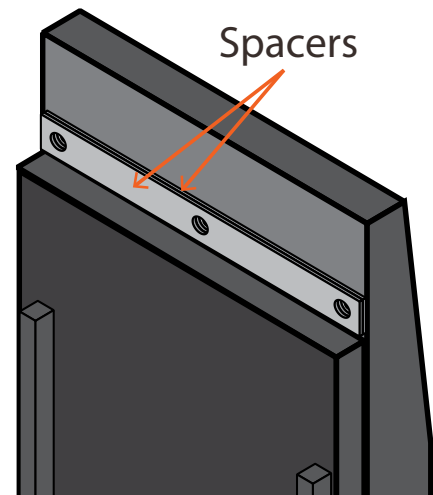


Figure 7.

Spacers Required (Top and Bottom)				
Drywall Thickness		Spacer $\frac{5}{16}$ in (8 mm)	Spacer $\frac{1}{4}$ in (6.5 mm)	Spacer $\frac{1}{8}$ in (3.1 mm)
$\frac{1}{4}$ in - $\frac{5}{16}$ in	(6.5 mm - 8 mm)	1	1	1
$\frac{3}{8}$ in - $\frac{7}{16}$ in	(9.5 mm - 11 mm)	1	1	0
$\frac{1}{2}$ in - $\frac{9}{16}$ in	(12.5 mm - 14.5 mm)	1	0	1
$\frac{9}{16}$ in - $\frac{5}{8}$ in	(14.5 mm - 16 mm)	0	1	1
$\frac{5}{8}$ in - $\frac{11}{16}$ in	(16 mm - 17.5 mm)	1	0	0
$\frac{11}{16}$ in - $\frac{3}{4}$ in	(17.5 mm - 19 mm)	0	1	0
$\frac{13}{16}$ in - $\frac{7}{8}$ in	(20.5 mm - 22 mm)	0	0	1
$\frac{15}{16}$ in - 1.0 in	(23.5 mm - 25.5 mm)	0	0	0

Installation

6) Connect Wires

Before installing the speaker into wall or ceiling, the speaker wire connections must be made. Read the IMPORTANT items before making connections. Follow steps below to make these connections:

⚠ IMPORTANT: Read items below before making speaker connections:

- Observe polarity when attaching speaker wires. Connect the positive speaker wire to the side of connector with the red stripe. Note: The connector must be removed from speaker to see the stripe.
 - Twist the bare portion of each wire before installing to ensure no exposed copper strands are sticking out that could short to other wires.
 - To reduce the chance of wires shorting, no more than $\frac{1}{8}$ inch of bare wire should protrude from the rear of each connection.
 - Do not solder the cable to the connector.
 - Do not tin the strands of the wire with solder.
 - Screw the connector to its mating side on the speaker. This ensures the connector doesn't unplug when mounting speaker into wall.
 - Secure the speaker wire to the relief strap. See Figure 9.
1. Unplug the phoenix connector from the speaker.
 2. Strip $\frac{3}{8}$ inch of the jacketing from speaker wires coming out of the wall.
 3. Slide wires into connector as shown in Figure 8.
 4. Twist each screw on the top of the connector clockwise (CW) until the silver crimps tighten around each wire. Tug on wire a bit to verify they are secure. See Figure 8.
 5. Route the speaker wires through the strain relief strap and tighten strap to secure wires to speaker.
 6. Plug the connector back into the speaker. Secure the connector to the speaker by tightening the two screws on the front of the connector. Verify connector is secured to the speaker by pulling on it a bit to ensure it won't pull out.
 7. With the speaker wires connected, turn the audio source on and verify the speakers work.

