Recommended Levels of Gypsum Board Finish

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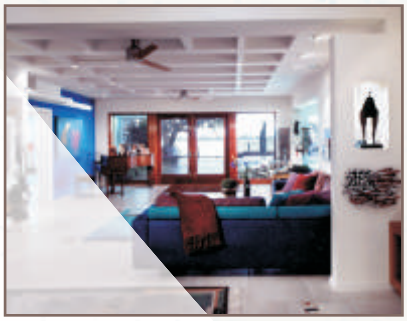

DRYWALL FINISHING COUNCIL

AWCI

PDCA PAINTING AND DECORATING CONTRACTORS of AMERICA

CISCA Ceilings & Interior Systems Construction Association

GYPSUM ASSOCIATION

The Finishing & Decorating of Gypsum Board Surfaces

For many years contract documents describing how gypsum board walls and ceilings should look prior to final decoration with paints and other wallcoverings have included nonspecific terms such as "industry standards" and "workmanlike finish." And, for as many years, wall and ceiling contractors have tried to fulfill their obligations by providing the finish conditions envisioned but not truly described.

As a means of resolving a common problem, in 1990 four major trade associations concerned with the manufacture, erection, finish, and decoration of gypsum board wall and ceiling systems developed an industry-wide Recommended Levels of Gypsum Board Finish. This document is intended to assist specification writers, architects, contractors, and building owners to more precisely describe the finish of walls and ceilings prior to the application of paints and other wallcoverings, to encourage competitive bidding of suitably finished surfaces, and to enhance the appearance of the final decorative treatment and thereby enlist a satisfied client.

The finish of gypsum board walls and ceilings for specific final decoration is dependent on a number of factors. A primary architectural consideration is the location of the surface and the degree of decorative treatment desired. Painted an unpainted surfaces in warehouses and other areas where appearance is normally not critical may simply require the taping of wallboard joints and "spotting" of fastener heads. Blemish-free, smooth, monolithic surfaces often intended for painted and decorated walls and ceilings in habitated structures, ranging from single-family dwellings through monumental buildings, require additional finishing prior to the application of the final decoration.

Other factors to be considered in determining the level of finish of the gypsum board surface are (1) the type and angle of surface illumination (both natural and artificial lighting), and (2) the paint and method of application or the type and finish of wallcovering material specified as the final decoration. Critical lighting conditions, gloss paints, and thin wallcoverings require a higher level of gypsum board finish than do heavily textured surfaces which are subsequently painted or surfaces which are to be decorated with heavy grade wallcoverings. Once all of the factors have been evaluated, specifications can be written in specific terms and responsible contractors are better prepared to present their most competitive bid.

The accompanying consensus document is presented by the Association of the Wall and Ceiling Industries-International (AWCI), Ceiling & Interior Systems Construction Association (CISCA), Drywall Finishing Council (DWFC), Gypsum Association (GA), and Painting and Decorating Contractors of America (PDCA) as a guide. The members of these trade organizations are dedicated to providing the best possible job for the most reasonable cost. By incorporating the appropriate sections of this recommended specification into the project documents the architect, general contractor, and building owner can better anticipate the final appearance of the decorated wall and ceiling system.

Recommended

I. SCOPE. This recommended specification describes various levels of finish of gypsum board surfaces prior to the application of specific types of final decoration. The recommended level of finish of gypsum board wall and ceiling surfaces varies with the final decoration to be applied and can also be dependent on their location in a structure and the type of illumination striking the surface. Each recommended level of finish is described with typical applications.

II. TERMINOLOGY. The following definitions are applicable to this document.

Accessories - Metal or plastic beads, trim, or moulding used to protect or conceal corners, edges, or abutments of the gypsum board construction.

Critical Lighting - Strong sidelighting from windows or surface- mounted light fixtures. syn severe lighting. See "comments" section of this document.

Joint Photographing - The shadowing of the finished joint areas through the surface decoration. syn telegraphing.

Drywall Primer - A paint material specifically formulated to fill the pores and equalize the suction difference between gypsum board surface paper and the compound used on finished joints, angles, fastener heads, and accessories and over skim coatings. See "comments" section of this document.

