

**ProForm<sup>®</sup>** BRAND

09 29 00/NGC

# **Drywall Finishing Products Construction Guide**



**PROFORM<sup>®</sup>**  
BRAND  
Drywall Finishing Products

**National**   
**Gypsum<sup>®</sup>**

## Table of Contents

SECTION	PAGE
GREENGUARD Indoor Air Quality Certified®	2
Ready Mix Products	3
Effects of Environmental Conditions on Drying Times	7
Setting Compounds	8
Tapes	10
Materials Estimating & Coverage Information	11
Texture Products	12
Five Levels of Finish	14
Problems and Solutions	16
Glossary	21
Submittal Sheet information	23

Improving indoor air quality to protect the health and safety of building occupants and meeting the criteria for LEED certification requires a higher standard of quality and performance. National Gypsum is focused on providing innovative solutions for sustainable design and green building practices.



Research indicates American adults spend up to 90 percent of their time indoors, and that indoor air is two to five times more polluted than outdoor air. That's why National Gypsum has achieved GREENGUARD Indoor Air Quality Certified® status and/or GREENGUARD Children & Schools Certification<sup>SM</sup> for its complete line of ProForm® BRAND ready-mixed joint compounds.

The GREENGUARD Certification Program<sup>SM</sup> is an industry independent, third-party program that has been certifying products for low non-toxic emissions since 2001. To achieve GREENGUARD Indoor Air Quality Certified status, National Gypsum's products passed rigorous sample testing and review of the manufacturing processes to meet strict standards set by the GREENGUARD Environmental Institute (GEI) – a globally recognized leader in indoor air quality – to determine their impact on indoor air pollution.

*The GREENGUARD Indoor Air Quality Certified Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute.*

# ProForm<sup>®</sup> BRAND Ready Mix Products

ProForm<sup>®</sup> BRAND is a family of ready to use, drying type joint compounds formulated specifically for the professional drywall finisher. All ProForm joint compounds deliver high performance relative to less shrinkage, sandability, workability with less "pull," greater crack resistance, wet edge and open time, and hand or tool application. All ProForm ready-mixed joint compounds have achieved GREENGUARD Indoor Air Quality Certification status.

## ProForm<sup>®</sup> All Purpose



### Description

Premixed vinyl-based compound for the professional that can be used directly from the container.

### Applications

- Taping
- Finishing joints
- Finishing cornerbead
- Spotting fasteners
- Repairing cracks in plaster walls
- Skimming/texturing

### Features/Benefits

- Excellent adhesion/bond
- Durable surface
- Less pocking and pinholing
- Easy to spread
- Ready to use

### Packaging

61.7 lb. (28 kg) pails  
50 lb. (22.7 kg) cartons  
61.7 lb. (28 kg) cartons  
12 lbs./1 gal. (5.4 kg) pails

West Coast only:  
47 lb. (21.3 kg) cartons

Southwest only:  
48 lb. (21.8 kg) cartons

Midwest only:  
61.7 lb. (28 kg) cartons

**Approx. Coverage:**  
130-140 lbs./1000 sq. ft.  
(59-63 kg/93 sq. m)

**Availability:**  
Nationwide

## ProForm<sup>®</sup> XP<sup>®</sup> with Dust-Tech<sup>™</sup>



### Description

An all purpose joint compound formulated to reduce airborne dust by 60% when sanded, while offering superior mold resistance and has been awarded the certification of GREENGUARD Children & Schools for indoor air quality

### Applications

- Taping
- Finishing joints
- Finishing cornerbead
- Spotting fasteners
- Repairing cracks in plastered walls
- Skimming/texturing

### Features/Benefits

- Excellent adhesion/bond
- Reduces airborne dust by 60%, saving time with quick, easy clean-up
- Resists the growth of mold per ASTM G 21 with a score of 0, the best possible score
- Resists the growth of mold per ASTM D 3273 with a score of 10, the best possible score
- Sands without clogging sandpaper
- Visit [dust-tech.info](http://dust-tech.info) for more information

### Packaging

61.7 lb. (28 kg) pails  
50 lb. (22.7 kg) cartons

**Approx. Coverage:**  
130-140 lbs./1000 sq. ft.  
(59-63 kg/93 sq. m)

**Availability:**  
Nationwide

### ProForm XP with Dust-Tech Ready Mix Joint Compound has achieved GREENGUARD Children & Schools Certification.

To achieve GREENGUARD Children & Schools Certification, XP Ready Mix met even more stringent emissions limits that take into account the added sensitivity of children and adults with compromised immune systems.

## ProForm<sup>®</sup> Lite with Dust-Tech<sup>™</sup>



### Description

A lightweight joint compound formulated to reduce airborne dust by 60% when sanded and is 30% lighter than conventional All Purpose.

### Applications

- Finishing joints
- Spotting fasteners
- Finishing cornerbead
- Texturing

### Features/Benefits

- Reduces shrinkage by up to 33%
- Less pocking and pinholing
- Reduces airborne dust by 60%, saving time with quick, easy clean-up
- Sands without clogging sandpaper
- Visit [dust-tech.info](http://dust-tech.info) for more information

### Packaging

4.5 gal. (17 L) pails  
3.5 gal. (13.2 L) cartons  
4.5 gal. (17 L) cartons

**Approx. Coverage:**  
8.2 gals./1000 sq. ft.  
(33 L/93 sq. m)

**Availability:**  
Nationwide

## ProForm<sup>®</sup> Lite Blue



### Description

A lightweight joint compound that is 30% lighter than conventional All Purpose.

### Applications

- Finishing joints
- Spotting fasteners
- Finishing cornerbead
- Texturing

### Features/Benefits

- Reduces shrinkage by up to 33%
- Less pocking and pinholing
- Pulls and sands easier
- Coats metal beads in only two coats
- Ready to use

### Packaging

4.5 gal. (17 L) pails  
3.5 gal. (13.2 L) cartons  
4.5 gal. (17 L) cartons

**Approx. Coverage:**  
8.2 gals./1000 sq. ft.  
(33 L/93 sq. m)

**Availability:**  
Atlantic Region  
Northeast Region  
Central Region  
Midwest Region



# ProForm® BRAND Ready Mix Products

## ProForm® Lite



### Description

A lightweight joint compound that is 30% lighter than conventional All Purpose.

### Applications

- Finishing joints
- Spotting fasteners
- Finishing cornerbead
- Texturing

### Features/Benefits

- Reduces shrinkage by up to 20%
- Less pocking and pinholing
- Pulls and sands easier
- Coats metal beads in only two coats
- Ready to use

### Packaging

4.5 gal. (17 L) pails  
3.5 gal. (13.2 L) cartons  
4.5 gal. (17 L) cartons  
West Coast only:  
3.59 gal. (13.6 L) cartons  
**Approx. Coverage:**  
8.2 gals./1000 sq. ft.  
(33 L/93 sq. m)  
**Availability:**  
Nationwide  
(excluding Atlantic Region)

## ProForm® Multi-Use



### Description

Designed for all phases of drywall finishing: taping, fasteners, finishing, texturing, trims and cornerbead.

### Applications

- Taping
- Finishing joints
- Spotting fasteners
- Texturing
- Repairing cracks
- Finishing cornerbead

### Features/Benefits

- Less pocking and pinholing
- Less shrinkage
- Excellent bond for taping
- Easy to spread
- Ready to use

### Packaging

4.5 gal. (17 L) pails  
3.5 gal. (13.2 L) cartons  
4.5 gal. (17 L) cartons  
West Coast only:  
46 lb. (20.8 kg) cartons  
58 lb. (26.3 kg) pails  
**Approx. Coverage:**  
8.2 gal./1000 sq. ft.  
(33 L/93 sq. m)  
**Availability:**  
Nationwide

## ProForm® Topping



### Description

Designed specifically as a finish coating used over joint compound.

### Applications

- Floating/finishing taped joints
- Spotting nail or screw heads
- Finish coat over cornerbead
- Texturing

### Features/Benefits

- Easy working/spreading
- Excellent sanding qualities
- Ready to use

### Packaging

61.7 lb. (28 kg) pails  
50 lb. (22.7 kg) cartons  
61.7 lb. (28 kg) cartons  
West Coast only:  
49 lb. (22.2 kg) cartons  
**Approx. Coverage:**  
65-70 lbs./1000 sq. ft.  
(33 kg/93 sq. m)  
**Availability:**  
Southwest Region  
Central Region  
Midwest Region  
Western Region

## ProForm® Taping



### Description

A joint compound specifically designed to enhance bond when embedding joint tape or when applying cornerbeads and accessories. Taping compound is also an excellent product for enhanced bond when laminating wallboard.

### Applications

- Taping
- Adhering cornerbeads
- Laminating wallboard

### Features/Benefits

- Needs no water. Can be used directly from the container, saving time
- Factory mixed for uniform consistency
- Increased bond when embedding tape, first coating cornerbead and laminating wallboard
- Excellent for use with automatic taping tools

### Packaging

61.7 lb. (28 kg) pails  
46 lb. (20.8 kg) cartons  
**Approx. Coverage:**  
65-70 lbs./1000 sq. ft.  
(33 kg/93 sq. m)  
**Availability:**  
Central Region  
Midwest Region  
Western Region

# ProForm<sup>®</sup> BRAND Ready Mix Products

## ProForm<sup>®</sup> Taping Lite



### Description

A lightweight joint compound that is 40% lighter than conventional Taping compound.