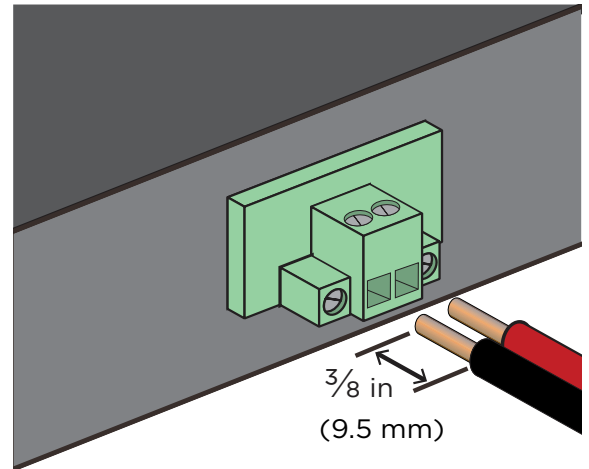


Figure 8.

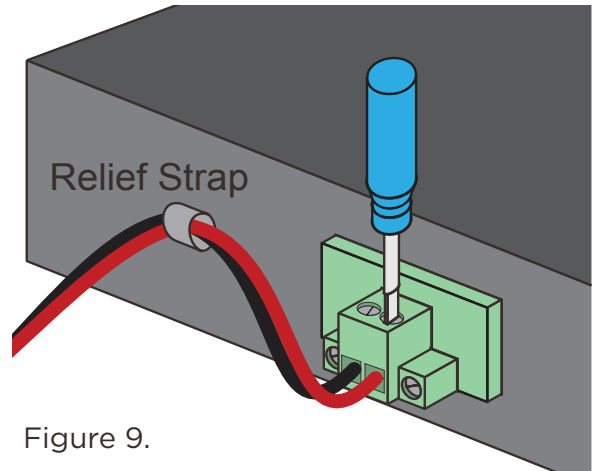


Figure 9.

7) Mount Speaker into Wall

1. With the wire secured to the strain relief strap, insert all loose wiring into the wall cavity.
2. Grasp the installation handle mounted on the speaker and insert the speaker into wall. Slide speaker up into wall until bottom of speaker can be inserted into cut out hole. See Figure 10.

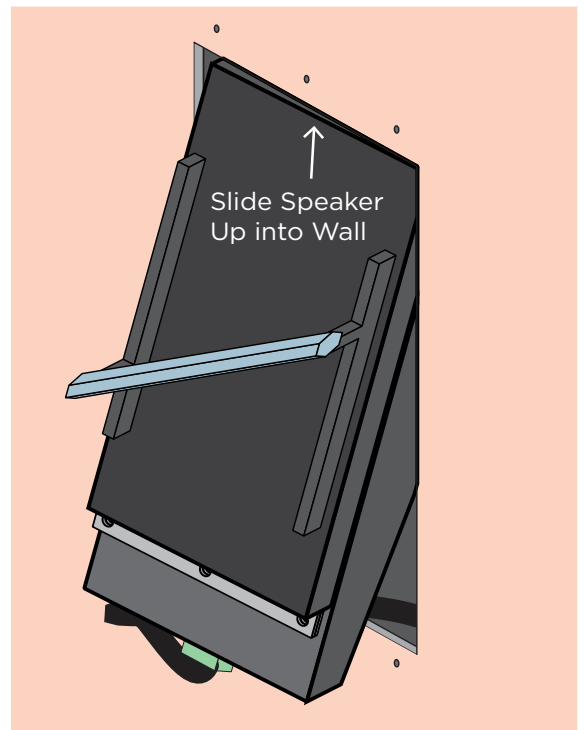


Figure 10.

Installation

- Slide speaker down wall until the speaker face aligns with cut out hole opening. Pull speaker outward so the speaker face rests into the cut out.
- Insert the (6) speaker mounting screws to secure the speaker to the wall or ceiling. See Figure 11.

IMPORTANT!

- When installing screws, tighten all screws in small increments until the speaker's front face is inset $\frac{1}{16}$ in (1.5 mm) from the wall board face.
- Using a #2 screwdriver, tighten screws until they are slightly recessed and create a small dimple without breaking the paper. Using a screw gun to tighten screws is NOT recommended.

