

USG ENSEMBLE™ ACOUSTICAL DRYWALL CEILING

INSTALLATION GUIDE

Ensemble™Acoustical Drywall Ceiling
Portland Art Museum
Architect: Hennebery Eddy Architects, Inc.
Photo: © Jeremy Bittermann/JBSA

USG CGC

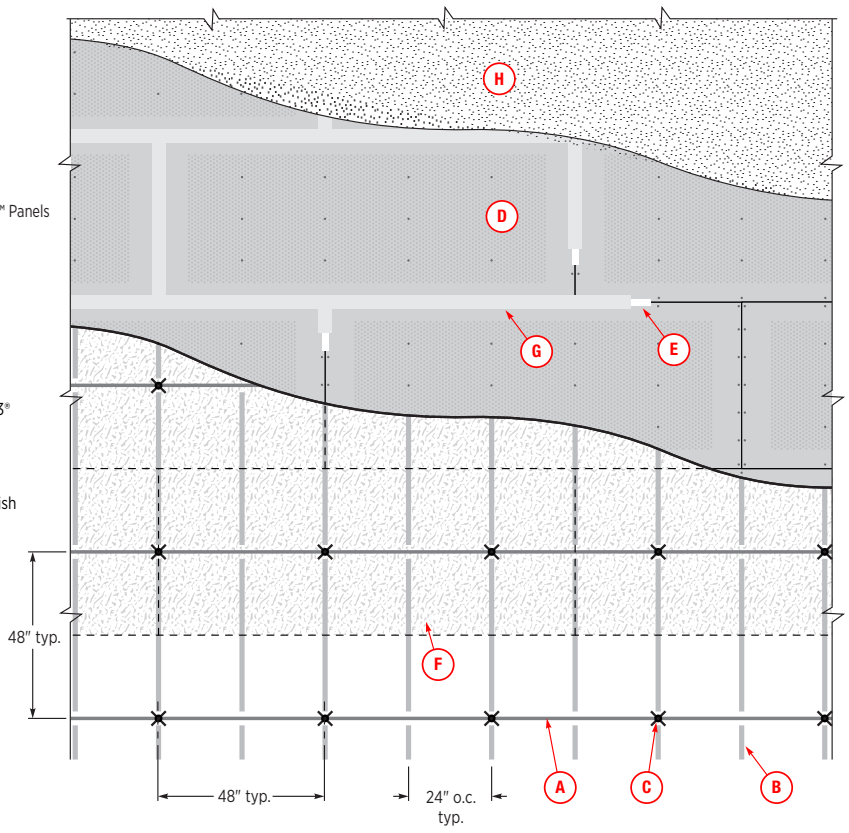
IT'S YOUR WORLD. BUILD IT.™

USG ENSEMBLE™ ACOUSTICAL DRYWALL CEILING OVERVIEW

The USG Ensemble™ Acoustical Drywall Ceiling offers the seamless look of drywall with superior acoustical performance. Installation is similar to standard wallboard and drywall suspension systems. However, it requires more precision and a higher level of finishing 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.

USG Sheetrock® Brand Ensemble™ Four-Sided Taper™ Panels are highly engineered gypsum panels that perform like acoustical ceiling panels. The joints are finished with USG Sheetrock® Brand Paper Joint Tape embedded in USG Sheetrock® Brand All Purpose Joint Compound. USG Sheetrock® Brand Plus 3® Joint Compound is used for the fill and finish coats over the joints. The surface is then coated with USG Ensemble™ Spray-Applied or Airless Finish. All system components are designed to work together as a system, using accessory components designed for 5/8" drywall ceilings. **No product substitutions are allowed.**

- A — USG DGLW26 main tee
- B — USG DGLW424 cross tee
- C — 12-gauge hanger wire
- D — USG Sheetrock® Brand Ensemble™ Four-Sided Taper™ Panels
- E — USG Sheetrock® Brand Paper Joint Tape
- F — USG Ensemble™ High-NRC Backer Panels
- G — USG Sheetrock® Brand Plus 3® Joint Compound
- H — USG Ensemble™ Spray-Applied or Airless Finish



