Porcelain Tile Professional Thin-Set Mortar

1 Product Name
Porcelain Tile Professional Thin-Set Mortar

2 Manufacturer
Custom Building Products
Technical Services
10400 Pioneer Boulevard, Unit 3
Santa Fe Springs, CA 90670
Customer Support: 800-272-8786
Technical Services: 800-282-8786
Fax: 800-200-7765
Email: contactus@cbpmail.net
custombuildingproducts.com

3 Product Description
Designed to provide superior bonding of porcelain tile to concrete surfaces, backerboards and self-leveling underlayment. Polymer-modified Porcelain Tile Fortified Thin-Set Mortar can also be used with radiant heating system installations. Use it for interior or exterior floors, walls or countertops.

Key Features
- High bond strength for porcelain tile
- Use for radiant heating system installations

Suitable Tile Types
- Vitreous, semi-vitreous or non-vitreous tile: ceramic, mosaic, quarry, cement body tile
- Impervious porcelain and glass tile
- Brick and thin brick
- Cement-based precast terrazzo
- Natural stone tile

Suitable Substrates
- Concrete, mortar beds, masonry, Portland cement plaster
- WonderBoard® Lite cement backerboard
- Liquid applied waterproofing membranes such as RedGard® and Custom® 9240
- Crack prevention sheet membranes such as Crack Buster® Pro
- Uncoupling membranes such as RedGard® Uncoupling Mat
- Surfaces treated with MBP Multi-Surface Bonding Primer
- Exterior Grade Plywood (interior residential and light commercial dry areas)
- Gypsum wallboard (interior dry areas)
- Existing ceramic tile (scarified)
- Fully-bonded sheet vinyl flooring (scarified)
- Plastic laminates (scarified)
- Cutback adhesive (see preparation instructions)

Composition of Product
Porcelain Tile Fortified Thin-Set Mortar is a dry, proprietary Portland cement based mixture that includes vinyl copolymers, inorganic aggregates and chemicals.

Benefits of Product in the Installation
- Superior bonding of porcelain to concrete, backerboard, and cement self-leveling underlayment
- Excellent for glass tile
- Excellent for radiant heating system installations
- Approved for industry-recommended interior and exterior applications
- Exceeds ANSI A118.4, A118.15 and A118.11 standards without the need for additives

Limitations to the Product
- Do not bond directly to hardwood, Luan plywood, particle board, parquet, cushion or sponge-back vinyl flooring, metal, fiberglass, plastic or OSB panels.
- Not recommended for interior and exterior pools and water features. CUSTOM recommends MegaLite® Crack Prevention Mortar, MegaFlex® Crack Prevention Mortar and ProLite® Large Tile and Stone Mortar for the installation of ceramic and porcelain tile in submerged applications. For additional information, contact Custom Technical Services.
- When setting moisture sensitive natural stone, cement or agglomerate tile use EBM-Lite™ Epoxy Bonding Mortar 100% Solids or CEG-Lite™ 100% Solids Commercial Epoxy Grout.
- Do not use to install resin-backed stone; use EBM-Lite™ Epoxy Bonding Mortar 100% Solids, CEG-Lite™ 100% Solids Commercial Epoxy Grout or contact Custom's® Technical Services for recommendations.
- For clear or translucent glass, CUSTOM recommends Glass Tile Premium Thin-Set Mortar. When setting glass tile larger than 6” x 6” (15 x 15 cm), contact Custom’s® Technical Services for recommendations.
- When setting dimensional stone larger than 12” x 12” (30 x 30 cm), contact Custom’s® Technical Services for recommendations regarding subfloor deflection requirements.