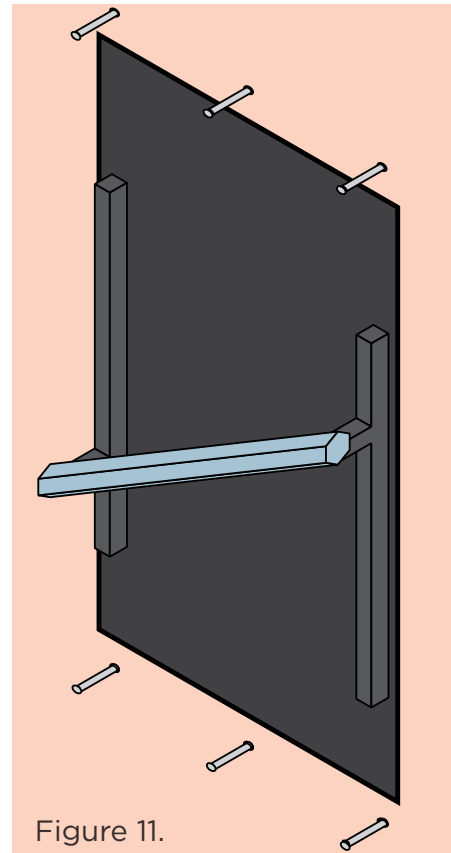


Figure 11.

- Ensure the speaker is not recessed into the wall too deeply as sound performance will be affected. The maximum depth between the speaker face and the front of the drywall is 1.5 mm or $\frac{1}{16}$ inch. See Figure 12.
- Remove the installation handle and set aside.
- Turn the audio source one last time to test that the speakers work. DO NOT mud the speaker into the wall without testing.

NOTE: Without the drywall compound covering the speaker, it will sound 'bright'. The application of the joint compound will dampen the sounding board of the speaker.

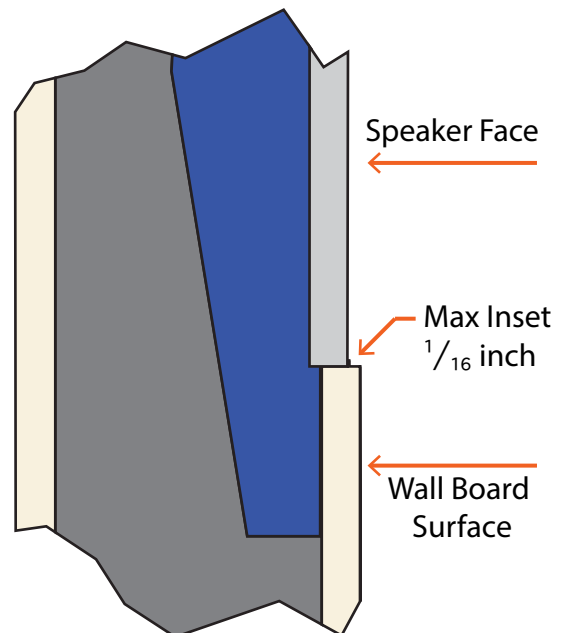


Figure 12.

Finishing

8) Choosing the Materials

The following below describes which type of joint compound should be used when mudding the speakers into the wall.

- Joint taping compound is stronger than topping compounds, and should be used for the first coat to minimize the chances of cracking.
- Topping compound is easier to work to a smooth finish and will form a lighter coating with less SPL (sound volume) dampening.
- All-purpose compound can be used but is not as strong as a finishing compound due to its poor level of finish.

Pre-mixed and Setting Compounds

- Pre-mixed provides a convenient form for both taping and topping compounds.
- Setting compounds have the potential to speed up the installation with multiple coats in one day.

Tapes

- Paper or fiberglass tapes should be used in accordance with the manufacturers instructions.