IMPORTANT

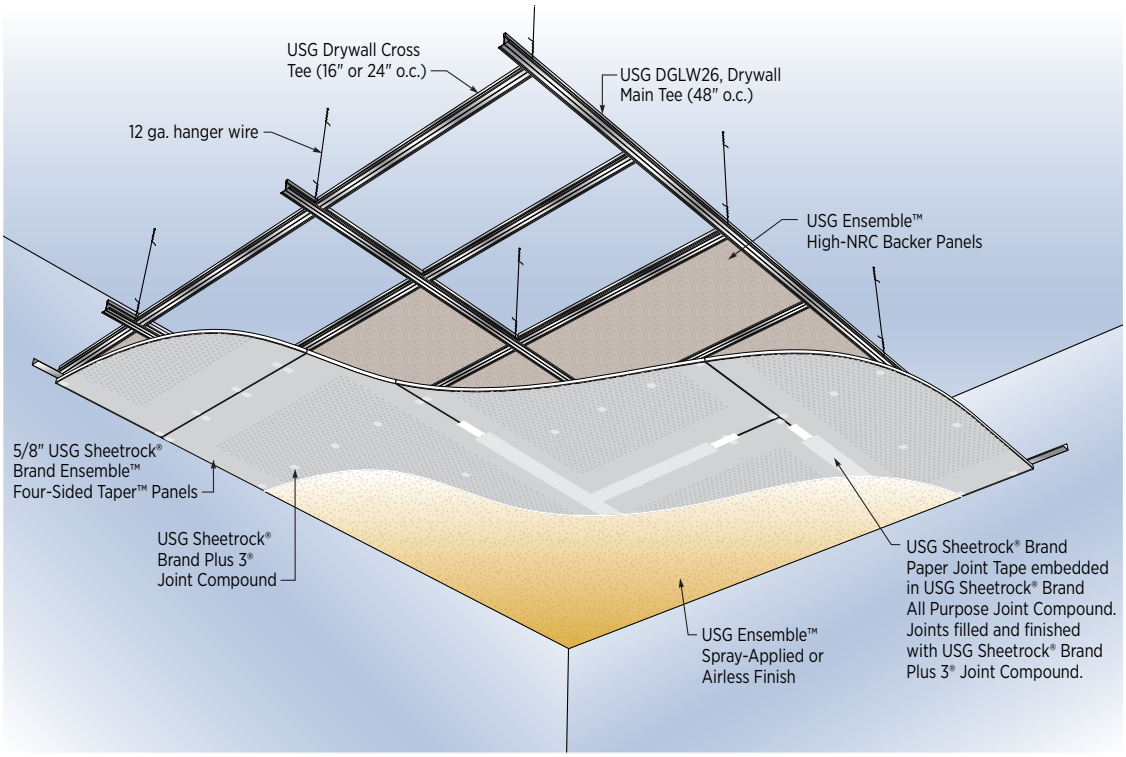
The USG Ensemble™ Acoustical Drywall Ceiling shall be installed by certified contractors only. This installation overview is not a substitute for USG Ensemble™ hands-on training. Qualified trained installers will be given a more extensive manual covering other job conditions and more detailed instruction.

Note: No marks can be made in the field of the panels (i.e., pencil, marker, or similar). Use only USG Sheetrock® Brand Plus 3® Joint Compound to finish the joints. DO NOT USE TINTED JOINT COMPOUND.

Care should be taken to maximize the open area of the perforated panels. Excessive joint compound coverage can reduce the acoustical performance of the product.

Small spaces (such as conference rooms) with frequent gypsum panel penetrations (e.g. closely spaced light fixtures in a narrow rip of panel) may not be an appropriate application to achieve the published system acoustical performance. Consult your USG architectural sales representative for details.

