



**USG ENSEMBLE™  
ACOUSTICAL  
DRYWALL CEILING**

**INSTALLATION OVERVIEW**

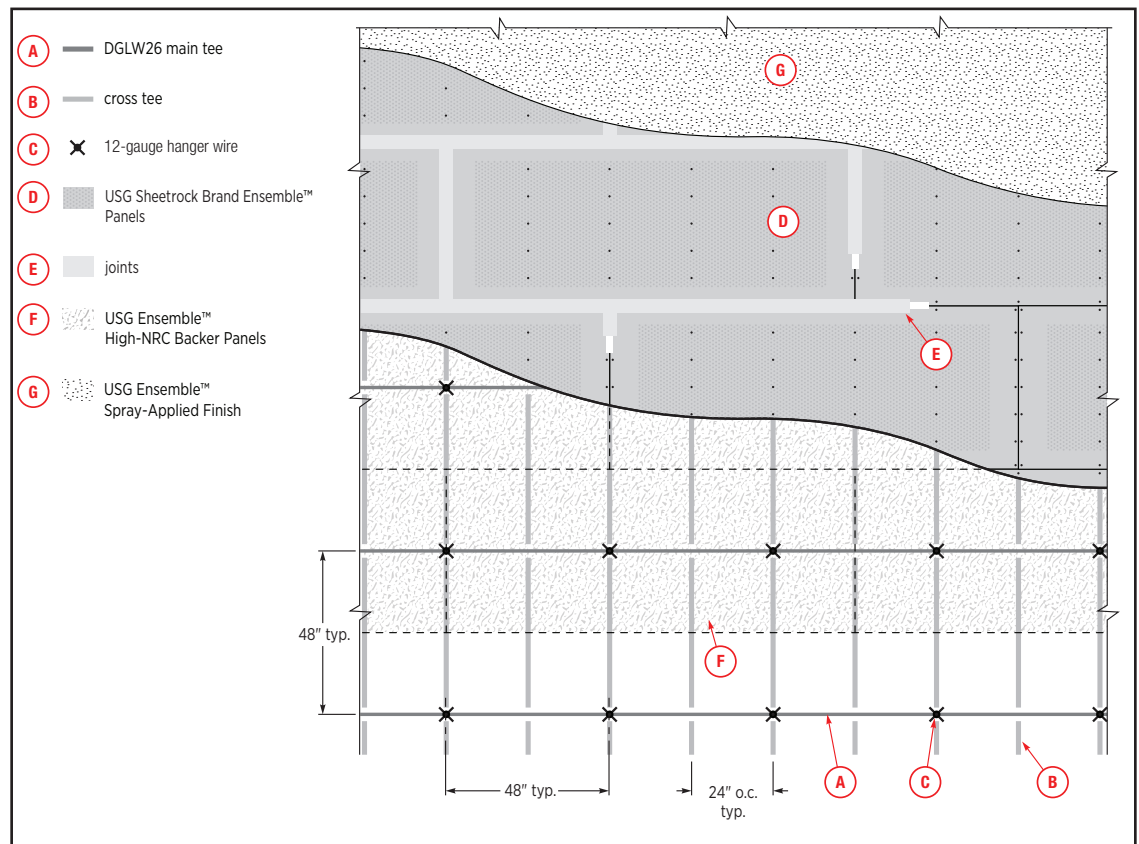


IT'S YOUR WORLD. BUILD IT.™

# USG ENSEMBLE™ ACOUSTICAL DRYWALL CEILING OVERVIEW

The USG Ensemble™ Acoustical Drywall Ceiling offers the seamless look of drywall with true acoustical performance. 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.