### Applications

- Taping
- Adhering cornerbeads
- Laminating wallboard

### Features/Benefits

- Lightweight. Approximately 40% lighter than standard taping compound.
- Excellent adhesion/bond.
- Great for use in taping tools.
- Ready to use right from the container.

### Packaging

3.5 gal. (13.2 L) cartons  
4.5 gal. (17 L) pails  
4.5 gal. (17L) cartons

**Approx. Coverage:**  
8.2 gals./1000 sq. ft.  
(33 L/93 sq. m)

**Availability:**  
Central Region  
Midwest Region

## ProForm<sup>®</sup> All Purpose Machine Grade



### Description

Premixed vinyl-based compound for the professional that can be used in automatic taping and finishing tools directly from the container.

### Applications

- Taping
- Finishing joints
- Spotting fasteners
- Repair cracks in plaster walls
- Skimming/texturing

### Features/Benefits

- Designed for use in taping and finishing tools
- Excellent adhesion/bond
- Durable surface
- Less pocking and pinholing
- Easy to spread
- Ready to use

### Packaging

61.7 lb. (28 kg) pails  
50 lb. (22.7 kg) cartons

**Approx. Coverage:**  
130-140 lbs./1000 sq. ft.  
(59-63 kg/93 sq. m)

**Availability:**  
Central Region  
Midwest Region  
Southeast Region

## ProForm<sup>®</sup> All Purpose Orange



### Description

Premixed vinyl-based compound for the professional that can be used in automatic taping and finishing tools directly from the container.

### Applications

- Taping
- Finishing joints
- Spotting fasteners
- Repairing cracks in plaster walls
- Skimming/texturing

### Features/Benefits

- Designed for use in taping and finishing tools
- Excellent adhesion/bond
- Durable surface
- Less pocking and pinholing
- Easy to spread
- Ready to use

### Packaging

61.7 lb. (28 kg) pails

**Approx. Coverage:**  
130-140 lbs./1000 sq. ft.  
(59-63 kg/93 sq. m)

**Availability:**  
Northeast Region  
Atlantic Region

## ProForm<sup>®</sup> Heavy Viscosity



### Description

An all purpose compound formulated for the professional that prefers a heavier viscosity than standard All Purpose. It may be used directly from the container.

### Applications

- Taping
- Finishing joints
- Spotting fasteners
- Repairing cracks in plaster walls
- Skimming/texturing

### Features/Benefits

- Excellent adhesion/bond
- Durable surface
- Less pocking and pinholing
- Easy to spread
- Ready to use

### Packaging

61.7 lb. (28 kg) pails  
50 lb. (22.7 kg) cartons

**Approx. Coverage:**  
130-140 lbs./1000 sq. ft.  
(59-63 kg/93 sq. m)

**Availability:**  
Southeast Region  
Gulf Region

# ProForm® BRAND Ready Mix Products

## ProForm® Texture Grade



### Description

An all-purpose, ready-to-use material specially formulated for texturing walls and ceilings. Bonds well with many surfaces including gypsum panels, concrete, primed plaster, interior masonry and non-staining wood surfaces.

### Applications

- Any non-aggregated texture
- Stipple texture
- Knockdown
- Orange Peel
- Skip Trowel

### Features/Benefits

- Ready-mixed, easy to apply
- Allows great pattern versatility
- Conceals minor cracks and other minor imperfections

### Packaging

61.7 lb. (28 kg) pails  
50 lb. (22.7 kg) cartons  
**Approx. Coverage:**  
61.7 lbs./500-1,250 sq. ft.  
(28 kg/45-112 sq. m)  
**Availability:**  
Southwest Region  
– carton only

## ProForm® Concrete Cover Compound



### Description

A premixed vinyl base compound specifically formulated for enhanced bond when skimming to interior above grade monolithic concrete walls, ceilings and columns. It can be sprayed, brushed, rolled, trowel-applied or applied with drywall finishing boxes and/or taping tools.

### Applications

- Smoothing or texturing monolithic concrete ceilings or columns
- Taping
- Laminating
- First-fill coat on drywall fasteners beads or trim.

### Features/Benefits

- Excellent adhesion/bond.
- Creates a variety of textures.
- Can be sprayed, brushed, rolled, trowel-applied or applied with drywall finishing boxes and/or taping tools.
- Dries white.
- Ready to use right from the container.

### Packaging

61.7 lb. (28 kg) pails  
61.7 lb. (28 kg) cartons  
48 lb. (21.8 kg) cartons  
**Approx. Coverage:**  
@ 1/16" thickness  
48 lbs./64-100 sq. ft.  
(21.8 kg/5.9-9.2 sq. m)  
61.7 lbs./95-120 sq. ft.  
(28 kg/8.8-11 sq. m)  
**Availability:**  
Atlantic Region  
Gulf Region  
Central Region  
Midwest Region

## Choose The Best ProForm Products For Your Project.

When you want to:	Embed Tape	Fill or Trim Cornerbeads	Finish Joints	Spot Nails & Screws	Texture	Skim Coat	Do Repair Work
You want:	Good Tape Bond	Low Shrinkage	Low Shrinkage	Low Shrinkage, Easy Sanding	Good Bond, Low Shrinkage	Smooth Float, Easy Sanding	Quick Dry, Low Shrinkage
ProForm All Purpose	<b>BEST</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>BETTER</b>	<b>BETTER</b>	<b>BETTER</b>
ProForm XP w/Dust-Tech	<b>BEST</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>BETTER</b>	<b>BETTER</b>	<b>BEST</b>
ProForm Lite Blue	<b>GOOD</b>	<b>BEST</b>	<b>BETTER</b>	<b>BEST</b>	<b>GOOD</b>	<b>BETTER</b>	<b>GOOD</b>
ProForm Lite w/Dust-Tech	<b>GOOD</b>	<b>BEST</b>	<b>BETTER</b>	<b>BEST</b>	<b>GOOD</b>	<b>BETTER</b>	<b>BEST</b>
ProForm Lite	<b>GOOD</b>	<b>BEST</b>	<b>BETTER</b>	<b>BEST</b>	<b>GOOD</b>	<b>BETTER</b>	<b>GOOD</b>
ProForm Multi-Use	<b>BETTER</b>	<b>BETTER</b>	<b>BETTER</b>	<b>BETTER</b>	<b>GOOD</b>	<b>BETTER</b>	<b>BETTER</b>
ProForm Topping	Not Recommended	<b>BETTER</b>	<b>BEST</b>	<b>BETTER</b>	<b>BETTER</b>	<b>BEST</b>	Not Recommended
ProForm Taping	<b>BEST</b>	Not Recommended	Not Recommended	Not Recommended	<b>GOOD</b>	<b>GOOD</b>	Not Recommended
ProForm Taping Lite	<b>BEST</b>	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
ProForm Machine Grade	<b>BEST</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>
All Purpose Orange	<b>BEST</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>	<b>GOOD</b>
ProForm Texture Grade	<b>GOOD</b>	Not Recommended	Not Recommended	Not Recommended	<b>BEST</b>	<b>GOOD</b>	<b>GOOD</b>



## Environmental Conditions

Varying weather conditions can impact both the quality and appearance of taped drywall joints. Relative humidity, plus temperature, will affect the working characteristics of all joint compounds.

For bonding of adhesive, joint treatment, texturing and decorative finishes, temperatures within the building should be maintained at minimum 50°F (10°C), both day and night, during joint finishing and drying. Adequate ventilation should be provided to eliminate excess moisture.

For example, cool wet weather will slow down the drying process while hot, dry weather hastens the drying process. Exposure to winds, breezes or drafts while drying can also affect the performance of joint compounds. Typical problems from improper drying can be cracking, excessive shrinkage, ridging and beading, banding or bond failure. A further explanation of these conditions is outlined in the "Problems and Solutions" section of this guide.

Proper precautions at the job site should always be taken to minimize the adverse effects of weather on drying. These precautions will ultimately reduce the application time and expense from call backs and rework.

## Storage, Ready Mix

Storage life varies with climatic conditions, up to 6 months under good conditions. Store compound away from extreme cold or heat to avoid accelerated aging. Regularly check production dates and rotate inventory on a first-in, first-out plan.

**Ready Mix freezes**, allow material to thaw at room temperature for at least 24 hours. When thawed, turn the container upside-down for at least 15 minutes. Turn pail right side up, remove lid and immediately remix with an electric drill. Ready Mix should be lump free and ready to use within 1 minute. Discard all Ready Mix that does not remix to a lump-free consistency.

### Stacking

Ready Mix pails or cartons should not be stacked more than two pallets in height.

## Mold and Mildew Growth

### ProForm BRAND XP® Ready Mix with Dust-Tech™

ProForm BRAND XP® Ready Mix with Dust-Tech™ was designed to provide extra protection against mold and mildew compared to standard ready mix compound. When tested by an independent lab per ASTM D 3273 ("Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber"), XP Ready Mix with Dust-Tech achieved a score of 10, the best possible score for this test.

ProForm XP with Dust-Tech also resists the growth of mold per ASTM G 21 (Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi) with a score of 0, the best possible score.

