



# ACOUSTICAL PLASTER FINISH

## FEATURES & BENEFITS

**For quiet elegance, turn to the sound-rated ceiling spray texture that dries to an elegant, natural white finish.**

USG Acoustical Plaster Finish is an exclusive, sound-rated interior spray-applied texture finish for ceilings and other noncontact surfaces over basecoat plaster, concrete, metal decks and gypsum panels.

USG Acoustical Plaster Finish is designated Class A for surface flame spread per ASTM E1042-85. It offers the advantages of a dramatic texture finish with acoustical absorption. USG Acoustical Plaster Finish is ideal for new construction, as well as for repair and remodeling projects. It is easy to use, and mixes with water at the jobsite. USG Acoustical Plaster Finish is a setting-type plaster product that is designed to be applied by standard plaster spray application techniques. For successful, trouble-free application, all product directions must be followed, and the recommended equipment must be used.

- Designed for new construction, repair and remodeling
- Rated for sound absorption and surface burning characteristics
- Easy spray application
- Dries to an attractive natural white finish

## ADVANTAGES

- Powder product mixes quickly with water to the proper consistency.
- Provides a monolithic, sound-absorbing surface.
- Dries to a high-style, problem-free surface, saving both time and money.

## LIMITATIONS

1. For interior use over basecoat plaster, metal deck, concrete and gypsum panel ceilings, and on other noncontact surfaces. Do not use USG Acoustical Plaster Finish on surfaces previously painted with epoxy-type paints. If surface was previously painted with a "hard shell" finish such as on oil-based paint or semi-gloss or gloss latex paint, sand surface with 80-100-grit sandpaper, or sandblast the surface. Apply a prime coat of USG Sheetrock® Brand First Coat and let dry. For concrete surfaces previously coated with a decorative texture finish, the texture finish should be removed and the surface cleaned and primed (per application directions) before applying USG Acoustical Plaster Finish. Previously painted metal decking must be stripped to bare metal prior to application of USG Plaster Bonder-Clear to ensure adequate bond. USG Acoustical Plaster Finish is not recommended for use with gypsum panels previously coated with a decorative texture finish because of increased sag potential.
2. Surface irregularities will "mirror" or "photograph" through the finish. Level offsets and irregularities prior to finish application with either Sheetrock® Setting-Type (DURABOND®) or Lightweight Setting-Type (EASY SAND®) Joint Compound, or with USG Acoustical Plaster Finish.
3. Sound ratings can vary depending upon thickness and uniformity of coating, amount of dilution, mixing time, spray pressure and technique.
4. Application is limited to noncontact surfaces.
5. Finish is a setting-type product. At the end of the workday, all equipment must be purged with water until the system is clean.
6. Do not add paint or tinting pigments to product mix, because they will adversely affect the viscosity and spray application properties.
7. Minimum thickness application is 6mm. Less than 6mm application will not set properly, and will cause color variation.

8. USG Acoustical Plaster Finish can result in sagging of gypsum drywall and veneer plaster ceilings under these conditions: high heat and humidity, improper ventilation and/or board application to framing, and insufficient board thickness for span between supports. Avoid high heat/humidity conditions, and provide adequate ventilation after spraying is completed, and until USG Acoustical Plaster Finish has set and dried completely. When using USG Acoustical Plaster Finish, refer to the following table:

Board Thickness (mm)	Application Method (Long edge relative to frame)	Maximum Frame Spacing o.c. (mm)
9.5	Not recommended	-
12.7	Perpendicular only	400
15.9	Perpendicular only-	600

9. Be sure substrate surface is clean, dry, sound, and free of oil, grease, efflorescence, contaminants and water soluble materials. Prime surface per surface preparation directions. On retrofit jobs, some substrates may contain or be coated with contaminants or migrating materials that will not respond to standard surface preparation methods, and surface staining of the finish may occur. In such situations, a light spray coat of USG SHEETROCK Brand First Coat over the dried USG Acoustical Plaster Finish will be required to improve the surface color. (There will be minimal loss in NRC value. Test a small area to determine effectiveness of spray coat of paint.) Accordingly, in retrofit jobs, a finish coat of paint should be included in the bid. If an encapsulant has been used, USG Acoustical Plaster Finish is recommended only over the following tested and approved coatings: Cable Coating 22P by American Coatings Corporation; CerTane 900, 1,000, and 2,000 by Certified Technologies Corporation; Chil-Lock CP 240 and CP-215 by Childers Products Company, Inc.; Encotec 10X-A Tie Coating by Encotec Insulation Company, Inc.; 32-60 and 32-22 by Foster Products Corporation; Control Series 2,000 by Grayling Industries; SK-13-1C by International Cellulose Corporation; Seriflex; HD-200 by Valcraft; Fiberset FT, PM, and A-B-C by Fiberlock Technologies, Inc.; Hi-Bond by Highland Products; Guardian Bridging Encapsulant by Control Resource Systems, Inc.; Asbestite Color (White) and Asbestite Bond (Clear) by Arpin Products, Inc.; SEAL-KRETE Waterproofing Sealer by Seal-Krete Inc.