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 Ensemble™ Ceiling Compound is used for the finish coats over the joints. The surface is then coated with USG Ensemble™ Spray-Applied Finish. All system components are designed to work together as a system. **No product substitutions are allowed.**



## IMPORTANT

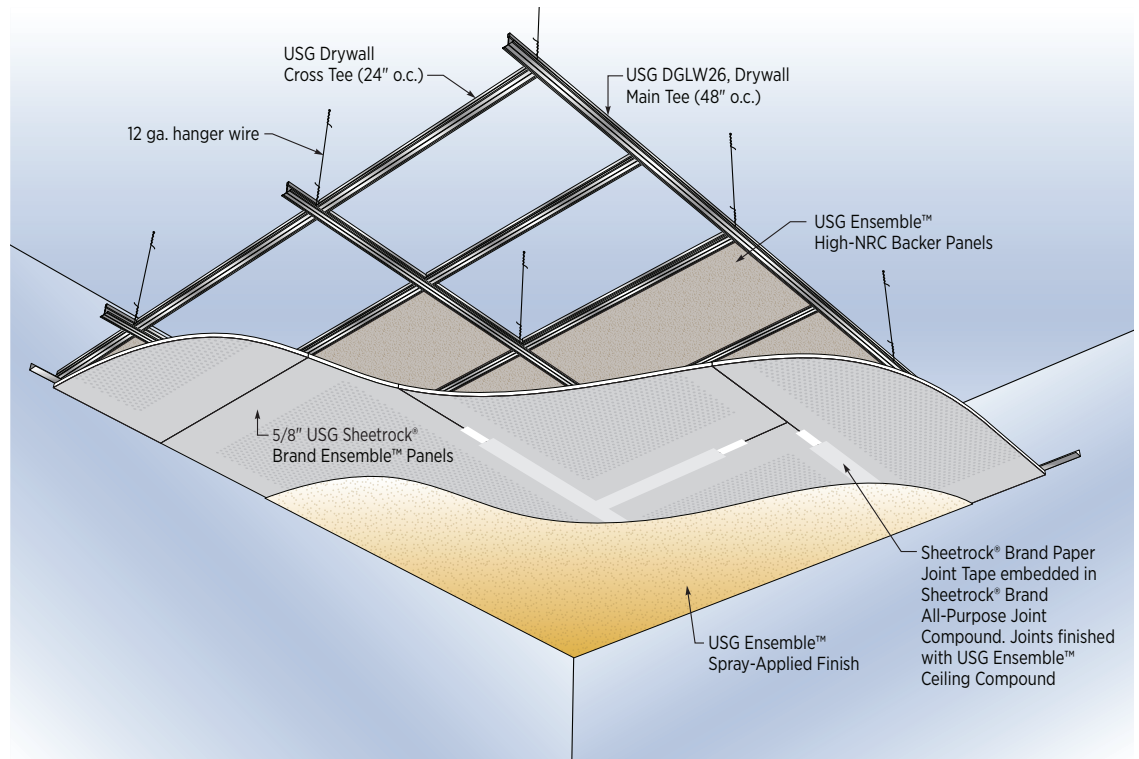
**The USG Ensemble™ Acoustical Drywall Ceiling shall be installed by certified contractors only. This guide is not a substitute for USG Ensemble hands-on training. Qualified trained installers will be given a more extensive manual covering other job conditions and more detailed instruction.**

**Note: No marks can be made in the field of the panels (i.e., pencil, marker, or similar). Use only USG Sheetrock® Brand Ensemble™ Ceiling 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



## SUSPENSION SYSTEM

- 12-gauge hanger wire (per ASTM C636)
- USG Drywall Suspension Systems Main Tees, DGLW26
- USG Drywall Suspension Systems Cross Tees, DGLW424

## PANELS

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

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

USG Ensemble™ High-NRC Backer Panels

- 1" x 48" x 23.5"
- 2" x 48" x 23.5"

## FINISHING SYSTEM

- 2" x 48" x 16" USG Sheetrock® Brand Paper Joint Tape
- USG Sheetrock® Brand All Purpose Joint Compound (for embedding paper joint tape)
- USG Sheetrock® Brand Ensemble™ Ceiling Compound (for topping coats)
- USG Ensemble™ Spray-Applied Finish, White, Black, Custom Colors

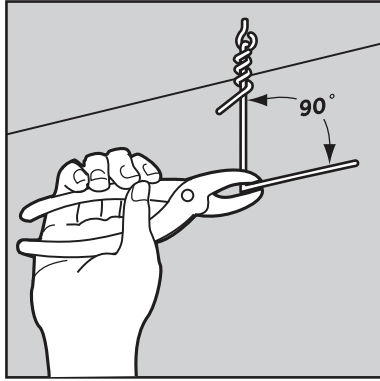
## TOOLS

Typical tools for installing ceiling grid, gypsum panels and spray-applied texture are used for installation.

