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October 5, 2009

OCT - 7 2009

ICC-ES Evaluation Committee

United States Gypsum Company

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Founded in 1902

Mr. Bart W. Berneche, P.E.
ICC Evaluation Service
900 Montclair Road, Suite A
Birmingham, AL 35213

Subject: Proposed Acceptance Criteria for Enhanced Sag-Resistant Gypsum Ceiling Board, Subject AC417-1009-R1 (BB/GN)

Dear Mr. Berneche,

In regards to the staff memo dated September 29, we would like to address the fourth bullet item. In looking at Section 4.1 of the subject criteria, USG believes that the criteria remains too ambiguous, with too many parameters left for the applicant's and testing laboratory's interpretation. We acknowledge that staff has done this with the intention for allowance of alternate methods and previously completed testing.

Our concern is with regards to the ambiguity of the texturing and loading. There is no clear definition on the parameters for evaluating the texturing of a ceiling. In our letter dated September 18, we attempted to rationalized or create consistency in the testing. The values were extracted from two manufacturers of ceiling textures, installation recommendations, NGC's Perfect Spray and USG's QT Medium (attached), both with similar mix and application coverage ratios

We agree with all other items modified by Staff.

Sincerely,

José Manuel Estrada
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cc. N. Sanchez Q Yu, E Fenner C Baker
T Kenny T Sheppard D Song

PROFORM® BRAND PERFECT SPRAY®

MANUFACTURER

National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211
(704) 365-7300

Technical Information:
1-800-NATIONAL
(1-800-628-4662)

Fax: 1-800-FAX NGC1
(1-800-329-6421)

Internet Home Page:
www.nationalgypsum.com
09250/NGC Buyline: 1100

DESCRIPTION

ProForm® BRAND Perfect Spray® is a decorative texture with a shredded polystyrene aggregate, designed for spray application.

BASIC USES

Perfect Spray's white, bold texture effectively hides minor surface defects and irregularities. Perfect Spray readily mixes with water to deliver the consistency and application control desired.

AGGREGATE SIZES

Coarse
Medium
Fine

PACKAGING

32 lb. bag (15 kg)
40 lb. bag (18 kg)
50 lb. bag (23 kg)

COMPOSITION & MATERIALS

Contains no asbestos.

Component	CAS No.
Limestone	1317-65-3
Quartz	14808-60-7

May contain one or more of the following:

Talc (nonasbestos)	14807-96-6
Titanium Dioxide	13463-67-7
Clay	12174-11-7
	8031-18-3
	63800-37-3
	1332-58-7
	1335-30-4

Mica	12001-26-2
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Diatomaceous Earth (Uncalcined)	61790-53-2
Starch	53124-00-8
	113894-92-1
	9005-27-0

Perlite	93763-70-3
Vermiculite	1318-00-9
Polystyrene	9003-53-6

Caution: *CONTAINS MICA AND TITANIUM DIOXIDE. Do not take internally. KEEP OUT OF REACH OF CHILDREN*

INSTALLATION

APPLICABLE STANDARDS AND REFERENCES

ASTM C 840
Gypsum Association GA-216
Gypsum Association GA-214
National Gypsum Co. Gypsum Construction Guide

RECOMMENDATIONS

Installation of ProForm Perfect Spray should be consistent

TECHNICAL DATA

Aggregate: shredded polystyrene

SURFACE BURNING CHARACTERISTICS

ASTM E 84
Flame Spread 15
Smoke Developed 0

COVERAGE

Bag Size	40 lbs. (18 kg)	32 lbs (14 kg) (West Coast only)
Mixing Water	3-4 gal. (11-15 L)	4-5 gal. (15-19 L)
Bag Coverage	300-400 sq ft.	250-300 sq ft.
	(27-36 M ²)	(22-27 M ²)

Note: Coverage of Perfect Spray will vary with the type of equipment used and the type of finish desired. Good hide and appearance can be accomplished if it is applied at a rate not to exceed 8 to 10 square feet (0.7 to 0.9 M²) per pound (0.42 kg). At coverage rates less than 8 sq. ft. per pound, two coats are recommended. Allow the first coat to dry thoroughly before applying the second.

with methods described in the noted standards and references and as indicated below.

In cold weather (outside temperatures below 50°F [10°C]), temperatures within the building should be maintained at a minimum 50°F (10°C), both day and night, before and during spray operations and until sprayed surfaces have fully dried.

Adequate ventilation should be provided to eliminate excess moisture.

Gypsum wallboard: Surfaces, including joint-treated areas,

must be smooth, clean and dry. When texturing is the finished surface, first apply a coat of good-quality, white sealing latex primer. Mask appropriate areas before spraying, and promptly remove overspray from unprotected surfaces afterward. Follow the instructions of the spray equipment manufacturer for adjusting controls and cleaning. If a second coat is desired, allow the first coat to dry completely.