## DIRECTIONS

**Surface Preparation:** Gypsum plaster basecoats either conventional or veneer type—must be prepared in accordance with the application for the specific product, and the surface left uniform without voids but rough and open to ensure proper suction and bond of the finish plaster application. Best results are achieved when USG Acoustical Plaster Finish is applied to a basecoat which is properly set and practically dry. It is recommended that dry basecoats be dampened slightly to reduce excessive suction and enhance bonding.

**Concrete surface:** Surfaces must be dry, clean, sound, and free of oil, grease, efflorescence, contaminants and water-soluble materials. Prime exposed metal with a good, flat, rust-inhibitive primer. Age new concrete 60 days or more before covering. After the forms are removed from new monolithic concrete surfaces, grind down all fins and other projections and remove grinding dust and sludge. Complete necessary patch work on surfaces prior to texturing. Use SHEETROCK Brand Setting-Type Joint Compound (DURABOND) or SHEETROCK Brand Lightweight Setting-Type Joint Compound (EASY SAND). If the entire surface requires leveling, apply a coat of USG™ Plaster Bonder, let dry, then apply either a conventional plaster basecoat of sanded RED TOP® Gypsum Plaster or a veneer plaster basecoat using IMPERIAL® Brand Basecoat or DIAMOND® Brand Veneer Basecoat. Leave basecoat surface level but rough and open to promote bond of the finish coat.

Concrete slab offsets may also be filled with USG Acoustical Plaster Finish, then troweled smooth and followed with a final spray application of USG Acoustical Plaster Finish.

**Metal decks:** Previously painted metal decking must be stripped to bare metal. Prior to application of USG Acoustical Plaster Finish apply a coat of USG Plaster Bonder to ensure adequate bond. Apply undiluted bonding agent to uniformly cover metal roof decking. Coverage of the bonding agent will be approximately 7.5sqm/1L. Bonding agent may be spray applied with an airless sprayer using a 60-mesh filter and a 0.017 tip, or can be roller applied. Bonding agent must be allowed to dry before application of finish.

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**Gypsum panels:** Surfaces must be dry, clean, sound, and free of oil, grease, efflorescence, contaminants and water-soluble materials. Finish gypsum panel surface with a conventional joint treatment system. When prepared surfaces are dry, apply a prime coat of USG SHEETROCK Brand First Coat. Paint should be applied undiluted and allowed to dry before applying USG Acoustical Plaster Finish.

**Previously painted surface:** Apply prime coat of USG SHEETROCK Brand First Coat and let dry. If surface was previously painted with a "hard shell" finish such as an oil-based paint or a semi-gloss or gloss latex paint, sand surface with 80-100-grit sandpaper or sandblast the finish, and then apply prime coat.

**Previously textured surface:** Remove decorative texture finish and clean substrate. Prime surface by applying a coat of SHEETROCK Brand First Coat and let dry.

**Encapsulants:** Not all encapsulant materials are alike. USG Acoustical Plaster Finish is recommended for application over specific substrate encapsulants. See item No. 9 in Limitations section for approved encapsulants.

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#### SPRAY EQUIPMENT

Rotor/stator (Moyno pump), peristaltic pump and piston pump may be used. Use minimum length material hose with minimal number of couplings to reduce clogging. Mixed product will remain sprayable for 3 to 4 hours before set. Pump and hose must be cleaned with water followed by approximately one gallon of USG SHEETROCK Brand Ready-Mixed Joint Compound prior to spray application, or severe aggregate separation and plugged hoses will result. Clean equipment thoroughly between and after applications. Use plaster system scouring sponges to prevent buildup inside hoses.