**Exception:** The proper texture machine must be used to apply the USG Ensemble™ Spray-Applied Finish.

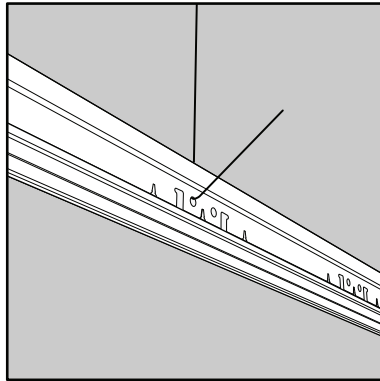
# INSTALLATION

## 1. SUSPENSION SYSTEM

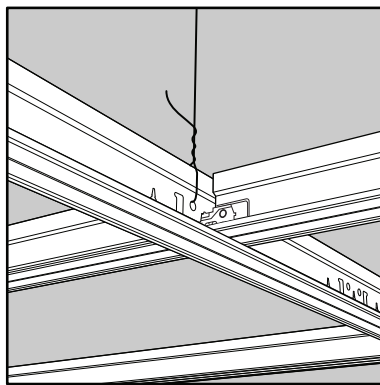


Determine the finished ceiling height. If the ceiling extends to the sidewalls, screw attach DGWM24 wall angle to the sidewalls at 5/8" above the finished ceiling height. Fasteners must be in the framing members. Attach hanger wires to structure above using the appropriate method. Hanger wires shall be spaced 48" OC max in each direction. Using pliers, pre-bend the hanger wires. This will set the wires.

**Note:** Ensemble ceiling elevation level should be 6" below the lowest obstruction in the ceiling plenum.



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

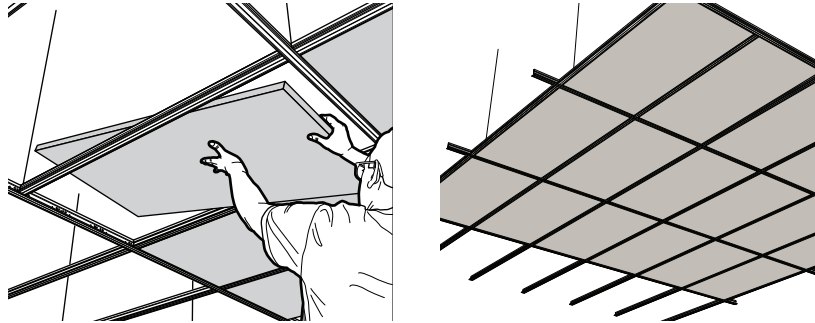


Space the cross tees at 24" OC. If the ceiling extends wall to wall, square up the cross tees and screw attachment to the DGWM24 wall angle.

# INSTALLATION

## 2. 1" USG ENSEMBLE™ HIGH-NRC BACKER PANELS

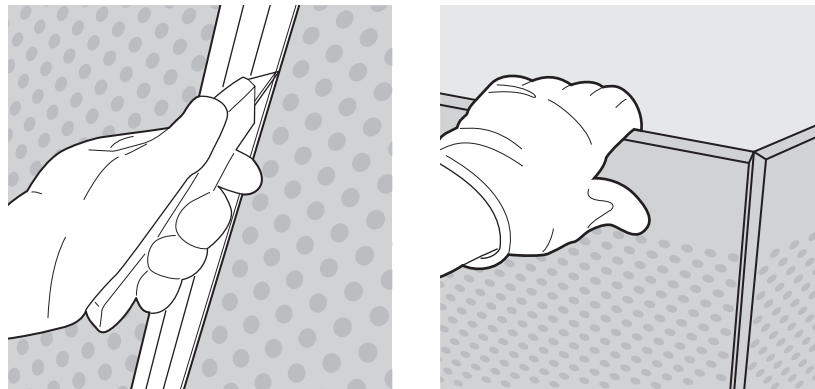
For high-NRC system performance, lay the USG Ensemble™ High-NRC Backers in the DGLW26 main tees from above. The acoustical backers are 23.5" x 48" and lay on the backside of the main tees. Installation is similar to standard lay-in ceiling panels. For 1" backers, ensure the white-side is up.



