

# FINISHING & DECORATING GYPSUM PANELS

## IMPROVING CONTRACTOR SUCCESS

The growth of sustainable building design in high value spaces elevates benchmarks for achieving quality at the jobsite. While these environments incorporate natural illumination which creates critical lighting conditions and higher-sheen/gloss paints to help reduce energy costs, these specifications can present challenges to the drywall construction trade. The following industry best practices, balanced by selecting appropriate finishing products, can help improve finishing success. Additionally, these practices can help manage expectations of owners, builders and design professionals and reduce potential callbacks that delay building schedules and impact profitability.

## JOBSITE STANDARD SPECIFICATIONS

Best practices for aesthetic and performance benchmarks include establishing and demonstrating an approved finishing system. USG recommends the industry follow the Gypsum Association's *Levels of Finish for Gypsum Panel Products (GA-214)*.

### JOBSITE MOCK-UP

A jobsite mock-up is required for all appearance areas finished to a Level 3, 4 or 5, as described in GA-214, Section IV Levels of Finish. The design professional shall specify the mock-up procedure and mock-up construction details within the project documents unless waived in writing.

Where specified, the mock-up shall be of sufficient size to represent the requirements found in the specified Level of Finish, the location within the building, and should include texture and/or other decorative finishes such as final paint, wall covering, trim, or other wall treatments. Lighting conditions representative of those present when the building is occupied (natural or artificial) should be incorporated into the mock-up details.

The completed mock-up shall provide a visual project standard that will enable the architect, general contractor, sub-contractor, and building owner to agree upon the final appearance prior to beginning any widespread finish work.

### INSPECTION CRITERIA

These criteria are applicable both to the jobsite mockup and to the finished project. The normal viewing position shall be at a minimum distance of five (5) feet (1.5 m) perpendicular from the surface. Inspection lighting conditions are described as those in place when the project is finished. This includes, but is not limited to; design lighting (e.g. wall washers, spots and floods, etc.) and natural lighting. Consideration shall be given to window treatment and/or any other decorative finishes that could affect lighting and viewing. Details regarding inspection methods and procedures can be found in Drywall Finishing Council literature, Method For Inspecting Interior Joint Treated Gypsum Panel Surfaces.

### ENVIRONMENTAL CONDITIONS

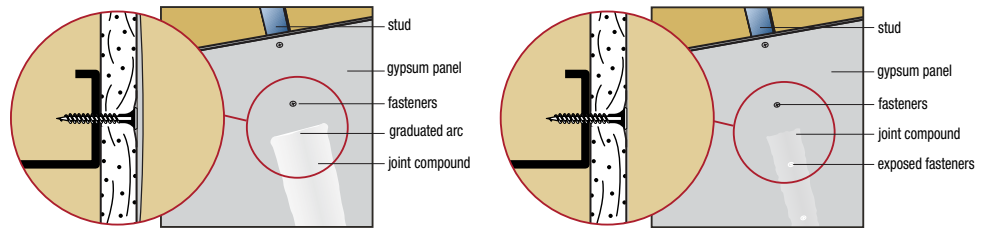
Controlling and maintaining environmental conditions is key to minimizing potential problems during finishing and decorating operations. Temperature, humidity and airflow should remain constant, and match occupancy conditions as closely as possible. Uncontrolled environmental conditions, (i.e. changes and/or fluctuations in temperature, humidity and airflow) can have a profoundly adverse effect on system performance. Refer to USG literature *Evaluating Jobsite Environmental Conditions (J2074)* for more information.

### PROPER CONCEALMENTS

Using fill and finish coats of joint compound to properly conceal gypsum panel joints, fasteners and trim makes it impossible to achieve a flat plane on a finished surface. However, a properly finished gypsum 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 lighting 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.

**JOBSITE STANDARD SPECIFICATIONS  
CONT.  
PROPER CONCEALMENTS**



**For proper concealment DO develop a graduated arc of joint compound over fastener head.**

**DO NOT sand compound flush to panel surface as this will expose areas previously concealed.**

**SANDING**

To minimize sanding, apply joint compound over joints, fasteners and accessories as smoothly 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. **DO NOT** sand compound flush to panel surface as this will expose areas previously concealed. When sanding areas finished with joint compound avoid roughening the face paper. Roughened paper contains raised fibers that are conspicuous after painting. If the paper is roughened accidentally, repair the damage by applying a small amount of joint compound with a broad knife. 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 and debris prior to applying any surface treatments.