**Rotor/stator (Moyno pump)**—Use Robbins-Myers 2L4 pump or similar equipment as minimum pump size with pole gun with 1/4-1/2 round orifice. Use 3/4-1 i.d. material hose.

**Peristaltic pump**—Use pump with minimum 1 i.d. internal pumping and material hose. Use pole gun with 1/4- 1/2 round orifice. Use minimum 1 i.d. material hose.

**Piston pump**—Use a Grover 8:1 or higher ratio, double-action pump or similar equipment with either a pole gun with 1/4-1/2 round orifice, or a Binks 7E-2 handgun with a 1/4-1/2 round opening. Use minimum 3/4 i.d. material hoses. Graco pumps are not recommended.

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#### MIXING

**Recommended equipment:** Use a 200L or larger paddle-type plaster mixer with rubber-tipped blades (e.g., Anchor mixer) with horizontal shaft or texture rig-type mixer with paddles mounted on a horizontal shaft.

**Mixing method:** To ensure uniform product performance, a minimum mix quantity of two 13.5kg bags of USG Acoustical Plaster Finish is recommended. Use 13.5L water per 13.5kg of finish. Add powder to water. Blend thoroughly (approximately 5 minutes) with mechanical mixer, until material is lump-free and has a thick, foamy consistency. Initial mix will appear dry and heavy; continue to mix until material is thick and foamy. If material is over mixed, excessive foam will appear. Add powder to break down foam and remix until proper foam level is achieved. Additional mixing may be necessary during application to maintain foam consistency. Use wet-mixed material within 3-4 hours. Store bags in a dry place and protect from moisture.

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#### APPLICATION

**Spray Application:** Procedure for all pumping systems: Initially fill mixing hopper with necessary water to flush hoses. Pump all water from hopper, then place joint compound into material reservoir of pump. Pump until all the joint compound feeds into the hose, then stop the pump.

**Note:** All pumps and hoses must be cleaned initially with water, followed by approximately 3.8L of USG SHEETROCK Brand Ready-Mixed Joint Compound prior to spray application, or severe aggregate separation and plugged hoses will result.

Add mixed finish to material hopper, pump out and discard clean-out water, joint compound and intermixed finish until clear material is obtained. Turn on atomizing air and adjust to obtain a 1-1/2-3 diameter pattern.

The spray gun typically should be held 2-4 (depending upon material and atomization pressures) from the surface to be sprayed.

Finish material may be applied to up to a 12mm thickness in a single coat. Best results are achieved by the following recommended procedure. Apply USG Acoustical Plaster Finish evenly, holding pole gun perpendicular to surface being sprayed and slowly waving spray gun from side to side until area is covered. Immediately double back, crosshatching (diagonal pattern to the initial application) the prior coat.

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Repeat same procedure as necessary until desired thickness is reached. A 25mm thickness must be applied in two separate 12mm applications to ensure increased sound rating. Elimination of spray lines and section seams (overlaps) is essential in producing an acceptable finish. If the entire ceiling area cannot be sprayed to the final thickness in one day, spray the entire surface with a material coat of a uniform, even thickness (minimum 6mm). Complete the buildup to the final thickness the following day with a crosshatched application to provide a uniform appearance. Do not spray a portion of a ceiling one day

and the final portion on another day, as a noticeable seam line will result. Use natural breaks and boundaries to “frame” pattern edges and conceal seams. For average thickness measurement, take a blunt-tipped object (head of pencil or finishing nail) and mark the object with the thickness to be sprayed. Insert measuring device into finish and determine whether depth sprayed is correct.

For a different surface color, a good quality, flat latex paint (white or pastel) may be spray-applied over the dried, finished USG Acoustical Plaster Finish. There will be minimal loss in NRC value.

