

# FINISHING AND DECORATING GLASS-MAT GYPSUM PANELS

USG Sheetrock® Brand Glass-Mat Panels Mold Tough® are high-performance interior wall panels suitable for use in pre-dry-in applications of wallboard (aka pre-rock) and similar applications before the building envelope is fully enclosed. They can be exposed to the elements for up to 12 months and are moisture and mold resistant. The fiberglass facing and back shed water, and the panels score 10 out of 10 on the ASTM D3273 test for mold.<sup>1</sup> Though glass-mat panels can be substituted for and installed similar to regular drywall, the fiberglass facing of the panels is distinctly different than paper facing and needs to be finished differently than paper-faced gypsum panels when receiving decoration. The texture of the panel and absorption of paint is dissimilar to paper-faced gypsum panels and requires an additional skim coat of joint compound in most applications.

There are currently no consensus industry recommendations or standards for finishing glass-mat gypsum panels. USG is working with several industry associations to update the GA-214 "Recommended Levels of Gypsum Board Finish" publication to include new finishing recommendations for glass-mat gypsum panels. The following guidelines can help improve success at the jobsite.

## JOB STANDARD SPECIFICATION (MOCK-UP)

In addition to written project documents, a full-scale project standard(s) of the approved wall and/or ceiling configuration(s) should be erected on the jobsite by the contracted workforce so as to provide a visual benchmark. It should be finished and decorated in accordance with applicable project specifications set by the design and specifying/approving entities. Jobsite-constructed standards should be evaluated for appearance and agreed to by all stakeholders prior to conducting any widespread finishing work and/or production painting.

Determining the appropriate level of finish is dependent on a number of factors. Primary architectural considerations include the location within the structure, critical lighting conditions present, wall smoothness desired, and the color, type and sheen/gloss of the decorative finish specified. Once all of the factors have been evaluated, project documents can be written in specific terms and jobsite visual standards created, enabling contractors to be better prepared to present their most competitive bid.

## PANEL INSTALLATION

Install panels as outlined in ASTM C840 "Standard Specification for Application and Finishing of Gypsum Board" and GA-216 "Application and Finishing of Gypsum Panel Products." For fire-rated applications, conform to assemblies published in GA-600 "Fire Resistance Design Manual and UL Fire Resistance Directories." After installation, make sure that all panel surfaces are completely dry and free of dirt, grease and dust. Panels should not be finished until building is completely enclosed.

## JOINT TAPING

Joints between USG Sheetrock® Brand Glass-Mat Panels Mold Tough may be finished with either USG Sheetrock® Brand Paper Joint Tape embedded in USG Sheetrock® Brand All Purpose Ready-Mix Joint Compound or Sheetrock® Brand Fiberglass Drywall Tape embedded in USG Sheetrock® Brand Setting-Type Joint Compound. Tape all joints and interior angles. After embedding tape, immediately wipe joints and interior angles with a joint knife, leaving a thin coating of joint compound.

## PROPER CONCEALMENT

For proper concealment, use USG Sheetrock® Brand All Purpose Joint Compound. For smooth wall applications, apply two separate coats over all flat joints; one separate coat over interior angles; and three separate coats to cover fasteners and accessories.

## PROPER CONCEALMENT CONT.

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Using fill and finish coats of joint compound to properly conceal panel joints, fasteners and trim accessories makes it impossible to achieve a flat plane on a finished surface. However, a properly finished panel wall can minimize the appearance of joints, fasteners and trims. Finishing and properly concealing joints and fasteners rely on two techniques: (1) using graduated arcs to prevent recesses or ridges and (2) not applying joint compound flush or flat to the panel surface. Recesses or ridges can result in distinct shadows in critical light or other adverse visual conditions. Applying joint compound flush or flat to the surface does not properly conceal the panel and increases the likelihood of joints and fasteners showing through the decorated finish. For more information, refer to USG Technical Literature J2010 "Finishing and Decorating Gypsum Panels."

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## SANDING

To minimize sanding, apply joint compound over joints, fasteners and accessories as smoothly or without defects as possible. Once the joint treatment phase is complete and the joint compound is thoroughly dry, some sanding of the joint compound may be required. To minimize texture variations, avoid sanding the panel face.

**NOTE:** DO NOT sand compound flush to panel surface; this will expose areas previously concealed. Avoid using excessively coarse or larger-sized abrasive media (or grit) that may leave visible scratches in the joint compound after painting. Remove all sanding dust prior to applying any surface treatments (primer or primer-surfacer).

**Wet Sanding:** Wet sanding with a damp sponge is preferred whenever possible, especially when minimal sanding is required.

**NOTE:** Wet-sanding methods are not intended to remove large amounts of joint compound or compensate for poorly finished joints. Wet sanding produces no dust and requires minimal cleanup; it is less likely to scuff or damage the panel face surface. Wet-sanded areas may be more easily concealed with paint finishes than dry-sanded areas.