COMPONENTS



USG Sheetrock® Brand Ensemble™ Four-Sided Taper™ Panels with 1" USG Ensemble™ High-NRC Backer Panels laid into the USG Drywall Suspension System. Note these are typical components. For complete design and system performance options, please refer to the *USG Ensemble™ Acoustical Drywall Ceiling Systems Selector Guide*, SC365856.

SUSPENSION SYSTEM

- 12-gauge hanger wire (per ASTM C636 *Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels*)
- USG Drywall Suspension Systems Main Tees, DGLW26
- USG Drywall Suspension Systems Cross Tees, DGLW424

PANELS

USG Sheetrock® Brand Ensemble™ Four-Sided Taper™ Panels
USG Sheetrock® Brand Ensemble™ RAP Four-Sided Taper™ Panels

- 5/8" x 48" X 120"
- 5/8" x 48" x 96"

USG Ensemble™ High-NRC Backer Panels

- 1" x 15.5" x 47.75"
- 1" x 23.5"x 47.75"

FINISHING SYSTEM

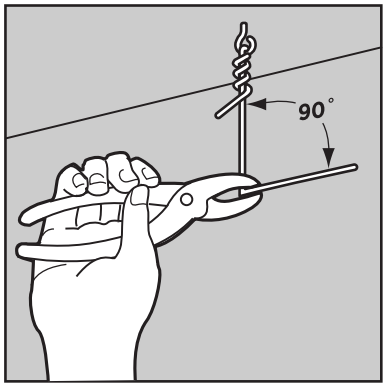
- USG Sheetrock® Brand Paper Joint Tape.
- USG Sheetrock® Brand All Purpose Joint Compound (for embedding paper joint tape).
- USG Sheetrock® Brand Plus 3® Joint Compound (for topping coats).
- USG Sheetrock® Brand Ensemble™ Spray-Applied Base (for 2-coat systems only, contact your USG representative).
- USG Ensemble™ Spray-Applied Finish, Standard White, Black, Custom Colors.
- USG Ensemble™ Airless Finish, Standard White.

TOOLS

Typical tools for installing ceiling grid, and gypsum panels are used for installation.
Exception: The proper texture machine must be used to apply the USG Ensemble™ Finish.
Contact your local USG Representative for more details and to setup a hands-on training.

INSTALLATION

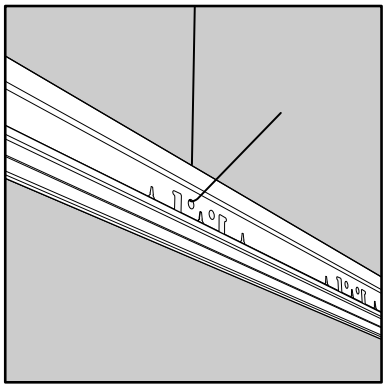
1.
SUSPENSION SYSTEM



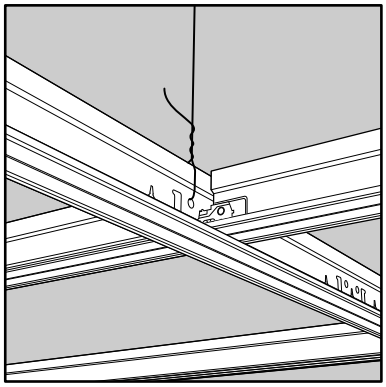
Determine the finished ceiling height. If the ceiling extends to the sidewalls, screw attach DGWM24 wall angle to the sidewalls at 5/8″ above the finished ceiling height. Fasteners must be in the framing members. Attach hanger wires to structure above using the appropriate method. Hanger wires shall be spaced 48″ o.c. max in each direction. Using pliers, pre-bend the hanger wires. For more information, refer to *USG Drywall Suspension System Catalog*, AC3152. Installation of framing members shall be in accordance with ASTM C754 *Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products*.