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**CAUTION**

1. Surface irregularities will “mirror” or “photograph” through the finish. Level offsets/irregularities in substrate surface prior to finish application.
2. The purpose of applying a prime coat is to equalize surface porosity and reduce transparency. Prime coats are not intended to reduce sag potential or to prevent migrating stains or contaminants from leaching to the finished surface.
3. All pumps and hoses must be initially flushed with water, followed by approximately 1 gal. USG SHEETROCK Brand All-Purpose Ready-Mixed Joint Compound to prevent aggregate separation and clogging.
4. USG Acoustical Plaster Finish is a setting-type product. Use wet-mixed material within 3-4 hours. At the end of the workday, purge all equipment with water until system is clear. Hose connections must not significantly reduce interior diameter of hoses. Improper connections can result in blocking.
5. If blockage occurs in hose, turn off air pressure and pump. If equipment has a reverse gear, pump slurry into mixing hopper. If blockage occurs at nozzle, disconnect nozzle from gun and direct material into large container to remove obstruction.
6. For temporary shut-downs (30 min.), it is not necessary to remove material from hose. For longer breaks, purge material to prevent hard pumping or setting of material in equipment. Finish will pack and separate in spray gun upon shut-down unless pump pressure is relieved. Always shut down spraying process in sequence: 1) Turn off pump, 2) Spray product until back pressure is relieved, 3) Turn off material valve, 4) Turn off atomizing air. Reverse the sequence for startup.
7. Maintain minimum air, water, product mix and substrate temperature of 15°C during and after application, taking care to ensure adequate ventilation until building is occupied. Do not use unvented gas or oil heaters.
8. Wipe overspray off promptly, because finish resists clean removal after extended contact with substrate. After wipedown, any remaining dried residue can be removed by light sanding.
9. Minimum thickness application is 6mm. Less than 6mm application may not set completely, causing dry-out and color variation.
10. Maximum thickness of application is 6mm over gypsum panel systems. More than 6mm will cause gypsum board sag. For maximum sound rating, finish may be applied to a 25mm thickness over concrete and basecoat plaster. The 25mm thickness must be applied in two separate 12mm applications to ensure increased sound rating.
11. Do not reuse or intermix finish from overspray with freshly mixed finish. Intermixing overspray will accelerate the setting time of finish, causing short working time, and will also result in reduced bond and hardness of finish.
12. Do not add paint or tinting pigments to USG Acoustical Plaster Finish, as they will adversely affect viscosity and spray application properties.
13. Sound ratings can vary depending on thickness and uniformity of coating, amount of dilution, mixing time, spray pressure and techniques used.
14. Actual coverage range may vary depending on such factors as amount of product dilution, spray techniques, uniformity of coating and condition of substrate surface (e.g., coverage may be less on rough, uneven and/or high-suction surfaces).

**Part 1: General**

1. **Scope:** Specify to meet project requirements.
2. **Qualifications:** All materials, unless otherwise indicated, shall be manufactured by USG, and shall be applied in accordance with its current printed directions.
3. **Submittals:** Upon request, the contractor shall provide samples prepared in advance with specified materials which, when approved, shall be the standards of finish to be provided on this project.
4. **Delivery and Storage of Materials:** All materials shall be delivered in their original containers bearing the manufacturer's name, brand name and directions for use. All containers shall be kept tightly closed when in storage, stored at moderate temperatures and protected from damage by tampering and exposure to the elements.
5. **Environmental Conditions:** During cold weather, provide controlled heat to maintain minimum air, water, product mix and substrate temperature of 55 °F (13 °C) during application and afterwards until building is occupied. Unvented gas or oil heaters shall not be used. Provide adequate ventilation at all times for proper drying.

**Part 2: Products**

**Materials:** Specify surface treatment and finish materials from product directions provided above.

**Part 3: Execution**

**Surface preparation:** Gypsum plaster basecoats—either conventional or veneer-type—must be prepared in accordance with the application for the specific product and the surface left uniform without voids but rough and open to ensure proper suction and bond of the finish plaster application. Best results are achieved when USG Acoustical Plaster Finish is applied to a basecoat which is properly set and practically dry. It is recommended that dry basecoats be dampened slightly to reduce excessive suction and enhance bonding.

**Concrete surfaces:** Surfaces must be dry, clean, sound, and free of oil, grease, efflorescence, contaminants and water-soluble materials. Prime exposed metal with a good, flat, rust-inhibitive primer. Age new concrete 60 days or more before covering. After the forms are removed from new monolithic concrete surfaces, grind down all fins and other projections and remove grinding dust and sludge.

Complete necessary patch work on surfaces prior to texturing. Use SHEETROCK Brand Setting-Type Joint Compound (DURABOND) or SHEETROCK Brand Lightweight Setting-Type Joint Compound (EASY SAND). If the entire surface requires leveling, apply a coat of USG Plaster Bonder, let dry, then apply either a conventional plaster basecoat of sanded RED TOP Gypsum Plaster or a veneer plaster basecoat using IMPERIAL Brand Basecoat or DIAMOND Brand Veneer Basecoat. Leave basecoat surface level but rough and open to promote bond of the finish coat.

