

Finishing and Decorating Gypsum Panels

Improving Contractor Success at the Jobsite

The growth of sustainable building designs in high value spaces elevates benchmarks for achieving quality drywall finishing. These reduced-energy environments use natural and critical lighting and higher-sheen/gloss paint 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 at the jobsite. These practices can help manage expectations of owners, builders and design professionals and reduce potential callbacks that delay building schedules and impair profitability.

Jobsite Standard Specifications

Best practices for aesthetic benchmarks include establishing and demonstrating an approved finishing system. USG strongly recommends establishing a visual standard (mock-up) at the jobsite. A physically constructed large-scale visual standard coordinates the expectations of the owner, construction manager, general contractor and design professional with those of the contracted workforce. The finished appearance of the constructed standard should be approved in advance of any widespread work.

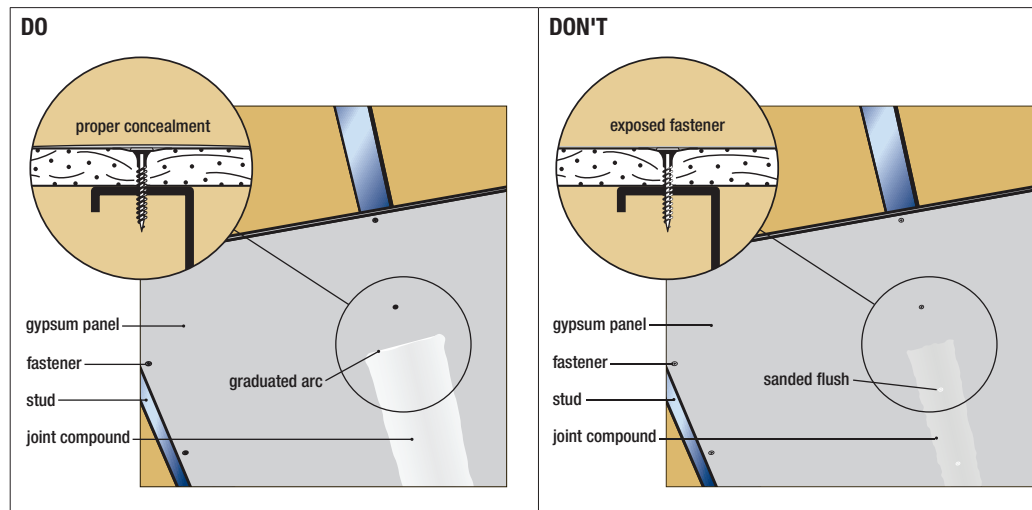
Environmental Conditions

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.

Changing Job Conditions and Drying As the job atmosphere becomes more humid and saturated with water during joint treatment, painting, or other “wet” operations, drying time (and time in between applications) can increase. At 55 °F (13 °C), with little ventilation, there can be as much as a four-time increase in drying time if room humidity elevates from 50% to 90%. Temporary liquid fuel heaters with open flames give off water vapor as a by-product of combustion. As the ambient temperature rises (because warmer air holds more water) the relative humidity may go down, while the actual amount of water increases. (The combustion of 1 gal. of kerosene gives-off over a gallon of water condensed). This will delay the dry-out time of plaster, concrete, joint treatment or other wet installations. Provide heat if needed to maintain temperatures above 55 °F (13 °C).¹ Other atmospheric conditions at the jobsite can result in similar changes in drying times. Refer to the Drywall Finishing Council document, *Joint Compound Drying Time*, (dwfc.org).

Proper Concealments (joints, fasteners, trims)

Using fill and finish coats of joint compound to properly conceal gypsum panel joints, fasteners and trim accessories 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. Its visual and aesthetic qualities help disguise the panel seams and points of fastener/trim installation from being easily visible across the substrate surface. 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.



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. **Note: DO NOT** sand compound flush to panel surface; this will expose areas previously concealed. When sanding areas finished with joint compound, avoid roughening the panel face paper; roughened paper has 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 5 in. 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 prior to applying any surface treatments.

Wet Sanding Wet sanding with a damp sponge is a viable alternative to conventional dry sanding, especially when minimal sanding is required. Wet sanding is preferred whenever possible (refer to USG Technical Literature J-610 for more information). 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; it is less likely to scuff or damage the gypsum panel face or 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, but which still allow an acceptable sanding rate, are preferred. There are three major types of sanding materials: sand paper, 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.

Surface Treatment for Paper faced Gypsum Board

Option A Primer-Surfacer For best results install SHEETROCK® TUFF-HIDE™ primer-surfacer over a properly applied GA-214 or ASTM C840 Level-4 Gypsum Board Finish. Refer to USG Technical Literature J-1613 and J-1810 for detailed product and application directions.

Option B Skim Coat & Primer Apply a skim coat of conventional weight SHEETROCK® all purpose joint compound over a properly concealed GA-214 or ASTM C840 Level-4 Gypsum Board Finish. (Note: DO NOT use light- or mid-weight grades of joint compound for skim coating). Refer to USG Technical Literature J-510 for more information.

When applying a skim coat, cover the entire surface with joint compound, then immediately shear-off excess compound using a drywall broad knife to force compound into surface pores and imperfections.

The skim coat should be installed at trowel-applied consistency, and allowed to dry thoroughly before lightly buffing and sanding trowel lines and minor imperfections. Once the surface is smooth, and free of tool marks and ridges, lightly brush to remove sanding dust. Apply a coat of SHEETROCK® First Coat primer over the entire surface prior to the application of decorative finishes.

A skim coat will not approximate a plastered surface. 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.

For more information, please consult The Gypsum Construction Handbook. <http://usg.com/resource-center/gypsum-construction-handbook.html>

WARNING

When applying or sanding, wear safety glasses or goggles. If eye contact occurs, flush thoroughly with water for 15 minutes to remove particles. If irritation continues, consult a physician. Use wet-sanding technique to avoid creating dust. If dry sanding, wear a NIOSH/MSHA-approved respirator. Dust created from dry sanding may cause eye, nose, throat, or upper respiratory irritation. If there is any discomfort, consult a physician. Do not ingest. Product safety information: (800) 507-8899.

KEEP OUT OF REACH OF CHILDREN.

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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 material safety data sheets and related literature on products before specification and/or installation.

Footnotes

1. ASHRAE Handbook — Fundamentals, 2001, 18.2



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