Skim Coat - Either a thin coat of joint compound trowel applied, or a material manufactured especially for this purpose and applied in accordance with manufacturer's recommendations, over the entire surface.

Spotting - To cover fastener heads with joint compound.

Texture - A decorative treatment of gypsum board surfaces.

Texturing - Regular or irregular patterns typically produced by applying a mixture of joint compound and water, or proprietary texture materials including latex base texture paint, to a gypsum board surface previously coated with drywall primer. See "comments" section of this document.

III. LEVELS OF FINISH. The following levels of finish are established as a guide for specific final decoration. The minimum requirements for each level shall be as described herein.

Level 0:

No taping, finishing, or accessories required.

This level of finish may be useful in temporary construction or whenever the final decoration has not been determined.

Level 1:

All joints and interior angles shall have tape set in joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable.

Frequently specified in plenum areas above ceilings, in attics, in areas where the assembly would generally be concealed or in building service corridors, and other areas not normally open to public view. Accessories optional at specifier discretion in corridors and other areas with pedestrian traffic.

Levels of Gypsum Board Finish

Some degree of sound and smoke control is provided; in some geographic areas this level is referred to as "fire-taping." Where a fire-resistance rating is required for the gypsum board assembly, details of construction shall be in accordance with reports of fire tests of assemblies that have met the fire-rating requirement. Tape and fastener heads need not be covered with joint compound.

Level 2:

All joints and interior angles shall have tape embedded in joint compound and wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles. Fastener heads and accessories shall be covered with a coat of joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable. Joint compound applied over the body of the tape at the time of tape embedment shall be considered a separate coat of joint compound and shall satisfy the conditions of this level.

Specified where water-resistant gypsum backing board (ASTM C 630) is used as a substrate for tile; may be specified in garages, warehouse storage or other similar areas where surface appearance is not of primary concern.

Level 3:

All joints and interior angles shall have tape embedded in joint compound and one additional coat of joint compound applied over all joints and interior angles. Fastener heads and accessories shall be covered with two separate coats of joint compound. All joint compound shall be smooth and free of tool marks and ridges. Note: It is recommended that the prepared surface be coated with a drywall primer prior to the application of final finishes. See painting/wallcovering specification in this regard.

Typically specified in appearance areas which are to receive heavy- or medium-texture (spray or hand applied) finishes before final painting, or where heavy-grade wallcoverings are to be applied as the final decoration. This level of finish is not recommended where smooth painted surfaces or light to medium wallcoverings are specified.

Level 4:

All joints and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. All joint compound shall be smooth and free of tool marks and ridges. Note: It is recommended that the prepared surface be coated with a drywall primer prior to the application of final finishes. See painting/wallcovering specification in this regard.

This level should be specified where flat paints, light textures, or wallcoverings are to be applied.

In critical lighting areas, flat paints applied over light textures tend to reduce joint photographing. Gloss, semi-gloss, and enamel paints are not recommended over this level of finish.

The weight, texture, and sheen level of wallcoverings applied over this level of finish should be carefully evaluated. Joints and fasteners must be adequately concealed if the wallcovering material is lightweight, contains limited pattern, has a gloss finish, or any combination of these finishes is present. Unbacked vinyl wallcoverings are not recommended over this level of finish.

Level 5:

All joints and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. A thin skim coat of joint compound trowel applied, or a material manufactured especially for this purpose and applied in accordance with manufacturer's recommendations, shall be applied to the entire surface. The surface shall be smooth and free of tool marks and ridges. Note: It is recommended that the prepared surface be coated with a drywall primer prior to the application of finish paint. See painting specification in this regard.

This level of finish is highly recommended where gloss, semi-gloss, enamel, or flat paints are specified or where severe lighting conditions occur.

This highest quality finish is the most effective method to provide a uniform surface and minimize the possibility of joint photographing and of fasteners showing through the final decoration.

IV. COMMENTS:

Skim Coat. A skim coat of joint compound is intended to conceal small imperfections in joints and on the surface of the gypsum board, smooth the texture of the paper, minimize differences in surface porosity, and create a more uniform surface to which the final decoration can be applied.