## 3. 5/8" USG SHEETROCK® BRAND ENSEMBLE™ FOUR-SIDED TAPER™ PANELS

The USG Sheetrock® Brand Ensemble™ Four-Sided™ Taper Panels can be cut like standard USG Sheetrock® Brand wallboard 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.

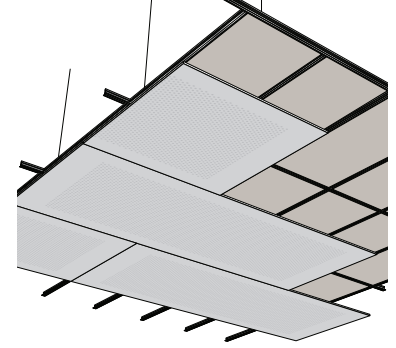
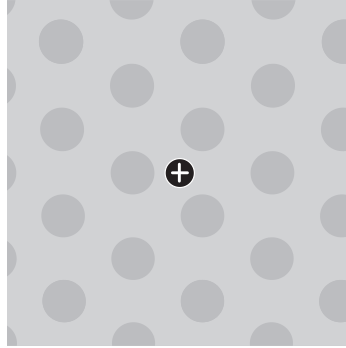
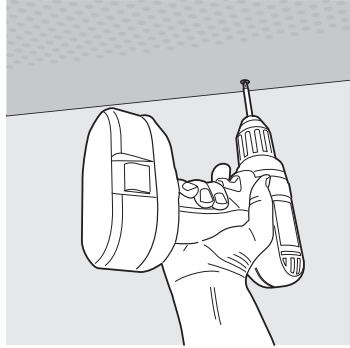
**Note: No marks can be made in the field of the panels (i.e., pencil, marker, or similar). Use only USG Sheetrock® Brand Ensemble™ Ceiling Compound to finish the joints. DO NOT USE TINTED JOINT COMPOUND.**



For curved applications, do not wet the USG Sheetrock® Brand Ensemble® Four-Sided Taper Panels.

# INSTALLATION

Fasten the perforated panels to the tees at 12" OC using 1-1/4" fine thread bugle head drywall screws. 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.

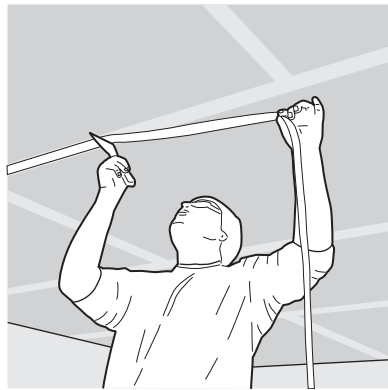


Layout panels with the butt-end joints broken on the cross tees.

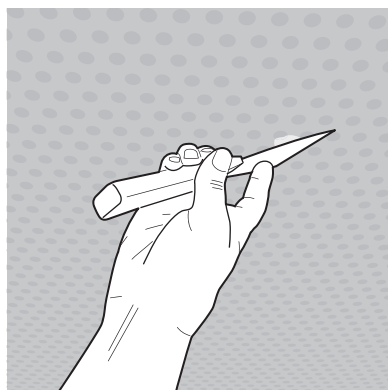
A router or keyhole saw can be used to cut penetrations like standard wallboard. Install beads and trims using the same method as standard wallboard. If the ceiling design is a floating island, trim the perimeter using USG Compasso® Elite for Drywall (see data sheet AC3317).