**WET SANDING**

Wet sanding with a damp sponge is the preferred alternative to conventional dry sanding, especially when minimal sanding is desired. 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, which may eliminate the need to use a dust collector or respirator. It requires minimal clean-up and is less likely to scuff or damage the gypsum panel face. Wet sanded areas may be more easily concealed with paint finishes than dry sanded areas.

**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 fine abrasive media or grit size which still allow an acceptable sanding rate 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 or finer; 80µm (micron) sanding film or finer. When dry sanding, USG recommends using a sanding tool equipped with a HEPA vacuum to remove dust

**SURFACE TREATMENT FOR  
GYPSUM PANELS**

Jobsite mock-up(s) shall be used to determine acceptance of the finish within the building, including final job verification that the overall aesthetics and physical performance meet the established job expectations under normal lighting conditions at a normal viewing position.

**Level 4 Finish**

Typically specified in appearance areas where smooth wall designs are decorated with flat paints, light textures, non-continuous textures, or wallcoverings are to be applied. The design professional shall specify the mock-up procedure and mock-up construction details within the project documents. This level of finish is not recommended where non-flat or dark/deep tone paints are applied or where critical lighting is present.

**Paint System:** Apply one coat of primer and two coats of MPI Gloss-1 paint (flat/matte). Use a primer that has high solids pigmented primer that equalizes the surface porosity creating a unified surface for finish paint. A “high solids” pigmented drywall primer is defined as having greater than 50% solids content by weight. The unified primed surface will offer the best chance to minimize joint flashing or photographing. Not all 2-in-1 paint & primers are created equal and might not equalize the porosity.

**Note:** Painter’s tape manufacturers offer a wide range of products for different surfaces, each having their own specific application guidelines. For more information, contact the tape manufacturer.

## SURFACE TREATMENT FOR GYPSUM PANELS CONT.

### SKIM COATING

#### Level 5 Finish

Under critical lighting conditions, fasteners, gypsum panels and joints may be visible when decorated using non-flat paints or finishes with sheen/gloss. This is caused by a difference between the surface texture of the gypsum panel face and the smoothed and finished joint compound. Sanding the panel face may also raise the nap of the panel surface and accentuate this difference. Skim coating the entire surface will minimize these imperfections.

**Option A: Primer-Surfacer** For best results, apply USG Sheetrock® Brand Tuff-Hide™ Primer-Surfacer over a properly concealed GA-214 Level 4 Finish.

**Option B: Skim Coat & Primer** Apply a skim coat of conventional weight USG Sheetrock® Brand All Purpose Joint Compound over a properly concealed GA-214 Level 4 Finish. Apply a coat of USG Sheetrock® Brand First Coat™ Primer over the entire surface prior to the application of decorative finishes. Do not use USG Sheetrock® Brand Topping Joint Compound or other specialty finishing compounds, or any powder joint compounds (drying or setting types) as a skim coat material. Once the surface is smooth and free of tool marks and ridges, lightly brush to remove sanding dust. Remember a skim coat will not approximate a plastered surface.

**Purpose:** The best method to prepare any gypsum drywall surface for painting is to apply a skim coat of joint compound. This leaves a film thick enough to fill imperfections in the panel joints, smooth the paper texture and provide a uniform surface for decorating.

Skim coating is a process intended to conceal minor surface differences and create a more uniform surface. The objective of skim coating is to achieve total coverage of the entire surface, which is typically accomplished by using a drywall broad knife to force the material into the surface pores and imperfections, then shearing the excess compound from the surface. There is no specific mil thickness that constitutes a proper skim coat. This process may also be accomplished with spray applied materials or specialty products formulated for that purpose.

**Note 1:** Joint compound used for skim coating shall have a "trowel consistency" such that the viscosity of the material being used could be applied by a trowel. Various tools and applications may be used for skim coating, so long as consistent coverage is accomplished. Skim coating will not approximate a plastered finish/surface. Once the skim coating material dries, treated joints, filled voids, and spotted fastener heads may be visible.

**Note 2:** Where glass-mat and fiber-reinforced gypsum panels are installed, one or two skim coats of joint compound may be required before application of USG Sheetrock® Brand Tuff-Hide™ Primer-Surfacer in order to achieve an acceptable appearance. Jobsite mock-ups shall be used to determine acceptance of the finish within the building. See Jobsite Mock-Up requirement.

Additional factors not covered in this publication may also affect the finished appearance of any surface.

#### PRODUCT INFORMATION

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

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#### 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.

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