Notes: Ensemble™ ceiling elevation level should be min. 3″ below the lowest obstruction in the ceiling plenum.

If using direct mount system, adjust ceiling height accordingly to accommodate 1” or 2” z-furring channel of preferred system. Install hanger wires at max. 36” o.c. for direct mount systems.



Insert the hanger wires through the utility holes in the main tees. The main tees will run perpendicular to the cross tees at 48″ o.c. max. The hanger wires must be within 5 degrees of plumb.



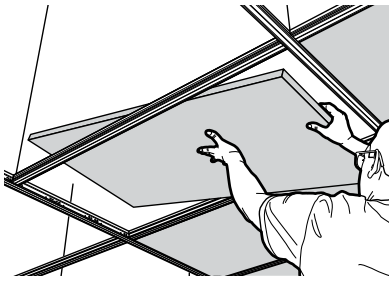
Space the cross tees at 16” or 24″ o.c. If the ceiling extends wall to wall, square up the cross tees and screw attachment to the DGWM24 wall angle.

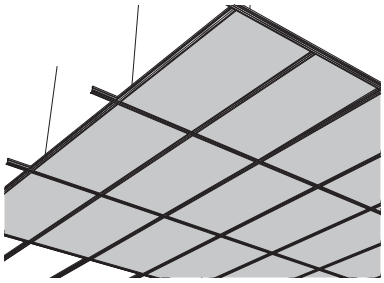
INSTALLATION

2A.
1" USG ENSEMBLE™ HIGH-NRC BACKER PANELS SUSPENSION SYSTEM

For high-NRC system performance, lay the USG Ensemble™ High-NRC Backers in the DGLW26 main tees from above. The acoustical backers are either 15.5" x 47.75" or 23.5" x 47.75" and lay lay into the USG Drywall Suspension System. For 1" backers, ensure the white-side is facing up.

Note: If using direct mount - return air plenum system, skip to step 2B. For all other system options, see: *USG Ensemble™ Acoustical Drywall Ceiling Systems Selector Guide*, SC365856.





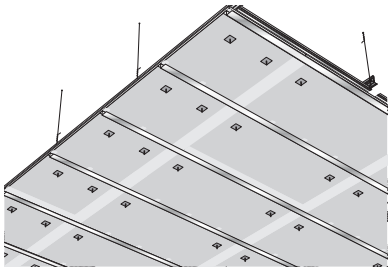
2B.
1" OR 2" DIRECT MOUNT APPLICATION

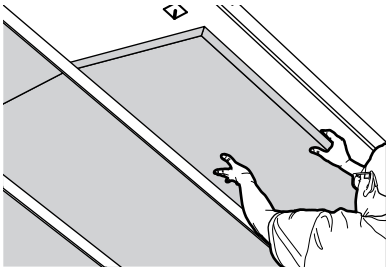
Install 1/2" USG Sheetrock® Brand UltraLight Panels on the USG Drywall Suspension System using 1-1/4" fine thread screws.All penetrations must be sealed with USG Sheetrock® Brand Firecode® Smoke-Sound Sealant. Finish to a Level 2 finish as described in GA-214 *Levels of Finish for Gypsum Panel Products* or ASTM C840 *Standard Specification for Application and Finishing of Gypsum Board* with USG Sheetrock® Brand Joint Tape and Compound.

Install 1" or 2" z-furring channel (16" or 24"o.c.) in line with the cross tees.

Ceiling applications require two insulation impaling clips per panel.

The 1" USG Ensemble™ High-NRC Backer Panels (white side face up) or 2" 6 PCF density fiberglass panels (by others) are supported by the lower leg of z-furring channel and secured with insulation impaling clips on the opposing side.