When tested in a system with ProForm BRAND Paper Joint Tape, Gold Bond® BRAND XP® Gypsum Board or Gold Bond® BRAND e³XP® Interior Extreme™ Gypsum Panels, the XP® system achieves a score of "10" for ASTM D 3273 and a score of "0" for ASTM G 21. These are the best possible mold resistant scores for these tests.

If building materials get wet from any moisture source, that source must first be identified and corrected. If mold or mildew growth occurs, or if you suspect it might occur due to environmental conditions and moisture, a determination must be made to either attempt to dry and clean the affected areas or to replace the affected materials. Care must be taken in this evaluation, and if you do not have the training or experience to recognize and to make proper decisions about repair or removal, you should consult a professional.

No material can be considered "mold proof," nor is it certain that any material will resist mold or mildew indefinitely. When used in conjunction with good design, handling and construction practices, XP Ready Mix with Dust-Tech can provide increased mold resistance versus standard ready-mixed compounds. As with any building material, avoiding water exposure during handling, storage and installation and after installation is complete is the best way to avoid the formation of mold or mildew.

## Joint Compound Drying Times

Approximate Drying Times: All Purpose/Lite Ready Mix Joint Compound

Relative Humidity	Temperature						
	32°	40°	50°	60°	70°	80°	100°
0%	38/H	28/H	19/H	13/H	9/H	6/H	3/H
20%	2/D	34/H	23/H	16/H	11/H	8/H	4/H
40%	2.5/D	44/H	29/H	20/H	14/H	10/H	5/H
50%	3/D	2/D	36/H	24/H	17/H	12/H	6/H
60%	3.5/D	2.5/D	42/H	29/H	20/H	13.5/H	8/H
70%	4.5/D	3.5/D	2.25/D	38/H	26/H	19.5/H	10/H
80%	7/D	4.5/D	3.25/D	2.25/D	38/H	27/H	14/H
90%	13/D	9/D	6/D	4.5/D	3/D	49/H	26/H
98%	53/D	37/D	26/D	18/D	12/D	9/D	5/D

Note: D = Days (24 hour period) H = Hours

The chart above is a helpful guide in determining approximate drying times for joint compounds under a variety of humidity/temperature conditions. Shaded area is below the minimum application temperature requirement of 50°F and is not recommended for the application of joint compound.

**Note: To ensure best results, only National Gypsum products should be used together in construction systems. Mixing with other brands is not recommended.**

**All National Gypsum joint compounds are formulated without asbestos and therefore comply with Consumer Product Safety Standards.**

## Planning and Prevention Mold and Mildew Resistance

Planning and prevention is the most effective way to avert the growth of mold or mildew. Gypsum wallboard and finishing products should be delivered to projects as near to the time it will be used as possible. Wallboard delivered to a job site must be placed under cover immediately, properly protected and not exposed to outside elements such as rain, snow or other high moisture conditions.

# ProForm<sup>®</sup> BRAND Quick Set<sup>™</sup> Setting Compounds

ProForm<sup>®</sup> BRAND Quick Set<sup>™</sup> Setting Compounds are quick setting (hardening) type compounds that are not affected by humidity once they have set and dried. They were developed to reduce joint deformities such as ridging and beading and provide shortened joint finishing time. ProForm Quick Set Compounds are suitable for filling voids left in above-grade interior concrete. Required for finishing joints on exterior soffit board.

## ProForm<sup>®</sup> Quick Set<sup>™</sup> Compound



### Description

Quick setting/hardening compound that is not affected by humidity once it has set and dried. Available in 20, 45, 90 and 210 minute set times.

### Applications

- Use in poor drying conditions
- Heavy fills, beads and trims
- Can recoat as soon as previous coat sets
- Allows same-day joint finishing

### Features/Benefits

- Unaffected by humidity once set/dried
- Low shrinkage
- Greater scheduling flexibility
- Resists ridging and beading
- Visit [quick-set.info](http://quick-set.info) for more information

### Packaging

25 lb. (11.3 kg) bags  
**Approx. Coverage:**  
 45-55 lbs./1000 sq. ft.  
 (22-29 kg/100 sq. m)  
**Mixing:**  
 Mix 13-14 pts. (6.2-6.6 L) clean, room temperature, drinkable water per bag.  
**Availability:**  
 Nationwide

## ProForm<sup>®</sup> Quick Set<sup>™</sup> Lite Compound



### Description

A lightweight setting compound offering the advantages of a setting type compound that is 30% lighter and also sandable. Available in 5, 20, 45, 90 and 210 minute set times.

### Applications

- Use in poor drying conditions
- Heavy fills, beads and trims
- Can recoat as soon as previous coat sets
- Allows same-day joint finishing

### Features/Benefits

- 30% lighter than regular Quick Set
- Easier sanding
- Unaffected by humidity once set/dried
- Low shrinkage
- Greater scheduling flexibility
- Resists ridging and beading
- Visit [quick-set.info](http://quick-set.info) for more information

### Packaging

18 lb. (8.2 kg) bags  
**Approx. Coverage:**  
 45-55 lbs./1000 sq. ft.  
 (22-29 kg/100 sq. m)  
**Mixing:**  
 Mix 11-12 pts. (5.2-5.7 L) clean, room temperature, drinkable water per bag.  
**Availability:**  
 Nationwide

## ProForm<sup>®</sup> Fire-Shield<sup>®</sup> 90 Compound



### Description

A setting type compound designed to provide protection in fire-stopping penetrations through fire-rated partitions or assemblies in both new and retrofit construction. ProForm FS 90 seals out smoke, toxic gas and water, plus it provides a seal to stop sound and dust infiltration.

### Applications

- Seals out smoke, toxic gas and water
- Provides seal to stop sound and dust infiltration

### Features/Benefits

- Tinted reddish/pink to distinguish from other joint treatment products
- Comes in powder form so that only amount needed can be mixed (less waste)

### Packaging

25 lb. (11.3 kg) bags  
**Approx. Coverage:**  
 25 lb. bag/850 cu. in.  
**Mixing:**  
 Mix 12-13 pts. (5.7-6.2 L) clean drinkable water per bag. If less than a full bag will be needed, then plan on a ratio of 2 parts dry powder to 1 part water.  
**Availability:**  
 Nationwide



# ProForm® BRAND Quick Set™ Setting Compounds

## Mixing

Mix no more compound than can be applied in the designated set time. Place the amount of water recommended on the compound packaging in a clean 5-gallon pail. A plastic container is recommended because of its ease in cleaning between batches. Add the compound gradually to room temperature clean, drinkable water. Mix the compound until it is smooth and free of lumps. Allow to stand (soak) for one minute, then remix until consistency is smooth and uniform. If a thinner or thicker mix is desired, add water or powder sparingly. When power mixing is used, the motor speed should not exceed 600 RPM since high speed and prolonged mixing will shorten the working time of the product.

## Estimated Working Times

One of the most crucial things for selecting the proper ProForm Quick Set Joint Compound is matching its working time and setting time ranges to the project.

It should be noted that working time and setting time are not the same.

**Working Time** refers to the period during which the ProForm Quick Set is usable for application. At the end of this time, the material begins to stiffen and can no longer be spread easily. Working time should correspond to the required time for actual application.

**Setting Time** refers to the time after which the applied ProForm Quick Set Compound will become adequately hardened so that another layer can be applied. For manufactured or modular builders, the setting time should match your timetable for moving a floor along the line.

**APPROXIMATE WORKING TIME VS. SET/HARDENING TIME**

Quick Set/ Quick Set Lite	Working Time (Minutes)	Set/Hardening Time (Minutes)
5	3–7	10–20
20	15–20	20–40
45	35–45	45–70
90	70–90	90–125
210	180–210	210–280

## Limitations

- Not to be applied over moist surfaces or surfaces subject to direct moisture.
- Do not mix with any other material. Use only clean, room temperature, drinkable water.
- Mixing equipment and tools must be thoroughly cleaned between batches.
- Each fresh batch of compound must be kept free of previous batches; otherwise the working time will be shortened.
- High-speed mixing or excessive mixing will shorten the working time of the ProForm Quick Set Compounds.
- Do not add water or remix after compound begins to thicken and harden.
- Cleanup difficulties with automatic taping tools may occur when using a setting-type compound.
- Close opened bag as tight as possible for storage or setting time may be affected.
- Storage life in high humidity area is 6 months; other areas up to 12 months maximum.
- In cold weather, temperatures within the building should be maintained at a minimum 50°F (10°C), both day and night, during joint finishing. Adequate ventilation should be provided to eliminate excess moisture.

## Frequently Asked Questions

### 1) Why is the product lumpy after mixing?

- Water was added to the ProForm Quick Set, rather than the compound being added to the water.
- ProForm Quick Set was not allowed to soak (for approximately one minute) after initial mix before remixing was initiated.

### 2) Why is the product setting much faster than the advertised range?

- Dirty mixing water and/or application tools.
- Excessive mixing of the compound.
- Foreign material (accidentally or deliberately) added to the mixture.
- Mixing water too hot.

### 3) Why is the product setting much slower than the advertised range?

- Too much water was used.
- Impure water source (dissolved organics in the water generally retard the set time).
- Foreign material (accidentally or deliberately) added to the mixture.
- Water too cold.
- Product was remixed after initial stiffening began.

### 4) Why does the product display weak strength?

- Too much water was used.
- Foreign material (accidentally or deliberately) added to the mixture.

# ProForm<sup>®</sup> BRAND Joint Tapes

ProForm BRAND Joint Tape is designed for use with ready mixed or setting type compounds to conceal and reinforce joints of interior walls and ceilings.