Packaging
- 50 lb (22.68 kg) bag
- Gray or white
4 Technical Data

Applicable Standards

American National Standards Institute (ANSI) — ANSI A108.5, A118.4, A118.15 and A118.11 of the American National Standards for the Installation of Ceramic Tile ASTM International (ASTM)

- ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester

Resilient Floor Covering Institute - (RFCI) Recommended Work Practices for Removal of Resilient Floor Coverings
Tile Council of North America (TCNA) - TCNA Handbook for Ceramic Tile Installation, TCNA Method EJ171
ISO 13007-2

Technical Chart

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Requirement</th>
<th>Typical Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pot Life</td>
<td></td>
<td>2 Hours</td>
<td></td>
</tr>
<tr>
<td>Open Time (E)</td>
<td>A118.15 Section 5.3</td>
<td>E = 30 Minutes</td>
<td>Pass</td>
</tr>
<tr>
<td>4 Week Shear Bond Strength</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glazed Wall Tile</td>
<td>A118.15 Section 7.1.2</td>
<td>&gt; 450 psi</td>
<td>500 - 600 psi</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(35.2 - 42.2 kg/cm²)</td>
</tr>
<tr>
<td>Porcelain Tile</td>
<td>A118.15 Section 7.2.5</td>
<td>&gt; 400 psi</td>
<td>400 - 500 psi</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(28.1 - 35.2 kg/cm²)</td>
</tr>
<tr>
<td>Quarry Tile to Plywood</td>
<td>A118.11 Section 4.1.2</td>
<td>&gt; 150 psi</td>
<td>200 - 300 psi</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(14.1 - 21.1 kg/cm²)</td>
</tr>
<tr>
<td>Sag on Walls</td>
<td>A118.15 Section 6.0</td>
<td>&lt; 0.02 mm</td>
<td>Pass</td>
</tr>
</tbody>
</table>

Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing practices. Use of this product can contribute towards LEED® v3 certification:

- Up to 2 points towards MR Credit 5, Regional Materials
- Up to 2 points towards MR Credit 4, Recycled Content
- Up to 1 point towards IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants

5 Instructions

General Surface Prep

USE CHEMICAL-RESISTANT GLOVES, such as nitrile, when handling product.

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## Bonding to Backerboards
As an alternative to an additional layer of plywood, WonderBoard backerboard may be installed over plywood subfloors for ceramic tile installations. Refer to TCNA F144-13 tile installations, TCNA F250-13 stone installations. Call Custom technical services when installing natural stone over plywood subfloor.

## Bonding to Existing Surfacing Material
Existing Ceramic Tile, Resilient Flooring or Plastic Laminates: Resilient flooring or plastic laminates must be well bonded, as well as clean and free of all contaminants. Roughen the surface by sanding or scarifying; rinse and allow to dry. Do not sand flooring that contains asbestos. For existing well bonded ceramic tile, mechanically abrade the surface. Rinse and allow to dry. When sanding, an approved respirator should be used.

## Bonding to Cutback Adhesive
Adhesive layers must be removed, as they reduce mortar bond strength to cement surfaces. Use extreme caution; adhesives may contain asbestos fibers. Do not sand or grind adhesive residue, as harmful dust may result. Never use adhesive removers or solvents, as they soften the adhesive and may cause it to penetrate into the concrete. Adhesive residue must be wet scraped to the finished surface of the concrete, leaving only the transparent staining from the glue. To determine desirable results, do a test bond area before starting. Refer to the RFCI Pamphlet, “Recommended Work Practices for Removal of Resilient Floor Coverings” for further information.

## Movement Joint Placement
Movement joints are required for perimeters and other changes of plane in all installations. Expansion joints and cold joints, as described in ANSI A108.01, should never be bridged with setting material. They must be brought through the tile work and filled with an appropriate elastomeric sealant, such as Custom’s 100% Silicone, Contact Custom’s Technical Services for the proper treatment of control or saw cut joints. Refer to TCNA EJ171, F125 & F125A.

### Mixing Ratios
Mix 6 qts (5.67 L) clean water per 50 lb (22.68 kg) bag of mortar.

### Mixing Procedures
Mix by hand or use a low 150 – 200 rpm speed 1/2” (13 mm) drill to achieve a smooth, paste-like consistency. Let the mixture slake or stand 5 – 10 minutes; stir again and use. Stir occasionally, but do not add more water. When properly mixed, troweled ridges will stand 5 – 10 minutes; stir again and use. Stir occasionally, but do not add more water. When properly mixed, troweled ridges will stand without slump.