⚠ IMPORTANT! Savant recommends using minimal taping compound over the sound board of the speaker. The strength and density of the tape decreases the SPL (sound volume) of the speaker.

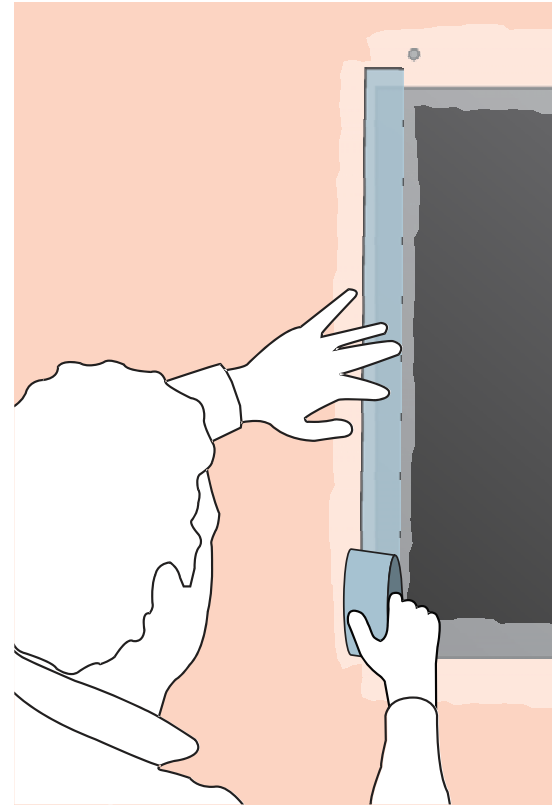


Figure 13.

9) First coat and tape

1. Apply a thin coat of high quality primer to the speaker surface and area around the cut-out.
2. Fill in any gaps between the speaker and drywall edge with drywall compound.
3. Apply tape over the seams. See Figure 13.
4. Spread the drywall compound over the tape in a manner that requires minimal sanding. See Figure 14.
5. Skim drywall compound over mounting screw heads.
6. Apply a thin coat over the sound board of the speaker to create a flat surface with the surrounding drywall.