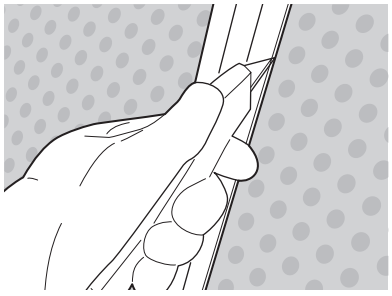


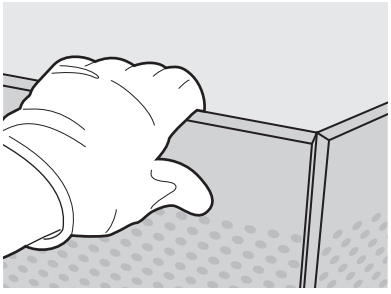
3.
5/8" USG SHEETROCK® BRAND ENSEMBLE™ FOUR-SIDED TAPER™ PANELS
(Applies to all systems)

The USG Sheetrock® Brand Ensemble™ Four-Sided Taper™ Panels can be cut like standard USG Sheetrock® Brand gypsum panels using a T-square and utility knife. Score the face of the panels at the desired length, making sure to cut completely through the fiberglass face scrim. Snap the panels and then cut completely through the back scrim or back film.

Note: No marks can be made in the field of the panels (i.e., pencil, marker, or similar). Use only USG Sheetrock® Brand Plus 3® Joint Compound to finish the joints. DO NOT USE TINTED JOINT COMPOUND.

For the USG Sheetrock® Brand Ensemble™ RAP Four-Sided Taper™ Panels, use a sharp blade on your utility knife to avoid tearing the film. If the film tears, repair with a Protecto Super Stick Building Tape™ or similar. Sealing the film is critical for maintaining the air barrier. If pre-marking cutouts from the back of the panel, using a silver or white marker is recommended.

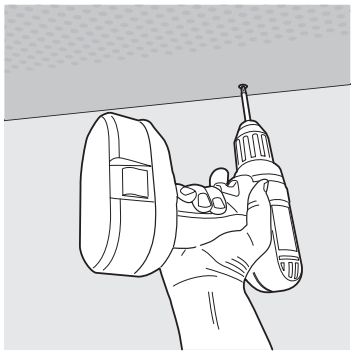


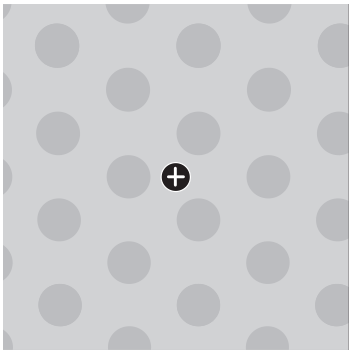


For curved applications, do not wet the Ensemble™ panels.

INSTALLATION

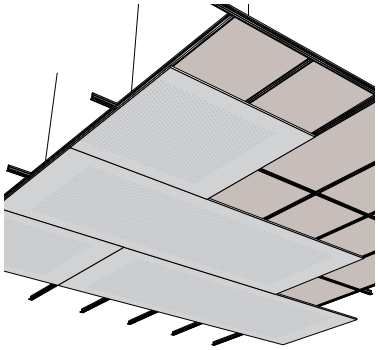
Fasten the Ensemble™ panels to the USG Drywall Suspension System with 1-1/4" fine thread bugle head drywall screws. Insert screws every 12" o.c. in the field and every 8" o.c. on the butt ends. The fasteners must be in the field of the board, not the perforations. The fastener head should be just below the surface without tearing the fiberglass scrim. If a fastener falls in a perforation or breaks through the paper, insert another one next to it.





A router or keyhole saw can be used to cut penetrations like standard wallboard. Install beads and trims using the same method as standard wallboard. If the ceiling design is a floating island, trim the perimeter using USG Compässo® Elite for Drywall (see data sheet AC3317).

Notes: If using USG Ensemble™ RAP, cutouts for penetrations are recommended to be made from back/film side of the board. Silver or white markers work best for layout marks on black film.