A "skim coat" is essentially a "film" of joint compound and is not a readily measurable thickness. There is no specific mil thickness that constitutes a proper skim coat. A skim coat is described in the foregoing text as being "trowel applied" with the intent being that the consistency (viscosity) of the joint compound be such that it can be applied by a trowel if that is the tool chosen for the task. Other tools may be used for application so long as the trowel consistency is achieved.

The objective of the application is to achieve total coverage of the entire surface with the skim coat. This is typically accomplished by delivering the compound to the surface and using a drywall broad knife to force the compound into the surface pores and imperfections while shearing off excess compound from the surface.

A skim coat will not approximate a plastered surface. Once the skim coat dries, the gypsum board paper may show through and the treated joints, filled voids, and spotted fastener heads will likely be visible.

Critical (Severe) Lighting Areas. Wall and ceiling areas abutting window mullions or skylights, long hallways, or atriums with large surface areas flooded with artificial and/or natural lighting are a few examples of critical lighting areas. Strong sidelighting from windows or surface-mounted light fixtures may reveal even minor surface imperfections. Light striking the surface obliquely, at a very slight angle, greatly exaggerates surface irregularities. If critical lighting cannot be avoided, the effects can be minimized by skim coating the gypsum board surfaces, by decorating the surface with medium to heavy textures, or by the use of draperies and blinds which soften shadows. In general: gloss, semi-gloss, and enamel finishes highlight surface defects; textures hide minor imperfections.

Manufacturer Recommendations. The recommendations of individual manufacturers of gypsum board, joint tapes and compounds, accessories, drywall primers, wallcoverings, adhesives, texture materials, and paints may vary from what is recommended herein and as such are not a part of this recommended specification.

Drywall Primer. Applied as a first coat to the entire prepared gypsum board surface with brush, roller, or spray, prior to decoration. Where final appearance is critical, the application of high quality high solids, drywall primer will minimize most decorating problems.

For finish paints:

A good quality, white, latex drywall primer formulated with higher binder solids, applied undiluted, is typically specified for new gypsum board surfaces prior to the application of texture materials and gloss, semi-gloss, and flat latex wall paints.

An alkali and moisture-resistant primer and a tinted enamel undercoat may be required under enamel paints. Consult with the finish paint manufacturer for specific recommendations.

For wallcoverings:

White, self-sizing, water base, "universal" (all purpose) wallcovering primers have recently been introduced into the marketplace for use on new gypsum board surfaces. These products are claimed to minimize damage if wallcoverings are subsequently removed, bind poor latex paint, allow hanging over glossy surfaces and existing vinyls, hide wall colors, and to be water washable.

Texturing. Texture material is applied by brush, roller, spray, or trowel, or a combination of these tools, depending on the desired result. Textured wall surfaces are normally overpainted with the desired finish; overpainting of textured ceiling surfaces may not be deemed necessary where an adequate amount of material is applied to provide sufficient hiding properties. A drywall primer may not be required under certain proprietary texture materials; consult with the manufacturer of the texture materials for specific recommendations.

Tool, Marks and Ridges. A smooth surface may be achieved by lightly sanding or wiping joint compound with a dampened sponge. Care shall be exercised to ensure that the nap of the gypsum board facing paper is not raised during sanding operations. For additional information on the finishing of gypsum board surfaces consult ASTM Standard C 840.

V. RESOURCES:

Designers and specifiers are encouraged to consult the following reference documents:

ASTM C11, *Standard Terminology Relating to Gypsum and Related Building Materials and Systems*. American Society for Testing and Materials, Philadelphia, PA.

ASTM C 840, *Standard Specification for Application and Finish of Gypsum Board*. American Society for Testing and Materials, Philadelphia, PA.

GA-216, *Application and Finishing of Gypsum Panel Products*, 2004. Gypsum Association, Washington, D.C.

Master Painters Glossary, Painting and Decorating Contractors of America, St.Louis, MO.

Contact one of the following associations for additional assistance or copies of this recommended specification:

Association of the Wall and Ceiling Industries - International
Association of the Wall and Ceiling Industry
513 West Broad Street, Suite 210
Falls Church, VA 22046
Telephone: (703) 534-8300 www.awci.org

Ceilings & Interior Systems Construction Association
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St. Charles, Illinois 60174
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Drywall Finishing Council, Inc.
www.dwfc.org

Gypsum Association
810 First Street, NE, #510
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