## ProForm<sup>®</sup> Paper Joint Tape



### Description

Conceals and reinforces wallboard joints. Tape is 2-1/6" wide and is buffed on both sides to ensure the best working qualities and bond. Center crease allows easy folding for use in corners. Can be used with all ProForm Ready Mix and Quick Set Setting Compounds.

### Packaging

Available in:  
75' rolls (22.9 m)  
20 rolls per carton  
250' rolls (76.2 m)  
20 rolls per carton  
500' rolls (152.4 m)  
10 rolls per carton

### Approx. Coverage:

375 ft./1000 sq. ft.  
of wallboard  
(114 m/93 sq. m)

### Availability:

Nationwide

## ProForm<sup>®</sup> Fiberglass Joint Tape



### Description

A 1.9" wide, self-adhering fiberglass tape for use with Quick Set setting compounds. For use with setting-type compounds only.

Not recommended for use with veneer plaster.

### Packaging

Available in:  
300' rolls (91.4 m)  
12 rolls per carton

### Approx. Coverage:

375 ft./1000 sq. ft.  
of wallboard  
(114 m/93 sq. m)

### Availability:

Nationwide

## ProForm<sup>®</sup> Multi-Flex Tape



### Description

A 2" wide combination of joint tape and metal strips laminated to form an outside or inside corner for gypsum wallboard. It is particularly recommended for inside corners on cathedral ceilings, kneewalls, stairways, or any outside or inside corner less or greater than 90°. It is applied with the metal side to the face of the gypsum wallboard and is embedded into the joint compound.

### Packaging

Available in:  
100' rolls (30.5 m)  
10 rolls per carton

### Approx. Coverage:

100 linear feet per roll

### Availability:

Nationwide

# Materials Estimating & Coverage Guide

ESTIMATING TABLE						
	Ready Mix*	Quick Set	Perfect Spray	Perfect Spray EM & HF	Wall & Ceiling Spray	Joint Tape
Quantity per 1,000 sq. ft. of Gypsum Board	140 lbs.	55 lbs.	120 lbs.	50-100 lbs.	50-100 lbs.	350 ft.

ESTIMATING TABLE								
Sq. Ft. of Wall/Ceiling	Gypsum Board Size			Ready Mix*/lbs.	Joint Tape/ft.	Quick Set/lbs.	Nails/ct.	Screws/ct.
	4'x8'	4'x10'	4'x12'					
100	4	3	3	14	35	6	168	90
200	7	5	5	28	70	11	294	150
300	10	8	7	42	105	17	420	240
400	13	10	9	56	140	22	546	300
500	16	13	11	70	175	28	672	390
600	19	15	13	84	210	33	798	456
700	22	18	15	98	245	39	924	528
800	25	20	17	112	280	44	1050	600
900	29	23	19	126	315	50	1218	696
1000	32	25	21	140	350	55	1344	768
1100	35	28	23	154	385	61	1470	840
1200	38	30	25	168	420	66	1596	912
1300	41	33	28	182	455	72	1722	984
1400	44	35	30	196	490	77	1848	1056
1500	47	38	32	210	525	83	1974	1128

\*Based on ProForm BRAND All Purpose

## Joint & Corner Finishing Application

1. ProForm BRAND Quick Set compounds should be mixed in accordance with the printed instructions on the package.
2. A uniformly thin layer of joint compound should be applied over the joint approximately 4" wide. Tape should be centered over the joint and embedded into the compound leaving sufficient joint compound under the tape for proper bond. Ceiling and wall angles plus all inside corner angles should be reinforced with tape folded to conform to angles and embedded into the compound.

3. After compound is thoroughly dry or hard (approximately 24 hours for Regular compound or 2 hours for Quick Set), joint tape should be covered with a coat of joint or topping compound. The compound should be spread over the tape approximately 3" on each side and feathered out at edges. After thoroughly dry, another coat of joint or topping compound should be applied with a slight uniform crown over the joint. This coat should be smoothed and feathered approximately 3" beyond the preceding coat.

4. All inside corners should be coated with at least one coat of joint or topping compound and the edges feathered out.

5. All nail or screw head dimples should receive three coats. This may be applied along with each joint coat.

6. Flanges of wallboard cornerbead should be concealed by at least two coats of compound. The second coat should be feathered out approximately 9" on both sides of the exposed metal nose.

7. For joint and corner treatment with Quick Set Compound, fill joint and bed tape simultaneously. After Quick Set Compound has hardened, apply any ProForm Joint Compound.

8. For wet sanding, allow each application of compound to dry or harden. If dry sanding is performed, ventilate work area and/or use a NIOSH/MSHA-approved respirator. Safety glasses are also recommended. Caution should be used to avoid roughing the wallboard paper. All wallboard and treated areas should be smooth and ready for decoration.

# ProForm<sup>®</sup> BRAND Texture Products

For new construction or remodeling, ProForm<sup>®</sup> BRAND offers a complete line of interior ceiling and wall textures. Textures provide an innovative time and money-saving option to ordinary painting. Textures are available in several light-reflecting finishes which provide a wide range of texturing possibilities on surfaces such as drywall, concrete, plaster, wood and metal. (Surfaces must be primed with a good quality primer recommended for the substrate.)

## ProForm<sup>®</sup> Perfect Spray



### Description

A decorative texture product with shredded polystyrene aggregate for fast spray application to interior ceiling surfaces. Available in fine, medium and coarse textures.

### Applications

Interior ceilings that are formed of new, primed or previously painted gypsum wallboard or monolithic concrete or plaster

### Features/Benefits

- Easy mixing, low fallout
- Works with standard spray equipment
- Greater whiteness, better hide and bold accent
- Provides innovative time/money savings option to ordinary painting

### Packaging

40 lb. (18.2 kg) bags

**Approx. Coverage:**  
300-400 sq. ft.  
(27-37 sq. m)/bag

**Mixing:**  
3-4 gal. (11.3-15.1 L)  
water/bag

**Availability:**  
Nationwide

## ProForm<sup>®</sup> Wall & Ceiling Spray



### Description

A non-aggregated texture product used to create a wide range of wall and ceiling surfaces. When spraying walls, can be applied without overspray affecting ceiling. By adjusting mixture consistency and/or varying the pressure, creates an endless variety of textures – Spray Spatter, Spatter Knockdown and Orange Peel.

### Applications

- Used for both walls and ceilings
- Wall surface should be finished with a coat of paint
- Concrete should be coated with an alkali-resistant primer/sealer prior to texturing

### Features/Benefits

- Time and money-saving option to ordinary painted ceilings
- Textures available in several light-reflecting finishes
- Formulated for easy mixing and easy pumping
- Surface can be finished with a coat of paint

### Packaging

50 lb. (22.7 kg) bags

**Approx. Coverage:**  
500-1,500 sq. ft.  
(46-139 sq. m)/bag

**Mixing:**  
4-5 gal. (15-19 L)  
water/bag

**Availability:**  
Nationwide

## ProForm<sup>®</sup> Perfect Spray EM



### Description

A non-aggregated texture product used to create a wide range of wall and ceiling surfaces. When spraying walls, can be applied without overspray affecting ceiling. By adjusting mixture consistency and/or varying the pressure, creates an endless variety of textures – Spray Spatter, Spatter Knockdown and Orange Peel.

### Applications

- Used for both walls and ceilings
- Wall surface should be finished with a coat of paint
- Concrete should be coated with an alkali-resistant primer/sealer prior to texturing

### Features/Benefits

- Time and money-saving option to ordinary painted ceilings
- Textures available in several light-reflecting finishes
- Formulated for easy mixing and easy pumping
- Surface can be finished with a coat of paint

### Packaging

50 lb. (22.7 kg) bags

**Approx. Coverage:**  
500-1,500 sq. ft.  
(46-139 sq. m)/bag

**Mixing:**  
4-5 gal. (15-19 L)  
water/bag

**Availability:**  
Nationwide  
(excluding Western Region)

## ProForm<sup>®</sup> Perfect Spray HF



### Description

A non-aggregated texture product used to create a wide range of wall and ceiling surfaces. When spraying walls, can be applied without overspray affecting ceiling. By adjusting mixture consistency and/or varying the pressure, creates an endless variety of textures – Spray Spatter, Spatter Knockdown and Orange Peel.