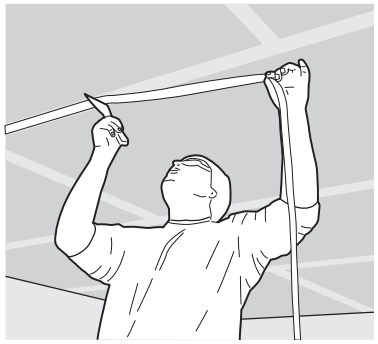


Layout panels with the butt-end joints broken on the cross tees.

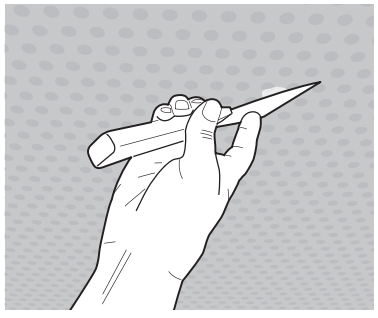
4. JOINT FINISHING

The joints are finished using the USG Sheetrock® Brand All Purpose Joint Compound, Sheetrock® Brand Paper Joint Tape and USG Sheetrock® Brand Plus 3® Joint Compound to an equivalent of a Level 4 finish.

Note: It is imperative to finish the joints as flat and level with the surface of the board as possible. Even slightly hollow or crowned joints will show as imperfections under critical lighting after the Spray-Applied or Airless Finish is applied.



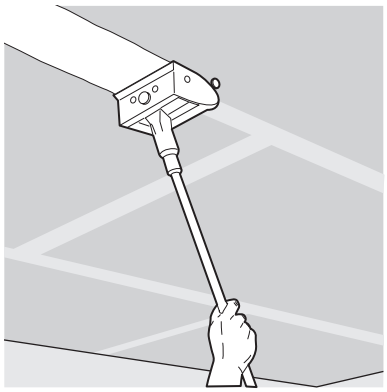
Prefill any voids between Ensemble™ panel seams with USG Sheetrock® Brand Easy Sand™ Lightweight Setting-Type Joint Compound. Embed joint tape with the USG Sheetrock® Brand All Purpose Joint Compound. This can be done by hand with a joint knife or a standard taping bazooka. Wipe excess compound with a joint knife and allow to dry completely.



Spot all fastener heads with USG Sheetrock® Brand Plus 3® Joint Compound using a 1" or 2" joint knife. Keep the compound area small to minimize covering the perforations.

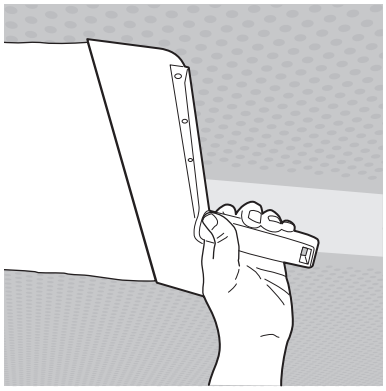
INSTALLATION

4.
JOINT FINISHING CONT.

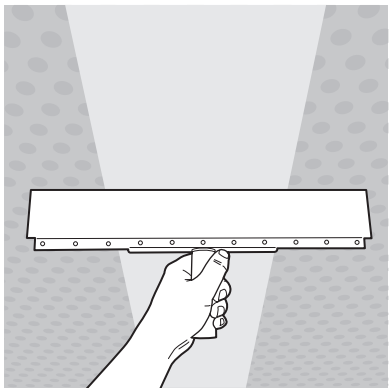


Apply the fill coat to all joints using USG Sheetrock® Brand Plus 3® Joint Compound. This can be done using hand tools or a flat box. Spot all screws for the second time with USG Sheetrock® Brand Plus 3® Joint Compound. Allow to dry completely.

Note: If using USG Ensemble™ RAP, apply minimum 4" width of USG Sheetrock® Brand Plus 3® Joint Compound around any MEP's without mud flanges.



Apply the finish coat to all joints using USG Sheetrock® Brand Plus 3® Joint Compound. This can be done using hand tools or a flat box. Spot all screws for the third time with USG Sheetrock® Brand Plus 3® Joint Compound. Allow to dry completely.