Concrete slab offsets may also be filled with USG Acoustical Plaster Finish, then troweled smooth and followed with a final spray application of USG Acoustical Plaster Finish.

**Metal decks:** Previously painted metal decking must be stripped to bare metal. Prior to application of USG Acoustical Plaster Finish apply a coat of USG Plaster Bonder to ensure adequate bond. Apply undiluted bonding agent to uniformly cover metal roof decking. Coverage of the bonding agent will be approximately 7.5sqm/1L Bonding agent may be spray applied with an airless sprayer using a 60-mesh filter and a 0.017 tip, or can be roller applied. Bonding agent must be allowed to dry before application of finish.

**Gypsum panels:** Surfaces must be dry, clean, sound, and free of oil, grease, efflorescence, contaminants and water-soluble materials. Finish gypsum panel surface with a conventional joint treatment system (see procedures in USG Gypsum Construction Handbook), using USG SHEETROCK Brand Joint Treatment products. When prepared surfaces are dry, apply a prime coat of USG SHEETROCK Brand First Coat. Paint should be applied undiluted and allowed to dry before applying USG Acoustical Plaster Finish.

**Previously painted surface:** Apply prime coat of USG SHEETROCK Brand First Coat and let dry. If surface was previously painted with a "hard shell" finish such as an oil-based paint or a semi-gloss or gloss latex paint, sand surface with 80-100-grit sandpaper or sandblast the finish, and then apply prime coat.

**Previously textured surface:** Remove decorative texture finish and clean substrate. Prime surface by applying a coat of USG SHEETROCK Brand First Coat and let dry.

**APPLICATION**

Apply finish according to product directions. Finish must be evenly spread and free from runs, sags and other blemishes. Use only mixing equipment and pump sizes (piston pump, rotor/stator and peristaltic pump) as specified in the directions.

**PRODUCT DATA**

**Color:** White.

**Filler:** Calcium sulfate.

**Dilution (Water):** 13.5 L / 13.5kg.

**Coverage:**

Dried Thickness	kg/m <sup>2</sup>
6mm	Approx. 0.12
12mm	Approx. 0.06
25mm	Approx. 0.02

Coverage range shown here should be considered an estimate. Actual coverage can vary based on factors such as amount of dilution of product, spray techniques and procedures, uniformity of coating and condition of substrate surface (e.g., coverage may be less on rough, uneven and/or high-suction surfaces).

**Drying Time:** At 6mm thickness under 75%/50% R.H. condition, surface should dry in approx. 1-2 days; total drying should occur in 3-5 days, depending upon ventilation. Application must be dry before painting.

**Weight of dried application:** 0.06 kg/m<sup>2</sup> at 12mm thickness.

**Sound Absorption (ASTM C423 Test Procedure):**

Mounting Per ASTM E795 Concrete	Nominal Thickness	125	250	500	1000	2000	4000	NRC
A	6mm	0.01	0.15	0.01	0.35	0.71	0.85	0.35
A	12mm	0.02	0.37	0.02	0.75	0.85	0.79	0.55
A	25mm	0.04	0.60	0.04	1.01	1.07	1.00	0.75
Gypsum Panels								
D90	6mm	0.35	0.20	0.15	0.40	0.63	0.67	0.35
D90	12mm	0.55	0.20	0.28	0.65	0.88	0.86	0.50

Estimated NRC over conventional plaster systems is 0.55 at 12mm nominal thickness. Light Reflectance (ASTM C523 Test Procedure): 72.

**Compressive Strength:** >600psf per ASTM 761-92 in-house testing at Corporate Innovation Center - Libertyville, Illinois.

**Storage:** Shelf life up to 6 months under protected storage conditions. Close opened bags so that they are as airtight as possible. Store in a dry place.

**Packaging:** 13.5 kg.

**REFERENCES**

For further health and safety instructions, refer to the Safety Data Sheet (SDS) for this product, available from your USG Middle East sales office or **USGme.com**

**Notice:**

As we are involved in constant products development; this document information is subject to change without prior notice. Please always refer to **usgme.com** for the updated products information document.

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