## 4. JOINT FINISHING

The joints are finished using the USG Sheetrock® Brand All Purpose Joint Compound, Paper Joint Tape and Ensemble™ Ceiling Compound. 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 finish is applied.



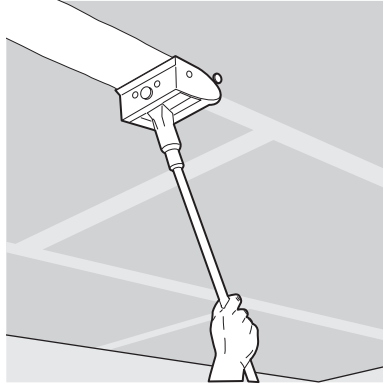
Prefill any voids between Ensemble panel seams with USG Sheetrock® Brand Easy Sand™ Lightweight Setting-Type Joint Compound. Embed joint tape with the USG Sheetrock® Brand All Purpose joint compound. This can be done by hand with a joint knife or a standard bazooka. Wipe excess compound with a joint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



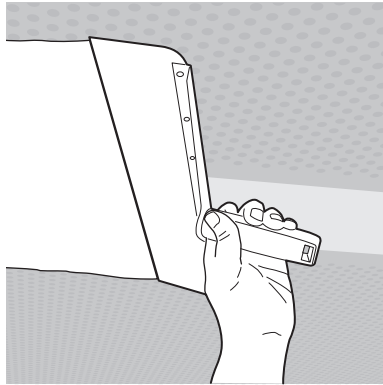
Spot all fastener heads with USG Sheetrock® Brand Ensemble™ Ceiling Compound using a 1" or 2" joint knife. Keep the compound area small to minimize covering the perforations.

# INSTALLATION

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After the tape and bed coat is dry, apply the first coat of USG Sheetrock® Brand Ensemble™ Ceiling Compound over the joints. This can be done using hand tools or a flat box. Check for flatness with a 20" knife or straight edge.



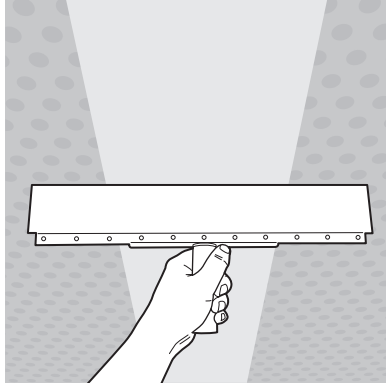
Apply the first fill coat of ceiling compound to all beads and trims. Apply second coat to fasteners. Allow to dry completely. Sand joints to remove any excess joint compound. See SDS for Safety details. Avoid oversanding the fiberglass scrim as much as possible. Apply a finish coat to the joints using hand tools or a flat box. Check for flatness with a 20" knife or straight edge.



Sand entire surface lightly to remove particles from the face of the USG Sheetrock® Brand Ensemble™ Four-Sided™ Taper™ Panel.

# INSTALLATION

## 4. JOINT FINISHING CONT.



Apply a finish coat to all beads of the ceiling compound and trims using the appropriate width joint knife so that the possibility of shadowing is minimized. Apply a third coat to the fasteners. It is always required. Allow to dry completely. Check all joints, beads and trims for flatness using a 20" wide knife or straight edge.

Starved joints must be filled and leveled with the surface of the board. Crowned joints must be sanded level using a flat sander. 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 Finish (for an aesthetic match). Standard gypsum panels require priming with a high-solids primer before application of the USG Ensemble™ Spray-Applied Finish. Do not prime USG Sheetrock® Brand Ensemble® Panels.**

## 5. SPRAY-APPLIED FINISH

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

### Required Equipment:

- Please contact your local USG Contractor Specialty Representative for specifications of required spray equipment to apply USG Ensemble™ Spray-Applied Finish.
- Read safety instructions for the sprayer and the SDS for the USG Ensemble™ Spray-Applied Finish

Mask off all areas that need protecting from overspray with plastic sheathing. Use a floor protector as required. Set up the spray machine and compressor using the proper hoses. Set the compressor to 120 psi. On the spray machine, set the material pump regulator at 60-70 psi, and the spray nozzle atomization air to 110 psi.