Sand joints with 180-220 grit sandpaper to remove any excess joint compound. Check for flatness with a 20" knife or straight edge and a critical light source. See SDS for Safety details.

Note: Avoid over-sanding the fiberglass scrim as much as possible. Over-sanding the scrim may cause finish to appear uneven.

INSTALLATION

4. JOINT FINISHING CONT.



Lightly sand entire surface to remove particles from the field of the panels. See SDS for Safety details.

Starved joints must be filled and leveled with the surface of the board. Crowned joints must be sanded level. It is important to thoroughly check each joint down the entire length for flatness, not just at a few random locations.

Note: Standard gypsum panels (non-acoustical) can be coated with the USG Ensemble™ Spray-Applied or Airless Finish (for an aesthetic match). Standard gypsum panels require priming with a high-solids primer before application of the USG Ensemble™ Spray-Applied or Airless Finish. Do not prime USG Sheetrock® Brand Ensemble™ Panels.

5. SPRAY-APPLIED OR AIRLESS FINISH

Important! The proper spray equipment must be used to achieve the desired acoustical performance and aesthetics.

Required Equipment:

- For the Ensemble™ Spray-Applied Finish, please contact your local USG Contractor Specialty Representative for specifications of required spray equipment and to schedule a hands-on training demonstration.
- The Ensemble™ Airless Finish shall be sprayed with a Graco® Mark V™ or equivalent airless sprayer and requires a Graco LP619 Yellow tip with the Blue - RAC X Spray Tip Guard.
- Follow the equipment sprayer's operation instructions for maintenance, safety and operation -- setup, startup and cleanup. For Graco Mark V instructions, see document 3A6342H
- Review the SDS for the USG Ensemble™ Spray-Applied or Airless Finish
- For more information please refer to the *USG Ensemble™ Spray- Applied Finish Submittal Sheet* SC2863 or the *USG Ensemble™ Airless Finish Submittal Sheet* SC433982.

Mask off all areas that need protecting from overspray with plastic sheathing. Use a floor protector as required.

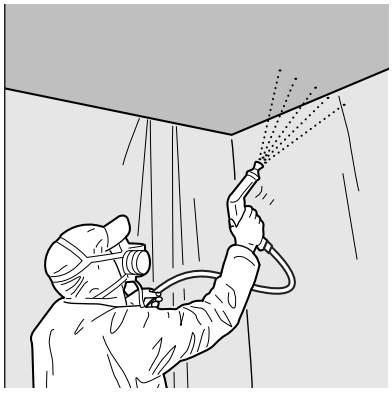
MIXING

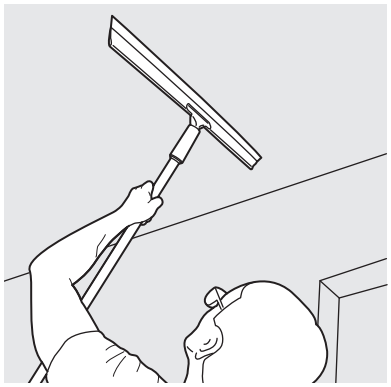


Airless Finish must be thoroughly mixed prior to application. Before cycling into the pump, mix the 4-gallon container of Finish with a high-speed drill fitted with a spiral mixing blade. Mix thoroughly for 2 minutes, or until any settled aggregate is fully suspended and the finish has a smooth consistency. Do not add any water during the mixing process.

INSTALLATION

SPRAY THE FINISH





For Ensemble™ Spray-Applied Finish, please reach out to your local USG Sales Representative for more information on equipment and setup.

For Ensemble™ Airless Finish, see Required Equipment above and follow the guidance from the equipment manufacturer for setup. Set the pump pressure to 2800 psi and test a small area prior to beginning application. Due to the fast drying nature of the finish, keep the material covered with a lid or damp cloth during use. Between coats, reduce the pump pressure to zero or turn off the machine, and relieve pressure in the material hose to prevent the spray tip from jamming.