Concrete: Allow concrete to cure for at least 28 days. Clip protruding wire ends and spot with rust-inhibitive primer. Remove all form oil, grease and dirt, or any loose or water-soluble material. Grind down any form ridges and level any remaining unevenness with ProForm Sta-Smooth Joint Compound. Apply a coat of alkali-resistant, sealing latex primer over the entire surface to be textured.

SPRAY EQUIPMENT

Low pressure: Hopper-type hand guns should have nozzle openings of 1/4" to 3/8" and operating pressures of 20 to 30 psi.

(Continued next page)

Job Name _____

Contractor _____ Date _____

Additional Remarks: (Stamp or Signature)

High pressure: Pole guns should have nozzle openings of 1/4" to 3/8", feed pressure of 40 to 60 psi, and air pressure of 80 to 120 psi at the tank (As a general rule, air pressure in the tank should be twice that of the material pressure)

Caution: Avoid creating dust. When mixing, ventilate area, wear eye protection and a NIOSH- or MSHA-approved respirator for dust. Keep out of reach of children.

Note: Complete, easy-to-follow application instructions are printed on all bags of ProForm Textures. Close adherence to instructions for surface preparation and priming will avoid the problems of color variation, bleeding or sagging and will permit the texture to achieve its full potential.

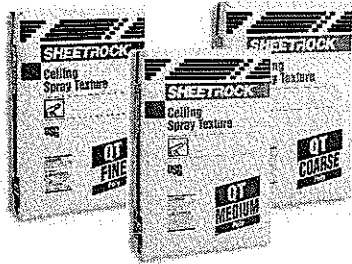
National 
Gypsum.

Excellence Across The Board 

SHEETROCK® Brand Ceiling Spray Texture



Fine, Medium and Coarse



Provides striking acoustical appearance. Ideal for new ceilings and for renewing old ceilings.

- Hides minor surface defects with an attractive texture
- Choice of three high-style finishes.
- Easy pumping, low-cost spray application.

Fine Aggregated	Medium Aggregated	Coarse Aggregated

Description SHEETROCK® Brand Ceiling Spray Texture—QT Poly contains polystyrene aggregate that is available in Fine, Medium and Coarse for decorating variety. Produces a handsome simulated acoustical ceiling finish with no acoustical correction. Can be applied over treated noncontact gypsum panel, plaster and concrete substrates. Dries to a white color that is typically left unpainted on noncontact ceiling surfaces. Not washable unpainted.

Advantages
Variety and Beauty: Three interesting texture grades allow choice of finish to match room decor and taste
Easy to Mix: Mixed with water this product is easily spray applied with standard equipment
Decorates and Conceals: Ideal for new construction; also makes old ceilings look like new

Limitations

1. Application below grade or in high humidity areas such as kitchens and baths, is not recommended
2. Water-based textures may result in gypsum board sag under severe environmental conditions or improper construction such as: high heat and humidity, improper ventilation, inappropriate board thickness and/or framing spacing. When using SHEETROCK Brand Ceiling Spray Texture, refer to the following table:

Board Thickness		Application Method	Maximum Frame Spacing o.c.	
inch	mm	(Long edge relative to frame)	inches	mm
3/8	9.5	Not Recommended	—	—
1/2	12.7	Perpendicular Only	16*	406
5/8	15.9	Perpendicular Only	24	610

Note: Double layer laminated 3/4" or greater total thickness—24" o.c.
 *If 1/2" SHEETROCK® Brand Interior Gypsum Ceiling Panels are specified, maximum frame spacing is 24" o.c.

Directions

Surface Preparation
 Substrate must be sound, dry, clean, and free of oil, grease, mildew, efflorescence and other foreign materials and/or contaminants. Product, air and surface temperatures must be maintained at a minimum of 55 °F (13 °C) throughout the finishing process when using joint compound, primer, and texture products.
New Drywall: Treat joints and nailheads with an appropriate USG Joint Treatment System.
New Concrete/Plaster: Age at least 60 days before texturing. For concrete surfaces, remove form oils and efflorescence and grind down form lines. Fill cracks and holes, level offsets and voids to the same level as adjacent surfaces with SHEETROCK® Brand Setting-Type (DURABOND®) or Lightweight Setting-Type (EASY SAND™) Joint Compound or COVER COAT® Compound and let dry. Apply as many coats as are needed to provide a crack-free fill without edge joinings that show through decoration.
Painted Surfaces: Lightly sand to dull any sheen and develop "tooth" for good bond. Wash surface with a strong detergent from the bottom up to remove any dust, dirt, or sheen. A strong solution of TSP (trisodiumphosphate) works best.
Note: Texturing over previously painted, textured, or stained substrates may require application(s) of a stain-blocking sealer to obtain uniform color (check manufacturer's instructions for stain containment instructions). Prevent rust stains by spot priming bare metal with a good rust-inhibitive primer and let dry prior to the full surface priming.