### Applications

- Used for both walls and ceilings
- Wall surface should be finished with a coat of paint
- Concrete should be coated with an alkali-resistant primer/sealer prior to texturing

### Features/Benefits

- Time and money-saving option to ordinary painted ceilings
- Textures available in several light-reflecting finishes
- Formulated for easy mixing and easy pumping
- Surface can be finished with a coat of paint

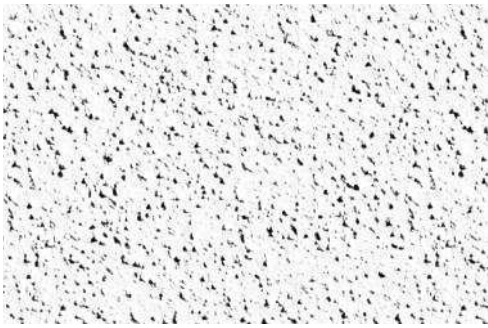
### Packaging

50 lb. (22.7 kg) bags

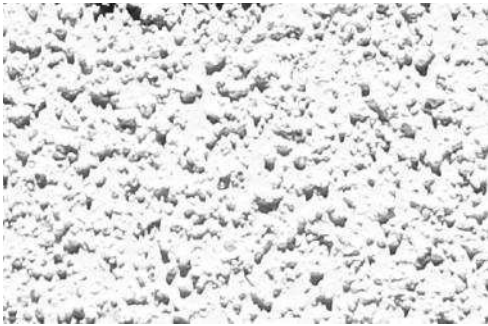
**Approx. Coverage:**  
500-1,500 sq. ft.  
(46-139 sq. m)/bag

**Mixing:**  
4-5 gal. (15-19 L)  
water/bag

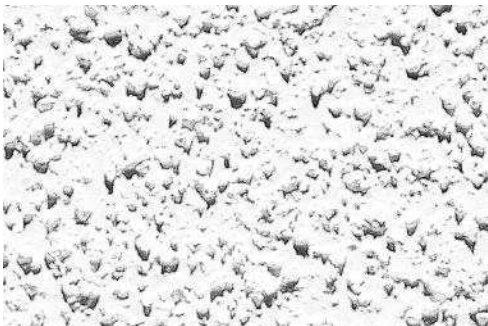
**Availability:**  
Central Region  
Midwest Region



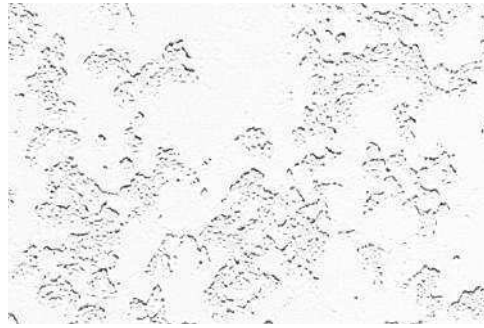
**Perfect Spray Fine**



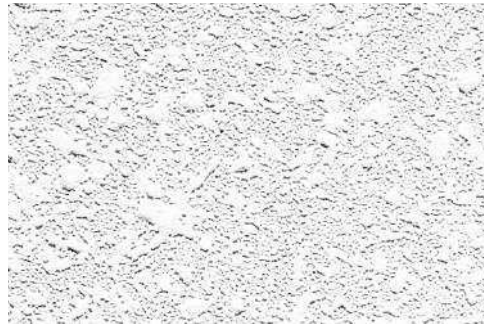
**Perfect Spray Medium**



**Perfect Spray Coarse**



**Perfect Spray EM, HF and Wall & Ceiling Spray – Spatter + Knockdown**



**Perfect Spray EM, HF and Wall & Ceiling Spray – Orange Peel**



**Perfect Spray EM, HF and Wall & Ceiling Spray – Spatter**

## Recommended Construction Practices

### APPLICATION GYPSUM WALLBOARD:

Surfaces, including joint-treated areas, must be smooth, clean and dry. First apply a coat of sealing primer. Allow primer to dry thoroughly, and maintain adequate drying conditions after application. Primer is to minimize sagging of gypsum wallboard and discoloration or difference in sheen on ceiling surface. Add dry texture to water. Use a piston pump or Mono-type pump with a texture gun. Minimum 3/4" I.D. material hose. A hopper-type gun with adequate air supply is also suitable. Typical coverage is 8-10 sq. ft. per lb. for aggregated and 10-30 sq. ft. per lb. for nonaggregated textures. 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 thoroughly.

**Note:** Gypsum wallboard ceiling surfaces to be decorated with water-thinned spray texture shall be 1/2" or 5/8" thick and applied perpendicular to the framing. Framing shall not exceed 16" o.c. for Gold Bond® BRAND 1/2" Regular Wallboard and 24" o.c. for 1/2" High Strength™ Ceiling Board and Gold Bond® BRAND 5/8" Wallboard.

### 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® Quick Set Joint Compound. Apply a coat of alkali-resistant sealing primer over the entire surface to be textured.

### SPRAY TEXTURES

ProForm BRAND	Application	Aggregate	Bag Size	Mixing Water per Bag	Typical Coverage per Bag
<b>Perfect Spray</b>	ceilings	shredded polystyrene	40 lbs.	3–4.5 gal.	300–400 sq. ft.
<b>Perfect Spray EM Wall &amp; Ceiling Spray</b>	walls & ceilings	none	50 lbs.	4–5 gal.	500–1,500 sq. ft.
<b>Perfect Spray HF</b>	walls & ceilings	none	40 lbs.	3.5–4.5 gal.	400–1,200 sq. ft.

**NOTE:** Burning Characteristics: Flame Spread–10, Smoke Developed–25

# Five Levels of Finish

## Levels of Gypsum Board Finish

The following has been excerpted from a consensus document prepared by the Association of the Wall and Ceiling Industries – International (AWCI), Ceilings & Interior Systems Construction Association (CISCA), Gypsum Association (GA), Drywall Finishing Council (DWFC) and Painting and Decorating Contractors of America (PDCA) as a guide to gypsum board finishing. The members of these international 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.

This has also been issued by the Gypsum Association as document GA-214.

### 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.

### 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 (severe lighting).

**Joint Photographing:** The shadowing of the finished joint areas through the surface decoration (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.

**Skim Coat:** A thin coat of joint compound, or a material manufactured especially for this purpose, applied over the entire surface to fill imperfections in the joint work, smooth the paper texture, and provide a uniform surface for decorating. Excess compound is immediately sheared off, leaving a film of skim coating compound completely covering the paper.

**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 primer/sealer.

### 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.

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.

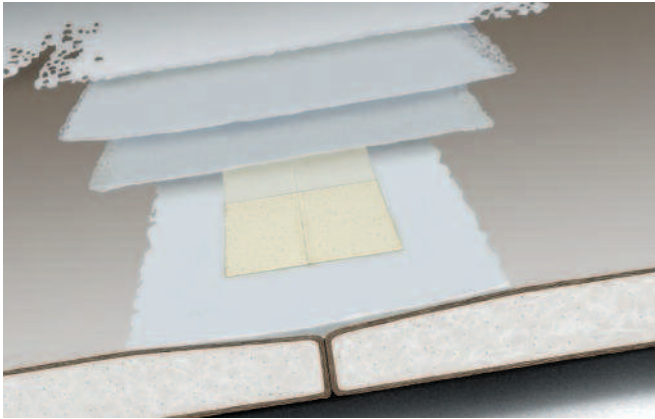
#### Level 2

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 1396) 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.

## National Gypsum Joint Treatment Products Used To Achieve The Levels Of Finish

	Setting Types		Drying Types			
	Quick Set		Ready Mix			
	Lite	Regular	All Purpose	Topping Compound	Lite	Multi-Use
<b>Level 1</b> Tape Embedded	■	■	■		■	■
<b>Level 2</b> Tape Cover	■	■	■	■	■	■
<b>Level 3</b> Tape Cover Fill Primer	■	■	■	■	■	■
<b>Level 4</b> Tape Cover Fill Finish Primer	■	■	■	■	■	■
<b>Level 5</b> Tape Cover Fill Finish Primer	■	■	■	■	■	■



### 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, 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. 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 nontextured 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.

### COMMENTS

#### 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, selfsizing, 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.

### 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.

### A Word About Drywall Primer

The guidelines for these levels of finishing were prepared by AWCI, CISCA, GA and PDCA. The specification describes a drywall primer as "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 over skim coatings."

# Problems and Solutions

Conditions	Probable Cause	Preventive Action	Corrective Action
<b>JOINT PROBLEMS</b>			
<b>Tape Photographing</b>	Slow drying of finishing coats. Too much compound under tape. Joint compound too thin.	Correct drying conditions. Embed tape properly. Use joint compound thicker. Use ProForm BRAND Joint Tape.	Sand down the tape outline and seal. Refloat if necessary before decoration. Prevent finish coat moisture from re-wetting the tape by applying a thinner coat for fast drying.
<b>Starved Joint</b>	Compound applied too thin in viscosity and thickness. Too little compound over joint. Excessive sanding.	Use finishing compound at heavier viscosity and proper thickness of coats. Do not over-sand.	Allow to thoroughly dry, then apply an additional coat of topping or joint compound.
<b>High Joint</b>	Excess joint compound under the tape. Excess joint compound over the tape and improper feathering. Poor framing. Improper wallboard application. Improper sanding. Use of compound too heavy.	Proper thickness of compounds for taping and finishing. Feather finishing coats wider than previous coats. Correct poor framing and improper wallboard application to ensure proper alignment. Sand properly.	Sand joint to near flush without sanding into tape. Apply a wider finishing coat properly feathered, if necessary. Apply a second finishing coat or skim coat.
<b>Beading/Ridging</b>	Lumber expansion and contraction. Improper heating and ventilation. Cold weather with high humidity. Improper application of wallboard. Excess compound over joints and needless wide joints. Rough or poorly cut butt joint.	Use Quick Set System to minimize beading or ridging. Alternatives include: double-layer lamination system.	Allow one full heating cycle -- six months to one year -- before repairing, then sand ridge flush and apply one or more finishing coats of joint or topping compound. Use critical lighting to determine if bead is eliminated prior to decoration.
<b>NAIL PROBLEMS</b>			
<b>Nail Pops</b>	Framing out of alignment. Lumber shrinkage. Improper wallboard application. Improper heating and ventilation.	Provide heat and ventilation to dry framing lumber. Align framing lumber. Nail center of wallboard first. Hold wallboard firm to nailing member when nailing. Use proper nails. Check all nails before nail spotting. Systems recommended to reduce or eliminate nail pops include: double-layer lamination, double nailing system, floating angle system, adhesive nail-on system and screw application.	When nail pops occur before decoration, repair immediately. If problem occurs after decoration, repair after framing lumber is dry (usually one heating cycle). To repair, drive a GWB-54 nail 1-1/2" from each side of popped nail while holding wallboard firm to the nailing member. Countersink popped nail, remove loose joint compound, then apply finishing coats of joint or topping compound.
<b>Depressed Nails</b>	Framing out of alignment. Lumber expansion due to moisture absorption. Improper wallboard application. Too few nails, improper furring, structural movement. Nails dimpled too deeply.	Align framing lumber. Allow dry lumber to become acclimated. Correct wallboard application as described for nail pops. Use proper nail spacing. When furring, use no less than 2" x 2". Use systems recommended to reduce or eliminate nail pops. Avoid fracturing paper when driving nails.	Repair as described for nail pops, unless most nails are depressed and wallboard is loose (usually ceilings). Re-nail entire surface using proper spacing. Dimple depressed nails and apply finishing coats of joint or topping compound.