In order to achieve proper sound performance and appearance, the USG Ensemble™ Airless Finish must be applied in a cross-hatch, half-lap spray pattern. Apply each coat very lightly with 36" min. gun clearance. Start in one corner and work progressively across the ceiling moving at a rate of 2 feet per second with a 50% overlap then immediately cross-hatch. Do not start and stop the gun while spraying each coat. Wait to apply each subsequent coat until it is 100% dry, approx. 10-30 minutes. Use a soft rubber squeegee trowel to remove any loose finish from the ceiling. Repeat this step between each coat once 100% dry. Apply successive coats until the desired appearance is achieved.

Note: In less than ideal drying conditions, you may have longer dry times between coats. Check that the surface is dry to the touch before spraying subsequent coats. Using fans for air movement will typically help reduce drying time. The finish can be applied directly to primed metal, plastic beads and trims. Any non-white trims, beads, or access doors must be primed white prior to spraying with the finish.

Maintain proper job site conditions and wear proper protective equipment (safety goggles, NIOSH-approved respirator, coveralls) while applying the finish.



Ensemble™ Acoustical Drywall Ceiling
Portland Art Museum
Architect: Hennebery Eddy Architects, Inc.
Photo: © Jeremy Bittermann/JBSA

PRODUCT INFORMATION

For the most up-to-date technical information, visit usgdesignstudio.com or cgcdesignstudio.com

CUSTOMER SERVICE

USG: 800 950-3839
CGC: 800 387-2690

TECHNICAL SERVICE

800 USG.4YOU
(800-874-4968)

WEBSITES

usg.com
cgcinc.com
usgdesignstudio.com
cgcdesignstudio.com

SAMPLES & LITERATURE

USG: usg.com
CGC: Local Sales Rep

USG Corporation
CGC Inc. Videos

USGCorp
CGCInc

USGCorp
CGCInc

USGCorp
CGCInc

Notice
The information in this document is subject to change without notice. CGC Inc. or USG Corp. assumes no responsibility for any errors that may inadvertently appear in this document.

Manufactured by
USG Interiors, LLC
550 West Adams Street
Chicago, IL 60661

SC5074/rev. 5-26
© 2026 USG Corporation and/or its affiliates.
All rights reserved.

NOTES AND LIMITATIONS

1. For interior ceilings only.
2. Not for use in areas subject to continuous high heat and/or humid conditions.
3. Only suspended Ensemble™ RAP systems or direct mount Ensemble™ systems are designed for use in return air plenums with differential pressure.
4. In ducted return applications, ducts shall be installed according to ASHRAE standards and guidelines.
5. Install according to Section 5 Environmental Conditions listed in ASTM C840.
6. In order to ensure installed performance, component substitutions are not permitted.
7. Products described here may not be available in all geographic markets. Consult your USG/CGC Company sales office or representative for information.

For all design and system performance options, see *USG Ensemble™ Acoustical Drywall Ceiling Systems Selector Guide*, SC365856.

NOTICE

We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered. Terms and conditions and limits of liabilities apply. For all terms and conditions see usg.com/terms-and-conditions.

SAFETY FIRST!

Follow good safety and industrial hygiene practices during handling and installation of all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read Safety Data Sheets and related literature on products before specification and/or installation.

The trademarks USG, CGC, COMPASSO, EASY SAND, ENSEMBLE, FIRECODE, FOUR-SIDED TAPER, PLUS 3, SHEETROCK, It's Your World. Build It., the USG/CGC logo, the design elements and colors, and related marks are trademarks of USG Corporation or its affiliates. The trademark PROTECTO SUPER STICK BUILDING TAPE is a trademark of Protecto Wrap Company. The trademark GRACO and MARK V are trademarks of Graco Minnesota Inc.

USG CGC