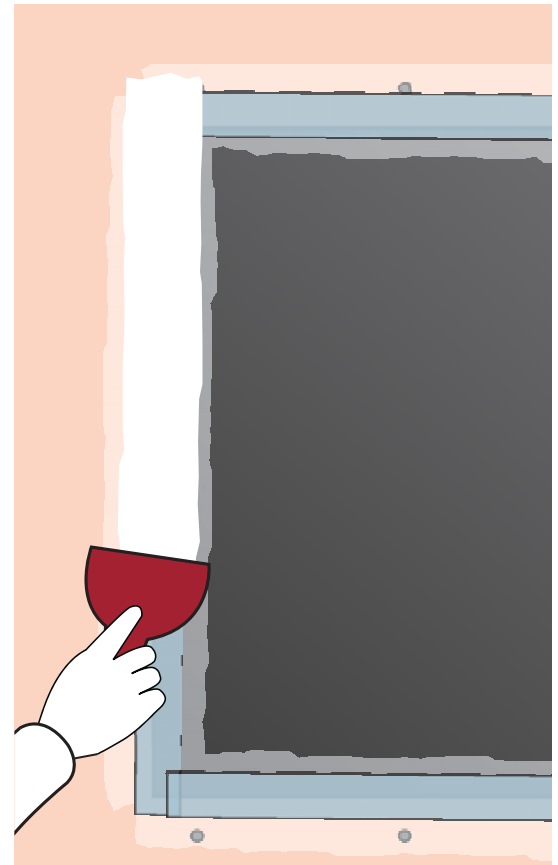
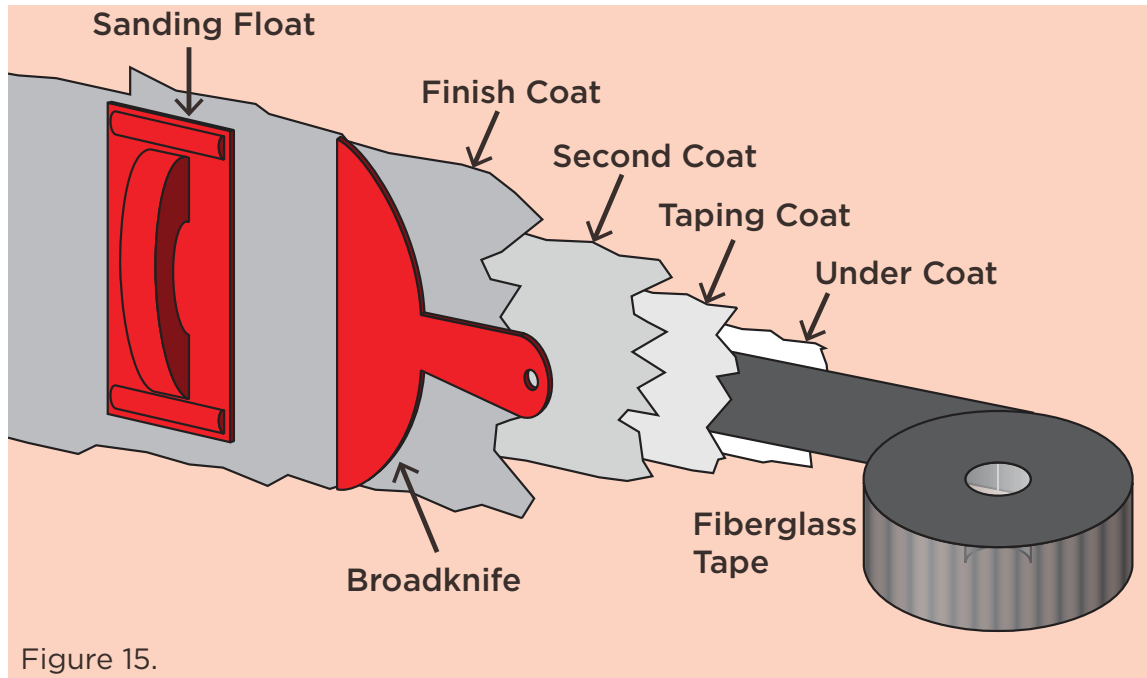


Figure 14.

Finishing

10) Intermediate and final coats

Follow manufacturers directions when applying intermediate and finishing coats for jointing and patching plasterboard/drywall.



11) Painting and wallpapering

Finish the wall with paint or wallpaper in the usual manner.

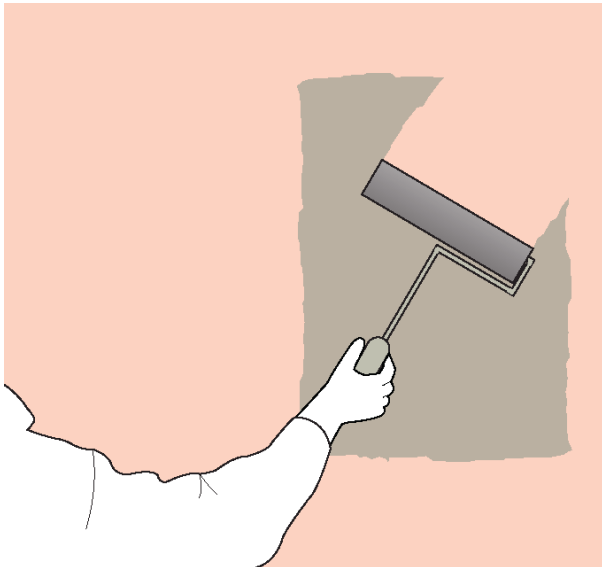


Figure 16.

Notes

Notes