## MIXING

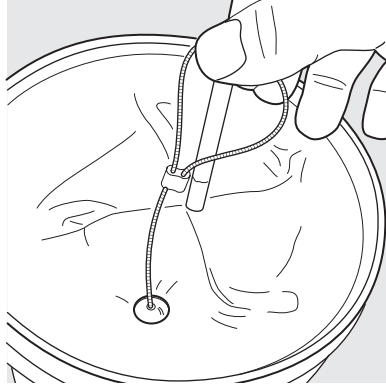


Finish must be thoroughly mixed prior to application. Mix it in the 4.5-gallon container prior to filling the spray machine hopper. Using a 450-rpm electric drill and a high shear paddle mixer, thoroughly blend the finish until it has a smooth, creamy consistency.



# INSTALLATION

## MIXING CONT.



Check for proper consistency using the material thickness gauge provided by the spray equipment manufacturer (small steel ball). If the ball sinks completely, the texture is ready to spray. If the ball does not sink within 3 seconds, add more water (4 oz. at a time) and mix thoroughly until the ball sinks.

## PRIME THE SPRAY MACHINE

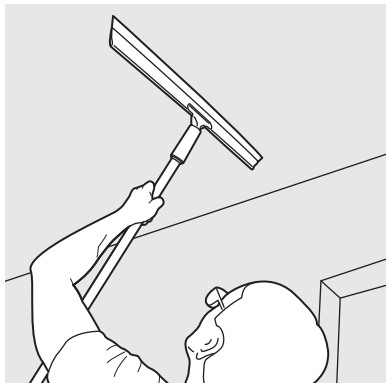
Prime texture equipment with 5 gallons of clean potable water. With the air nozzle off, cycle water through the hose and spray gun back into the hopper for 30 seconds and then drain out the water out of the hopper. Pour the bucket of mixed finish into the hopper. With the air nozzle still off, cycle the remaining water out of the hose into a separate container. When the texture has reached the gun, cycle the texture through the hose and gun back into the hopper until it is flowing smoothly through the machine.

## SPRAY THE FINISH



The USG Ensemble™ Spray-Applied Finish must be applied in a minimum of four cross-hatched coats to achieve the proper appearance and sound performance. Apply each coat very lightly with 36" minimum gun clearance. Start in one corner and work progressively across the ceiling. Immediately cross hatch. Once the finish is dry to the touch (approx. 20-40 min), knock down the dry texture droplets with a drywall squeegee, then repeat using the same technique for each of the first 3 coats. Apply successive coats until the desired appearance is achieved and the perforations are no longer visible through the finish.

**Note: In less than optimal drying conditions, it may be necessary to leave 60-90 minutes to dry between coats.**



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

## PRODUCT INFORMATION

For the most up-to-date technical information, visit [usgdesignstudio.com](http://usgdesignstudio.com) or [cgcdesignstudio.com](http://cgcdesignstudio.com)

## CUSTOMER SERVICE

USG: 800 950-3839

CGC: 800 387-2690

## TECHNICAL SERVICE

800 USG.4YOU (874-4968)

## WEBSITES

[usg.com/ensemble](http://usg.com/ensemble)

[cgcinc.com](http://cgcinc.com)

[usgdesignstudio.com](http://usgdesignstudio.com)

[cgcdesignstudio.com](http://cgcdesignstudio.com)

## SAMPLES/LITERATURE/FAX

USG: 866 528-7089

CGC: Contact Local Sales Rep

## LIMITATIONS

1. For interior ceilings only.
2. Not for use in areas subject to continuous high heat and/or humid conditions.
3. Not for use in plenums with differential pressure. Return air ducts shall be installed according to ASHRAE standards and guidelines.
4. Install according to Section 5 Environmental Conditions listed in ASTM C840.
5. In order to ensure installed performance, component substitutions are not permitted.

## NOTE

Products described here may not be available in all geographic markets. Consult your USG/CGC Company sales office or representative for information.

## 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.

## 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.