Conditions	Probable Cause	Preventive Action	Corrective Action
<b>PAPER PROBLEMS</b>			
<b>Joint Blisters</b>	Too little joint compound under tape. Joint compound too dry before embedding tape. Improper bedding of the tape into the joint compound. Loss of bond (see bond failure). End ply separation. Ruptured wallboard ends or edges. Joints too wide and unfilled.	Follow joint compound mixing and application instructions. Embed tape properly into ample joint compound. Cut out any ruptured ends or edges of wallboard and fill all wide holes and joints with Quick Set prior to taping (see end ply separation).	Repair tape blisters by slitting and filling with joint compound and smooth out with finishing knife. Cut out other loose areas, fill with joint compound when necessary. Let dry, then re-tape and finish.
<b>Wallboard Blisters</b>	Usually caused by ruptured board.	Check field of board prior to decoration for imperfections. Make any necessary repairs.	Before decoration, cut out loose area, fill flush with joint compound, if deep. Tape and finish.
<b>End Ply Separation</b>	Mishandling of wallboard, especially when damp or wet.	Allow wallboard to thoroughly dry, tear back all loose face paper prior to taping.	After joints are finished, determine the distance of looseness from the mill end. Make a cut on each side of the tape across the wallboard and a cut at each end, forming a rectangle around the loose area. Peel off loose paper, tape joint. Once dry, fill flush with joint compound. After compound dries, finish with one or more coats of joint or topping compound, feathering beyond the cutout area.
<b>CRACKING PROBLEMS</b>			
<b>Edge Cracking</b>	Fast drying with low humidity. Rapid temperature and humidity changes. Improper application. Joint compound too thin or too heavy under tape. Edges of tape too thick. Excessive wet expansion and contraction of joint tape. Poor bond (see Bond Failure).	Correct drying conditions to avoid rapid surface drying. Keep temperatures and humidity as consistent as possible by controlling ventilation. Use roller to wet joints with water prior to each joint treatment operation. Use Quick Set or ProForm joint compounds and tape. Embed tape properly, avoiding excessive compound under tape (maximum of 1/32" thickness of compound under edges of tape) and wipe down tape immediately. Use job prevention for bond problems.	Correct drying conditions during repairs and painting when edge cracks appear before second finishing coat. Brush one or two coats of good quality flat latex paint about 4" wide over tape, then apply finishing coat. When cracks appear after finishing coat or painting, apply two or more coats of good quality flat latex paint over cracks that are flush with surface to bridge them before decoration. Where cracks are curled, groove out cracks and apply one coat of flat latex paint. Once dry, fill with Quick Set or ProForm joint compound.
<b>Cracking</b>	Adverse drying conditions. High temperatures and low humidity and drafts or low temperature and high humidity. Joint or topping compound applied in excessive thickness.	Fill all wide wallboard joints with Quick Set. Correct drying conditions. Apply thinner layers of joint or topping compound. Allow thorough drying between layers.	Additional coats of joint or topping compound will fill the cracks without recurrence.
<b>Inside Corner Cracking</b>	Joint too wide or not filled. Improper drying between coats. Excess thickness of compound over tape at apex of corner. Extremely fast or slow drying conditions. Applying compound to both sides of inside corner at same time.	Fill wide joints with Quick Set prior to taping. Embed tape properly, allow to dry. Apply compound to one side and allow to dry, then treat other side.	Fill wide cracks with joint or topping compound. For hairline cracks, run a pointed object (10D or 16D nail) along the apex of corner with adequate pressure to close crack.

Conditions	Probable Cause	Preventive Action	Corrective Action
<b>CRACKING PROBLEMS (cont.)</b>			
<b>Bond Failure</b>	Improper heating and drying conditions. Old stock. Excessive thinning of compounds. Too little compound under tape. Unbuffered joint tape. Oily surfaces. Mixing with dirty or excessively cold water. Compound too dry before embedding tape.	Proper drying conditions. Mix in clean container with clean tap water. Rotate stocks. Avoid over-thinning of compound and removing too much compound from under tape. Use Quick Set or ProForm compounds and tape.	Remove all loose joint tape and compounds by sanding or scraping and repair as necessary.
<b>Discoloration/Banding Dirt Collection</b>	Dirt collection may occur more rapidly over nail or screw heads, nailing members or over voids in insulation due to a greater heat loss and condensation.	Two-layer laminated system. Foil-backed gypsum board. Proper insulation. Eliminate protrusion of nails through wood furring on exterior walls and ceiling.	Wash or repaint. Decrease dust particles in the air by filtration in forced air heating and exhaust fans in kitchen.
<b>Variation in Surface Textures</b>	Failure to sand properly, causing scratching of compound and scuffing of the wallboard paper. No primer or poor quality primer. Over-thinning of primer. Spray application of primer.	Use finer grit sandpaper with care to prevent raising nap of paper. Use wet sanding method. Prime all surfaces with a quality drywall primer as directed. Brush or roll primer. Back roll after spray application.	When condition exists after painting, sand as necessary and prime before finish coat of paint.
<b>Joint Darkening or Lightening</b>	Joints not dry when painted. Painting under humid conditions. Painting with low-grade latex and paints. Suction variations of joint compounds.	Allow joints to thoroughly dry. Avoid painting under extremely high humidity conditions. Use National Gypsum Joint Treatment products. Prime entire surface with quality drywall primer prior to applying texture finish as finish decoration. Apply two coats of good quality latex paint.	Allow thorough drying. Select test area where condition is most prevalent and repaint with good quality sealing latex primer. If condition persists, apply a good quality primer/sealer, then repaint.
<b>Joint Yellowing</b>	Slow drying. Fumes from partially combusted gases. Painting over wet joints and high alkaline material.	Use permanent heat in cold weather. Avoid painting over wet joints. Avoid painting in high humidity conditions.	Apply a good quality primer/sealer, then repaint.
<b>TEXTURING PROBLEMS</b>			
<b>Lumping</b>	Too much water added to initial mix. Adding water to powder.	Add powder to water using less water than initially specified. After mix is smooth and lump-free, add remaining water to adjust mix to a workable viscosity.	Add powder until mix thickens. Continue mixing until lumps disappear.
<b>Mix Too Thin</b>	Too much water added in initial mix or inadequate soaking time in cold water.	Use recommended water requirements in initial mix. Allow mixed ingredients to soak for several minutes, when necessary, if using cold water.	Add powder until mix thickens.
<b>Aggregate Fallout (During Spraying)</b>	Spray gun too close to surface and/or excessive air pressure at nozzle.	Hold spray gun at proper distance and angle from surface to prevent aggregate fallout.	Lower air pressure. Hold spray gun at proper distance and angle from surface to prevent excessive fallout.
<b>Aggregate Floatout</b>	Too much water added during initial mix and/or inadequate mixing after initial water is added.	Use recommended water requirements and make sure water is properly blended into mix.	Add powder until mix thickens.

