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## TECHNICAL BULLETIN

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### Recommended Levels of Finish for Paper-Faced Gypsum Board

The intent of this document is to provide clarification and assist architects, designers, specifiers, and interior contractors in understanding the different levels of interior finish for paper-faced gypsum board prior to final decoration, where these levels of finish should be used, and what their limitations are. The levels of finish can range from “0” (no treatment) to “5” (multiple coats). Generally the higher the level (number), the better the concealment is. The architect/designer typically specifies the level(s) of finish for the project that may include different levels on the same project.

A reference standard for finishing of paper-faced gypsum board can be found in the GA-214 (Gypsum Association). For judging the final decoration of a gypsum board surface, please refer to WCC Technical Bulletin 3.002

Because there are a number of primers, sealers, paints, methods of applications, job site conditions, adhesive tapes, etc., it is recommended that a jobsite mock-up is created. The intent of the jobsite mock-up is to determine whether the project specifications, the Industry/Manufacturers’ recommendations, and workmanship are collectively appropriate for the location(s) within the structure. The design professional shall specify the size, location and the components of the jobsite mock-up. Once completed, the mock-up must be approved by the design professional, owner, contractor(s) and/or any other interested party(s) prior to commencement of the work.

As part of the gypsum panel finishing process, the abutting gypsum panel seams/joints, fasteners, and accessories must be concealed with the appropriate coats of joint compound. It is not possible to achieve a finish surface that is a flat plane. This gypsum panel finishing process occurs above the plane of the gypsum panels. Achieving proper concealment involves finishing the joints and fasteners in graduated arcs that minimize recesses and/or ridges that would otherwise remain visible.

Determining the appropriate level of finish over interior walls and ceilings is dependent on a number of factors. Primary architectural considerations include the specific type of gypsum panel product, its location within the structure, the critical lighting conditions, and the color and sheen/gloss of the decorative finish required.

Once all of the factors have been evaluated, project documents can be written in specific terms.



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## LEVELS OF GYPSUM BOARD FINISH

The following levels of finish are applicable when finishing paper faced gypsum panel products. The levels of finish are established as a guide prior to final decoration. The minimum requirements and scope of use for each independent level of finish shall be as described herein. Based upon the scope of use, the requirements for the selected level of finish shall be followed.

All gypsum panel products shall be applied and prepared in accordance with GA-216 (Application and Finishing of Gypsum Panel Products).

Where fire resistance, smoke resistance, or sound control is required for systems using gypsum panel products, the applicable building code(s) and/or instructions for the tested assembly shall be followed.

**LEVEL 0:** *Typically specified in temporary construction or whenever the final decoration has not been determined.*

- **No taping, finishing, or accessories required.**

**LEVEL 1** *Typically specified joint treatment in smoke barrier applications and areas not normally open to public view such as plenum areas above ceilings, attics, building service corridors, and other areas where the assembly would generally be concealed.*

- **All joints and interior angles shall have tape set in joint compound.**
- **Excess joint compound, tool marks and ridges are acceptable.**
- **Accessories are optional unless specified in the project documents.**

**LEVEL 2** *Typically specified where gypsum panel products are used as a substrate for tile; may be used in garages, warehouse storage or other similar areas where surface appearance is not of primary concern. Not intended to receive a final decoration of paint.*

- **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 one (1) coat of joint compound.**
- **Surface shall be free of excess joint compound.**
- **Tool marks and ridges are acceptable.**



**Note - 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.**

Flat joints.....	1 coat
Interior angles.....	1 coat
Fastener heads.....	1 coat
Accessories.....	1 coat

**LEVEL 3**

*Typically specified in appearance areas which are to receive heavy- or medium-texture (spray or hand applied) finishes before final painting, or where heavy-duty/commercial grade wallcoverings are to be applied as the final decoration. This level of finish is not recommended for use where smooth painted surfaces, light textures, non-continuous textures, or lightweight wallcoverings are applied. A jobsite mock-up is required as specified by the design professional.*

- All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles.
- One (1) additional coat of joint compound shall be applied over all joints and interior angles.
- Fastener heads and accessories shall be covered with two (2) separate coats of joint compound.
- The surface shall be smooth and free of tool marks and ridges.
- A pre-texture primer should be applied to the prepared surface prior to texture. Pre-texture primer shall be applied by the trade responsible for applying the texture. A primer shall be applied to the finished gypsum board/textured surface prior to final decoration. Primer shall be applied by the trade responsible for final decoration. The type of final decoration will determine the type of primer.

Flat joints.....	2 coats
Interior angles.....	2 coats
Fastener heads.....	2 coats
Accessories.....	2 coats

**LEVEL 4**

*Typically specified where flat paints, light textures, non-continuous textures, or wallcoverings are to be applied as the final decoration. This level of finish is not recommended for use where non-flat or dark tone paints are applied or surfaces exposed to critical light conditions. A jobsite mock-up is required as specified by the design professional.*



- All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles.
- Two (2) additional coats of joint compound shall be applied over all flat joints.
- One (1) additional coat of joint compound shall be applied over interior angles.
- Fastener heads and accessories shall be covered with three (3) separate coats of joint compound.
- The surface shall be smooth and free of tool marks and ridges.
- A pre-texture primer should be applied to the prepared surface prior to texture. Pre-texture primer shall be applied by the trade responsible for applying the texture. A primer shall be applied to the finished gypsum board/textured surface prior to final decoration. Primer shall be applied by the trade responsible for final decoration. The type of final decoration will determine the type of primer.
- In critical lighting areas, flat paints applied over light continuous texture tend to reduce joint photographing.
- 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 used is lightweight material, contains limited pattern, has a sheen level other than flat, or any combination thereof. Unbacked vinyl wallcoverings are not recommended over this level of finish.