**Dry Sanding:** Either manual or power equipment can be used for dry sanding, which uses abrasive-faced material to remove joint compound from gypsum panel joints, fasteners and trims. Sanding materials with abrasive media or grit, sized as fine as possible are preferred. There are three major types of sanding materials: sandpaper, mesh and film; all offer a variety of grades. Good results can be achieved by using: 150-grit sandpaper or finer; 220-grit abrasive-mesh.

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## SURFACE TREATMENT

Glass-mat panels differ from paper-faced gypsum panels in the treatment of the panel surface in the following conditions:

**Level 3 Finish: Recommended in areas where one or more of the following conditions exist:**

1. Areas to receive heavy- or medium-texture (spray or hand-applied) finishes before painting
2. Heavy-grade wallcoverings are to be applied as a final decoration
3. Wallcoverings to be applied

**NOTE:** This level of finish is not recommended where smooth painted surfaces or light to medium wallcoverings are specified.

When glass-mat panels transition to a dissimilar substrate material(s) and a textured wall pattern is specified that leaves a portion of said wall surface exposed (without texture) prior to painting: apply a skim coat<sup>2</sup> of all purpose joint compound at a trowel-applied consistency to entire surface and let dry. The skim-coated surface must be smooth and free of tool marks and ridges (a light sanding of the skim coating may be necessary to remove tool marks). Remove sanding dust from surface, then apply one full coverage coat (5-10 mils WFT [Wet Film Thickness]) of USG Sheetrock® Brand First Coat™ Primer or equivalent to cover surface. Allow surface to dry prior to decorating. Refer to USG Technical Literature J1095 for more information regarding USG Sheetrock® Brand First Coat Primer.

**Level 4 Finish: Recommended in areas where one or more of the following conditions exist:**

1. Flat paints and smooth wall applications
2. Light textures to be applied
3. Wallcoverings to be applied

**NOTE:** In critical lighting areas, flat paints applied over light textures tend to reduce joint photographing. Paints with sheen levels other than flat and enamel paints are not recommended over this level of finish.

Apply a skim coat<sup>2</sup> of all purpose joint compound at a trowel-applied consistency to entire surface and let dry. The skim-coated surface must be smooth and free of tool marks and ridges (a light sanding of the skim coating may be necessary to remove tool marks). Remove sanding dust from surface, then apply one full coverage coat (5-10 mils WFT) of USG Sheetrock® Brand First Coat Primer or equivalent to cover surface. Allow surface to dry prior to decorating. Refer to USG Technical Literature J1095 for more information regarding USG Sheetrock® Brand First Coat Primer.

## SURFACE TREATMENT CONT.

### Level 5 Finish: Recommended in areas where one or more of the following conditions exist:

1. Exposure to critical/severe lighting
2. Paints with sheen levels other than flat are specified
3. High-value spaces exist where the highest quality finish is expected

Apply a skim coat<sup>2</sup> of all purpose joint compound at a trowel-applied consistency to entire surface and let dry. The jobsite standard(s) shall dictate if additional skim coat(s) are required. The skim-coated surface must be smooth and free of tool marks and ridges (a light sanding of the skim coating may be necessary to remove tool marks). Remove sanding dust from surface, then apply one full coverage coat (5-10 mils WFT) of USG Sheetrock® Brand First Coat Primer or equivalent to cover surface. Allow surface to dry prior to decorating. Refer to USG Technical Literature J1095 for more information regarding USG Sheetrock® Brand First Coat Primer.

**NOTE:** USG Sheetrock® Brand Tuff-Hide™ Primer-Surfacer may be used in lieu of a second skim coat of USG Sheetrock® Brand All Purpose Joint Compound and the application of USG Sheetrock® Brand First Coat Primer. Refer to USG Technical Literature J1613 and J1810 for more information regarding USG Sheetrock® Brand Tuff-Hide Primer-Surfacer benefits and application.

## INSPECTION

The treated surface should be inspected for acceptance prior to installing the final decorative finish or topcoat paints. For inspection methods, refer to the Drywall Finishing Council document "Method for Inspecting Interior Joint Treated Gypsum Panel Surfaces" (dwfc.org).

1. This ASTM test may not accurately represent the mold performance of building materials in actual use. Given unsuitable project conditions during storage, installation or after completion, any building material can be overwhelmed by mold. To manage the growth of mold, the best and most cost-effective strategy is to protect building products from water exposure during storage and installation and after completion of the building. This can be accomplished by using good design and construction practices.
2. When applying a skim coat, use only USG Sheetrock® Brand All Purpose Joint Compound – DO NOT use USG Sheetrock® Brand Plus 3® Lightweight All Purpose Joint Compound or USG Sheetrock® Brand Midweight™ All Purpose Joint Compound on glass-mat panels.

### PRODUCT INFORMATION

See usg.com for the most up-to-date product information.

### TRADEMARKS

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### NOTE

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### SAFETY FIRST!

Follow good safety/industrial hygiene practices during installation. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read MSDS and literature before specification and installation.

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

Manufactured by  
United States Gypsum Company  
550 West Adams Street  
Chicago, IL 60661

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