<b>Conditions</b>	<b>Probable Cause</b>	<b>Preventive Action</b>	<b>Corrective Action</b>
<b>TEXTURING PROBLEMS (cont.)</b>			
<b>Poor Coverage</b>	Mix too thick for proper spray viscosity and/or improper application such as spraying too slow, over-loading surface with spray material and using incorrect spray pressures.	Use recommended water volume for mixing to ensure sprayable viscosity. Use proper spray application to ensure uniform dispersion of aggregate and proper coverage.	Carefully add water to mix. Use proper spray techniques. Adjust spray pressure.
<b>Poor Hide</b>	Over-thinned mix causing a reduction in both wet and dry hide. Mix too thick causing poor atomization resulting in surface show-through. Improper application/over-extending spray. Selecting improper spray pressures. No primer used prior to texturing.	Use recommended water volume for mixing to ensure sprayable viscosity. Use proper spray application to ensure uniform dispersion of aggregate and proper coverage. Use a good quality drywall primer.	Add powder or water depending on mix consistency. Adjust spray pressure. Use proper spray technique. Apply finished paint over textured surface.
<b>Poor Bond or Hardness</b>	Over-thinned mix results in over-dilution of latex binder in spray texture. Improper surface preparation. Contamination with other materials.	Use recommended water volume for mixing. Remove all loose material, dust, grease, oil and prime surface with a quality drywall primer. Do not intermix with other products. Always use a clean mixing container and clean water.	Scrape down surface and repeat application following recommendations under "Prevention."
<b>Clogged Spray Equipment</b>	Contamination of mix with oversized particles can sometimes clog spray nozzle orifice.	Prevent contamination during mixing and spraying. Use correct nozzle size for aggregate being sprayed.	Check mix for contamination and/or oversized particles. If contaminated, screen out contaminants or discard and remix new batch.
<b>Material Pumping Problems</b>	Mixed spray material too heavy. Pump equipment old and worn. Equipment improper size for spray product.	Use recommended water volume for mixing. Make sure proper equipment is being used and that spray machine is in good repair.	Thin mix if too heavy for pumping.
<b>Unsatisfactory Spray Pattern</b>	Worn spray equipment (either fluid or spray nozzle) and/or improper air pressure. Improper spray technique and/or poor spray mix consistency.	Inspect spray nozzles to ensure good working condition. Replace any worn parts.	Improve spraying technique. Add recommended water volume to ensure proper spraying consistency.
<b>Texture Buildup</b>	Spraying or texturing over surfaces with major differences in surface porosity or suction (improperly primed). Thin texture will tend to build up over high suction surfaces.	Prime entire surface with a good quality drywall primer. Follow mixing instructions.	Remove all texture from sprayed surface and re-apply following instructions under "Prevention."
<b>Joint Show-Through</b>	Over-extended and over-thinned primer won't adequately hide the contrast between finished joints and gypsum wallboard paper.	Use recommended water volume when mixing texture and apply at recommended coverage rates. Prime surface with a good quality drywall primer prior to application of spray texture.	Allow spray to thoroughly dry, then prime with a quality drywall primer and re-spray or paint textured surface.
<b>Joint Shows Through As White Band</b>	Spraying over unprimed surfaces during cool, humid, slow drying conditions. Joint stays white, water solubles in gypsum wallboard paper bleed through.	Prime surface with a good quality drywall primer before applying texture.	Allow spray to thoroughly dry, then paint textured surface.

Conditions	Probable Cause	Preventive Action	Corrective Action
<b>SHRINKAGE PROBLEMS</b>			
<b>Shrinkage</b>	Compound used too thin or watery. Applied too soon after mixing. Improper drying between coats. Painting before joints are thoroughly dry. Too deep fills in one coat. Slow drying.	Use compound at heaviest workable consistency. Allow to stand before using. Allow thorough drying of compound between coats and prior to painting. Apply additional coats on deep fills. Provide proper drying.	Allow to thoroughly dry and re-coat. Provide proper drying.
<b>Delayed Shrinkage</b>	Improper drying conditions. Painting before compound and wallboard are thoroughly dry. Under high humidity, slow drying conditions, joints and wallboard may hold moisture for weeks.	Provide proper drying conditions. Allow complete drying before each coat of joint treatment and before repainting.	Allow to thoroughly dry and re-coat affected joints.
<b>Misinterpreted Shrinkage</b>	Improper wallboard application including: nails dimpled too deep, fractured core of wallboard, fractured face paper, corner bead applied improperly, tape photographing.	Less dimple of nails. Press wallboard snug to nailing member before dimpling nail. Use Gold Bond Gypsum Wallboard. Re-nail where necessary. Use Quick Set compound for at least the first coat on nails and corner bead. (See tape photographing.)	Nails: re-nail where necessary. Cut out any loose areas and fill with two or more coats of Quick Set or regular joint compound. Re-coat corner bead. (See tape photographing.)
<b>MISCELLANEOUS PROBLEMS</b>			
<b>Pock Marking</b>	Entrapment of air in the mixed compound and in application. Over-mixing of compound. Compound mixed too thin. Heavy fills. Improper application technique. Compound applied too loosely.	Mix compound as quickly as possible and let stand until binder is in solution before remixing. Mechanical mixers should have 500 RPM maximum. Use heavier mix. Make additional passes over joints and bead with hand or mechanical tools. File trowel edges square regularly to avoid entrapment in application. Apply compound thinly and use more pressure on finish coat.	Remove sanding dust that may collect in "pocks" prior to painting and refloat joint as necessary. When condition exists after painting, float with compound and repaint.

# Glossary of Terms

- Atomization** .....The use of compressed air to break up (atomize) a spray texture at spray gun orifice/tip.
- Beading/Ridging** .....A condition where flat joints become visible under critical lighting showing a narrow bead or ridge in the center of the joint. No loss of bond. Syn: ridging, picture framing.
- Bed Coat** .....First compound coat after taping. Syn: first finish coat.
- Breakdown** .....1) How well material mixes into a lump-free homogenous solution. 2) Loss of viscosity a few hours after mixing.
- Butt Joint** .....Joints formed by the mill cut ends or by job cuts without a tapered edge. Syn: end joint.
- Corner Cracking** .....Hairline fracture or wider crack occurring in the apex of inside corners. Syn: shrinkage cracking, angle cracks.
- Coverage** .....Area usually measured in square footage a given material will cover, i.e. 10 gals./1,000 sq. ft. of wallboard. Syn: mileage, distance.
- Delayed Shrinkage** .....Shrinkage of preceding coats of particularly wet joint or topping compound after joints are completed or painted.
- Depressed Nails** .....Depressions in the joint or topping compound directly over the head of a nail. Syn: dimpled nail heads, recessed nail heads. Sometimes incorrectly referred to as shrinkage.
- Dirt Collection** .....A condition where dirt collects on the decorative coating directly over a nail head. Syn: nail spots.
- Dry Hide** .....The ability of a coating or texture to completely hide substrate when dry.
- 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.
- Edge Cracking** .....Straight hairline cracks at one or both edges of the joint tape. Shows through finishing coats and/or painting. Syn: hairlines.
- End Ply Separation** .....Loss of bond between gypsum and wallboard face paper resulting in butt joints showing as high joints or starved joints. Joint will have a hollow sound. Syn: end joint separation. Sometimes incorrectly referred to as ridging or high joint.
- Feathering** .....Blending of finishing coats along the edges to minimize ridges and sanding. Syn: cutting, wiping.
- First Finishing Coat** .....Application of the first coat of joint or topping compound over tape, bead and nails. Syn: second coat, filling, bedding, floating, bed-coat, pre-bedding, first-bed.
- Flat Spots** .....Areas on textured surfaces that have little or no aggregate. Syn: holidays.
- Fogging In** .....Spraying a ceiling with a fog coat or light overspray of spray texture.
- Halo Effect** .....Overspray from wall texture or wall paint on ceiling texture which leaves a different color around the perimeter of the room.
- Hide** .....The ability of paints and textures to conceal minor imperfections, allowing a surface to appear uniform in color and texture.
- High Joint** .....Butt or tapered edge joint protruding above the plane of the board. Syn: crowned joint, crowning fat joint.
- Horizontal Application** .....Application of gypsum wallboard with the length perpendicular to the nailing members. Syn: around the room, across the joists or studs.
- Joint Blister** .....Looseness of paper appearing after the first finishing coat. Syn: bubbles.
- Joint Darkening** .....Joint and nail spots that appear darker than the surrounding areas. Syn: burning, flashing, photographing, shadowing.
- Joint Lightening** .....Joints and nail spots that appear lighter than the surrounding areas. Syn: burning, photographing, lightening, picture framing.
- Joint Shadowing** .....Joints that appear darker when viewed from an oblique angle yet show no color differentiation when seen from a right angle. Usually caused by texture variation, low or high joints. Syn: Incorrectly referred to as burning, flashing, photographing and joint darkening.
- Joint Yellowing** .....Joint and nail spots that appear yellowish. Severity of discoloration may vary depending on paint color. Syn: flashing, bleeding, yellowing.
- Let Down** .....Drop in viscosity of the joint or topping compound after mixing. Syn: thinning, watering down, drop off, slack off, milking.
- Nail Dimpling** .....Depression in the wallboard surface resulting from setting nails with a wallboard hammer.
- Nail Pops** .....Protrusions or bumps directly over a nail head. This condition normally occurs when wallboard is not in close contact with the nailing members or lumber shrinkage. Syn: pops.