Flat joints.....	3 coats
Interior angles.....	2 coats
Fastener heads.....	3 coats
Accessories.....	3 coats

**LEVEL 5:** *Typically specified where paint with sheen (i.e. non-flat) or any other glossy decorative finishes are applied and/or critical lighting conditions occur. This level of finish is the most effective method to provide a uniform surface and minimize the possibility of joint photographing and/or fasteners showing through the final decoration. A jobsite mock-up is required as specified by the design professional.*

- All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles.
- Two (2) additional coats of joint compound shall be applied over all flat joints.
- One (1) additional coat of joint compound shall be applied over interior angles.
- Fastener heads and accessories shall be covered with three (3) separate coats of joint compound.



- A thin skim coat of joint compound or a material manufactured especially for this purpose shall be applied to the entire surface.
- The surface shall be smooth and free of tool marks and ridges.
- A pre-texture primer should be applied to the prepared surface prior to texture. Pre-texture primer shall be applied by the trade responsible for applying the texture. A primer shall be applied to the finished gypsum board/textured surface prior to final decoration. Primer shall be applied by the trade responsible for final decoration. The type of final decoration will determine the type of primer.

Flat joints.....	3 coats
Interior angles.....	2 coats
Fastener heads.....	3 coats
Accessories.....	3 coats
Skim Coat.....	1 coat

**General Notes:**

1. **Accessories:** Metal or plastic beads, trim, moldings or control joints used to protect, conceal or allow movement in the gypsum board assembly.
2. **Angles:** Interior/internal angles (less than 180° from plane of surface) are commonly finished using paper tape. External angles (greater than 180° from plane of surface) are commonly finished with a metal or plastic trim edge.
3. **Compound:** Setting type joint compounds must “set” before additional coats are applied. Pre-mix compounds must be fully “dried” before additional coats of compound are applied.
4. **Critical Lighting:** Strong side lighting from windows or surface-mounted light fixtures.
5. **Environmental Control:** A minimum temperature of 50° F should be maintained prior, during, and after the application of the joint treatment is completed and the building is occupied (responsibility of the general contractor). When a temporary heat source is used the temperature shall be not more than 95°F (35°C) in any given room or area. When portable gas or kerosene heaters are used, the extra humidity that they produce shall be removed. Appropriate ventilation and air flow should be provided to allow effective drying of finishing materials. The potential for finishing and decorating problems is decreased when a suitable jobsite climate is maintained.
6. **Flatness:** Gypsum panels must first be applied over a substrate that is within specified flatness criteria. Because the joints and fasteners need to be concealed with the appropriate coats of joint compound, it is impossible to achieve a finished surface that is a flat plane. Instead, the joints and fasteners are finished with graduated arcs designed to prevent recesses or ridges that result in distinct shadows in critical light. Straight edges, squares and levels shall not be used to determine if a level of finish has been achieved.



7. **Fuzzed Paper** – The area of the gypsum board face paper that has been touched, scuffed, sanded or wiped with sandpaper or a trowel. Care shall always be exercised to ensure that the texture of the gypsum board face paper is not raised during sanding operations.  
Fuzzed face paper is enhanced when a “spray rig” is used to apply the paint and/or primer, forcing the face paper fibers to be raised in a fixed position. This condition can be minimized by back-rolling the surface following the “spray rig” application.
8. **Inspection Criteria:** The normal viewing position shall be at a minimum distance of five feet perpendicular from the surface and viewed at any angle. 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.
9. **Joint Photographing:** The shadowing, banding or “photographing” of the gypsum wallboard joints through the final paint decoration is most readily visible when viewed at an angle under strong side lighting. This joint photographing is primarily caused from either artificial or critical light conditions, slight texture variations between joint compound and the face paper or a porosity issue.
10. **Non-paper faced gypsum panel products:** A generic term for gypsum panel products with a facing other than paper. See specific manufacturer’s recommendations for finishing of non-paper faced products.
11. **Pre-texture Primer:** A material specifically formulated to promote adhesion of the gypsum base texture to the substrate and to minimize the porosity difference between gypsum wallboard surface paper and the joint compound.
12. **Primer:** A material specifically formulated to promote adhesion of the final decoration. Primers are formulated to achieve different performances. The type of final decoration will determine the performance level or type of the primer. Primer shall be applied by the trade responsible for the decoration that follows.
13. **Set:** The chemical and physical change in a setting type joint compound as it goes from a plastic, workable state to a rigid state.
14. **Skim Coat:** A thin coat of joint compound or a material manufactured especially for this purpose and applied in accordance with manufacturer’s recommendations shall be applied over the entire surface. A skim coat may be translucent, with joints and fastener heads visible. A skim coat will help smooth the texture of the gypsum wallboard face paper and also aid in creating a more uniform surface in texture. There is no specific mil thickness that constitutes a proper skim coat.
15. **Surface:** The transition from compound to gypsum board and/or accessories can achieve a smooth surface by lightly sanding. Smooth surface in this document is describing the transition (feel/appearance), not a flat or a machine finish/surface. Depending on the application of the material, the surface may have a slight texture finish.
16. **Texture** - A decorative treatment of joint compound or paint applied over a prepared surface.
17. **Texturing** – Regular or irregular patterns typically produced by applying joint compound or a proprietary texture material to a properly prepared surface.