Substrate Priming
 Application of a prime coat is necessary to equalize surface porosity. After prepared surfaces have thoroughly dried, apply a prime coat of SHEETROCK® Brand First Coat flat latex paint or a good quality interior latex flat wall paint with high solids content. Prime coat should be applied undiluted and allowed to dry before decorating.

Mixing
 Using a clean mixing vessel, add recommended amount of water per instructions on bag. Sift texture into the water using a power agitator to blend texture and water. Mix initially at a heavy viscosity to disperse the powder and eliminate lumps. Allow



mixture to soak 15 minutes—longer with very cold water. Mix until smooth and lump free, then add water to obtain the desired spray viscosity. Texture product can be mixed using a heavy-duty power drill equipped with a mixing paddle or a professional style self-contained mixer. Caution: Do not overthin, as poor adhesion, lack of hide, and texture variation may result. Wet-mixed texture must be used within 48 hours to ensure proper performance and prevent spoilage

Optional: Additions to Texture

SHEETROCK Brand First Coat flat latex paint or a good quality, compatible latex flat paint may be added for additional hide, bond, and surface hardness of the finished texture surface. Add at a rate of up to 1 gal./bag of texture—substitute for 1 gal of mixing water.
SHEETROCK® Brand Latex Additive may be added to the texture for additional bond and surface hardness of the finished texture surface. Add at a rate of up to 1 quart/bag of texture—substitute for 1 quart of mixing water.

Application

Use a spray gun, pump, and air compressor of appropriate size to match the size of the area to be textured. Hopper guns may be appropriate for small jobs or a single application. Piston and/or rotostator-type pumps can be used. Mask and protect interior areas not designated for texture application to prevent texture overspray. Correct equipment settings and mix consistency will balance the coverage rate, minimize aggregate bounce-back, control spray fan width, and facilitate complete board surface coverage. Apply at a coverage rate of between 8-10 sq. ft. per lb. of powder texture. Maintaining the coverage rate within the optimal range will prevent cracking, lack of hide, and bond problems. Wipe down any overspray from walls or other surfaces as soon as possible.

Redecorating a Textured Ceiling

A paint coating may be applied over a new, dry, textured ceiling for additional surface hardness or hide, or to impart a tint or color to the texture surface. Best results are obtained when the paint is spray applied. If rolled, use a long nap paint roller with 1/2" to 3/4" nap to minimize removal of the polystyrene aggregate. Brush application of paint over a textured ceiling is not recommended.
An aged textured ceiling can be painted or resprayed with additional texture if the surface has been primed with a stain-blocking sealer to prevent leaching of any stains that may have absorbed into the texture over time (check manufacturer's instructions for stain-containment instructions).

Product Data

Color: White
Filler: Calcium carbonate
Binder: Amylum and/or polyvinyl alcohol
Aggregate: Polystyrene
% Aggregate: 3-25% by weight.
Dilution (water): Refer to texture product bag directions.
Density (dry bulk): 30-35 lbs./ft.³ (480-560 kg/m³)
Tinting: Only as described above ("Optional: Additions to Texture Mix").
Drying Time: At 72 °F, 50% relative humidity, dries to touch in 30 to 60 min. Let dry before recoating.
pH: 7.5-8.5
Coverage: 8-10 ft.²/lb. (1.6-2.0 m²/kg). Actual coverage can vary depending on factors such as substrate surface condition, product dilution, spray techniques, procedures, and coating uniformity and thickness.
Shelf Life: 9-12 months under dry conditions.
Storage: Close opened bags as tightly as possible and store in dry place.
Packaging: 32 lb. and 40 lb. bags (14.5 kg and 18.1 kg).

Test Results

This product has been tested in accordance with ASTM E84, "Standard Method of Test for Surface Burning Characteristics of Building Materials—Steiner Tunnel Test." Test results were flame spread 5, smoke developed 0.

Submittal Approvals:

Job Name		
Contractor		Date

WARNING

Spraying mist or dust created from product may cause eye, skin, nose, throat, or respiratory irritation. Avoid inhalation of mist or dust. Wear a NIOSH/MSHA-approved respirator when dusty or misty or if spray applying. Use proper ventilation to reduce mist/dust exposure. Wear eye protection. If eye contact occurs, immediately flush thoroughly with water for 15 minutes. If irritation persists, call physician. Wear long-sleeved work clothing to prevent

skin irritation. Wash thoroughly with soap and water after use. Do not ingest. If ingested, call physician. Product safety information: (800) 507-8699. **KEEP OUT OF REACH OF CHILDREN.**

Trademarks:

The following trademarks used herein are owned by United States Gypsum or a related company: COVER COAT, DURABOND EASY SAND, SHEETROCK.

Note:

Products described here may not be available in all geographic markets. Consult your U.S. Gypsum Company sales office or representative for information.

Notice:

We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

SAFETY FIRST!

Follow good safety and industrial hygiene practices during handling and installing 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.