<b>Open Time</b> .....	Length of time after applying joint or topping compound in which joint can be crossed without roughing the surface of the compound. Syn: tearing, scuffing, roll up.
<b>Photographing Joint and Nail Spots</b> .....	Joints and nail spots that appear as a different color or sheen after painting. Syn: photographs, poor hide, flashing, picture framing.
<b>Pock Marking</b> .....	Small openings in the surface of the joint or topping compound. Syn: air bubbles, cratering, pocking, bubbling, balloons.
<b>Pumpability</b> .....	Ease with which a spray material pumps through spray equipment.
<b>Ridging/Beading</b> .....	A condition where flat joints become visible under critical lighting showing a narrow bead or ridge in the center of the joint. No loss of bond. Syn: ridging, picture framing.
<b>Second Finishing Coat</b> .....	Application of the second coat of joint or topping compound over tape, bead and nails. Syn: third coat, finishing, finish bed, polishing, feather coat, skimming.
<b>Sheen Variation</b> .....	Joints or nail spots that appear with more or less sheen than the wallboard. Commonly seen with semi-gloss paints, but can also show with latex or oil flat paints without prime coating. Syn: high sheen, low sheen, highlighting.
<b>Shooting Fat</b> .....	Applying spray material at a heavy consistency.
<b>Shooting Loose</b> .....	Applying spray material at a thin consistency.
<b>Shrinkage Cracking</b> .....	Cracking that occurs with joint or topping compound when applied too thick in one application. Cracks are irregular and common along metal corner bead and over wide joints. Syn: map checking, map cracking.
<b>Skim Coat</b> .....	A thin coat of joint compound, or a material manufactured especially for this purpose, applied over the entire surface to fill imperfections in the joint work, smooth the paper texture, and provide a uniform surface for decorating. Excess compound is immediately sheared off, leaving a film of skim coating compound completely covering the paper.
<b>Solution Time</b> .....	Time required after mixing joint or topping compound to obtain optimum working qualities. Syn: take up, let down.
<b>Spotting Nails</b> .....	Application of joint finishing compound to nail heads and dimples. Syn: spotting, nail coating.
<b>Starved Joint</b> .....	Depression in the joint over tapered joints. Also seen as depressions on each side of the tape on a butt joint. Syn: low point, delayed shrinkage, concave joint.
<b>Surging</b> .....	Spray equipment problem which results in material not pumping in a steady stream.
<b>Tape Photographing</b> .....	Outline of tape is visible in corners and flat joints after joints are finished. Syn: railroading, tape floating, tape ghosting. Sometimes incorrectly called shrinkage.
<b>Taping</b> .....	Application of joint compound and joint tape on gypsum wallboard joints. Syn: embedding tape, first coat, hanging, laying tape, bedding, roughing, joint finishing.
<b>Texturing</b> .....	Application of texture by roller, spray, brush or other method. Syn: stippling.
<b>Tooth</b> .....	Surface porosity and its ability to promote bond with joint or topping compound, textures and paints. Syn: porosity, suction, grab.
<b>Vertical Application</b> .....	Application of gypsum wallboard with the length parallel to the nailing members. Syn: with the studs and joists.
<b>Wet Edge</b> .....	Length of time joint or topping compound can be worked while maintaining a smooth feathered edge. Syn: fast drying, poor water retention, bodying, thickening, roll up, ragging.
<b>Wet Hide</b> .....	The ability of a coating or texture to completely hide substrate when wet.
<b>Wipe Down</b> .....	Cleanup of overspray on walls after spraying ceilings using a long-handled wide steel blade.
<b>Working Life</b> .....	Length of time joint or topping compound can be worked and re-used. Syn: water retention, plasticity.

# Submittal Sheets

## Submittal Sheets

For specific application recommendations using National Gypsum ProForm® BRAND Joint Treatment and Texture products, refer to submittal sheets listed here.

You may obtain copies of these and all product submittal sheets by calling Technical Services at 1-800-NATIONAL or by visiting our web site at: [nationalgypsum.com](http://nationalgypsum.com).

### READY MIX PRODUCTS

ProForm® All Purpose Joint Compound  
110778

ProForm® XP® with Dust-Tech  
110965

ProForm® Lite Blue  
110904

ProForm® Lite with Dust-Tech  
111103

ProForm® Lite Joint Compound  
110779

ProForm® Multi-Use Joint Compound  
110685

ProForm® Topping Joint Compound  
110777

ProForm® Taping Joint Compound  
110971

ProForm® Taping Lite Compound  
111131

ProForm® All Purpose Machine Grade  
110975

All Purpose Orange Compound  
110778

ProForm® All Purpose Texture Grade  
110972

### SETTING COMPOUNDS

Quick Set Joint Compound  
111108

Quick Set Lite Joint Compound  
111104

ProForm® Fire-Shield 90  
Joint Compound  
110684

**TAPES**

ProForm® Paper Joint Tape  
110936

ProForm® Fiberglass Mesh Tape  
111065

Joint Tape Heavy  
111064

All Purpose Heavy Viscosity  
111128

ProForm Concrete-Cover Compound  
111139

### TEXTURE PRODUCTS

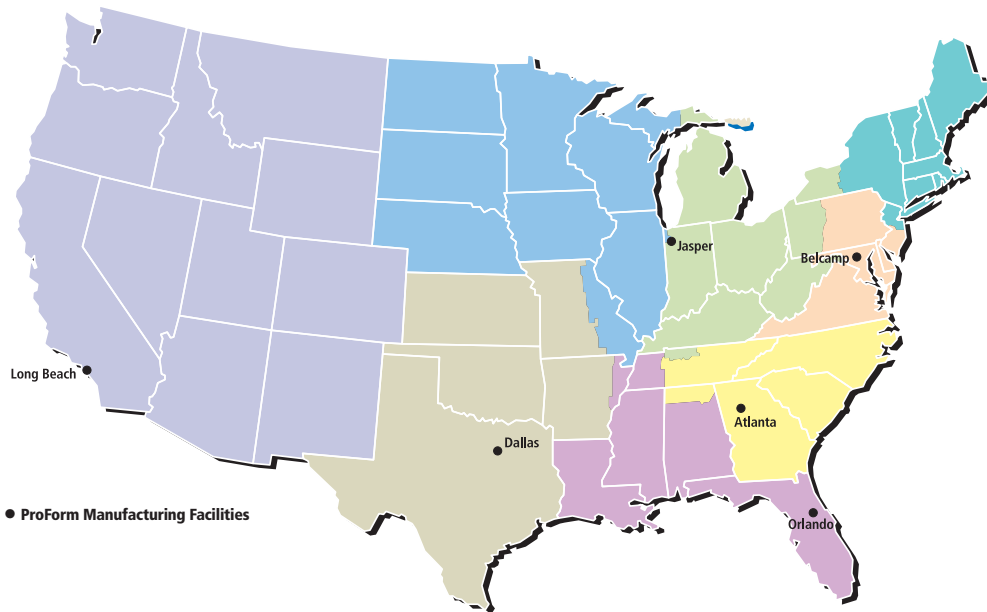
ProForm® Perfect Spray  
110629

ProForm® Perfect Spray EM  
110630

ProForm® Wall & Ceiling Spray  
111020

ProForm® Perfect Spray HF  
110841

## CUSTOMER SERVICE SALES AREAS



● ProForm Manufacturing Facilities

### Atlantic Area

Phone: (800) 237-9167  
Fax: (877) 252-0430

### Central Area

Phone: (800) 252-1065  
Fax: (866) 232-0440

### Gulf Area

Phone: (800) 343-4893  
Fax: (866) 482-8940

### Midwest Area

Phone: (800) 323-1447  
Fax: (866) 692-8590

### Northeast Area

Phone: (800) 253-3161  
Fax: (866) 632-1480

### Southeast Area

Phone: (800) 548-9394  
Fax: (866) 732-1990

### Southwest Area

Phone: (800) 548-9396  
Fax: (866) 792-7520

### Western Area

Phone: (800) 824-4227  
Fax: (800) 438-6266

### National Accounts

Phone: (800) 440-1230  
Fax: (866) 622-3590

### Manufactured Housing

Phone: (800) 455-3185  
Fax: (800) 639-1714

## LIMITED WARRANTY AND REMEDIES

Products manufactured and sold by National Gypsum are warranted by National Gypsum to its customers to be free from defects in materials and workmanship at the time of shipment. Additional or different express limited warranties, limitations and exclusions may apply to specific National Gypsum products. Current warranty information on such products for both commercial and residential applications is available at [nationalgypsum.com](http://nationalgypsum.com). THIS EXPRESS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO SUCH PRODUCTS, AND IS IN LIEU OF AND EXCLUDES ALL OTHER EXPRESS ORAL OR WRITTEN WARRANTIES AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

National Gypsum will not be liable for any incidental, indirect or consequential losses, damages or expenses. The customer's exclusive remedy for any type of claim or action for defective products will be limited to the replacement of the products (in the form originally shipped) or, at National Gypsum's option, to a payment or credit not greater than the original purchase price of the products.

National Gypsum will not be liable for products claimed to be defective where the defect resulted from causes not within National Gypsum's control, or which arose or occurred after shipment, including but not limited to accidents, misuse, mishandling, improper installation, contamination or adulteration by other materials or goods, or abnormal conditions of temperature, moisture, dirt or corrosive matter.

Any claim that products sold by National Gypsum were defective or otherwise did not conform to the contract of sale is waived unless the customer submits it in writing to National Gypsum within thirty (30) days from the date the customer discovered or should have discovered the defect or nonconformance. No legal action or proceeding complaining of goods sold by National Gypsum may be brought by the customer more than one year after the date the customer discovered or should have discovered the defect or problem of which it complains.



**THE BRAND OF THE CHAPULÍN**

EL CHAPULÍN COLORADO™ logo and characters are trademarks of Roberto Gómez Bolaños © all rights reserved 1972-2011.



### Corporate Headquarters

National Gypsum Company  
2001 Rexford Road  
Charlotte, NC 28211  
Phone: (704) 365-7300  
Web: [nationalgypsum.com](http://nationalgypsum.com)  
[nationalgypsum.com/espanol](http://nationalgypsum.com/espanol)

### Technical Information

Phone: (800) NATIONAL  
(800) 628-4662  
Fax: (800) FAX-NGC1  
(800) 329-6421

**National**   
**Gypsum**®