### Application of Product
Installation must conform to ANSI A108.5. Use a properly-sized notch trowel to ensure proper coverage under tiles. Using the flat side of the trowel, apply a skim coat of mortar to the surface. With the notch side of the trowel held at a 45° angle, apply additional mortar to the surface, combing in one direction. Press the tile firmly into place in a perpendicular motion across ridges, moving back and forth. The perpendicular motion flattens ridges and closes valleys, allowing maximum coverage. With some tile, back-buttering is advisable. Adjust the tile promptly and beat it in with a beating block and rubber mallet. Mortar can be applied up to 1/4” (6 mm) thick after beat in. For thicker applications, use a medium bed mortar; periodically pull up a tile and check the back to ensure proper adhesive coverage. If the material has skinned over (not sticky to the touch), recomb with the notch trowel; if too dry, remove and replace the dry material with fresh material.

## Curing of Product
Curing time is affected by ambient and surface temperatures and humidity. Use the following as a guideline. Allow 24 hours before grouting and light traffic, and 7-10 days before heavy or vehicular traffic. Before exposure to heavy or vehicular traffic, assure assembly is rated “Heavy or Extra Heavy” per TCNA Service Requirements. As necessary, use plywood or other load distributing protection when moving heavy equipment across tiled assembly.

### Cleaning of equipment
Clean with water before the material dries.

### Storage
Store in a cool dry area.

### Health Precautions
This product contains Portland cement and free silica. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. If eye contact occurs, flush with water for 15 minutes and consult a physician. Do not breathe dust; wear a NIOSH approved respirator.

### Conformance to Building Codes
Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

## 6 Availability & Cost

<table>
<thead>
<tr>
<th>Location</th>
<th>Item Code</th>
<th>Size</th>
<th>Color</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>PMG50</td>
<td>50 lb (22.68 kg)</td>
<td>Gray</td>
<td>Bag</td>
</tr>
<tr>
<td>USA</td>
<td>PMW50</td>
<td>50 lb (22.68 kg)</td>
<td>White</td>
<td>Bag</td>
</tr>
<tr>
<td>Canada</td>
<td>CPMG50</td>
<td>50 lb (22.68 kg)</td>
<td>Gray</td>
<td>Bag</td>
</tr>
</tbody>
</table>

## 7 Product Warranty
Obtain the applicable LIMITED PRODUCT WARRANTY at www.custombuildingproducts.com/product-warranty or send a written request to Custom Building Products, Inc., Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of Custom Building Products, Inc. © 2017 Quikrete International, Inc.

When Porcelain Tile Fortified Thin-Set Mortar is used as a part of a qualifying full installation system of CUSTOM products, the installation can qualify for up to a 15 year system warranty. CUSTOM will repair and/or replace, at its discretion, the affected area of the system. For more information, find details and limitations to this warranty at custombuildingproducts.com.

## 8 Product Maintenance
Properly installed product requires no special maintenance.

## 9 Technical Services Information
For technical assistance, contact Custom technical services at 800-282-8786 or visit custombuildingproducts.com.
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10 Filing System
Additional product information is available from the manufacturer upon request.

Expected Wear
Properly installed tile will last for more than 60 years.

Related Products
Polyblend® Sanded Grout
**Coverage**

SQUARE FOOT COVERAGE PER 50 LB BAG (SQUARE METER PER 22.68 KG)

<table>
<thead>
<tr>
<th>Trowel Size</th>
<th>Min Coverage</th>
<th>Max Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longest side of tile less than 8” use 1/4” x 1/4” x 1/4” (6 x 6 x 6 mm) Square-Notch</td>
<td>90 sq. ft. (8.4 M²)</td>
<td>100 sq. ft. (9.3 M²)</td>
</tr>
<tr>
<td>Longest side of tile 8” to 15” use 1/4” x 3/8” x 1/4” (6 x 9.5 x 6 mm) Square-Notch</td>
<td>63 sq. ft. (5.9 M²)</td>
<td>70 sq. ft. (6.5 M²)</td>
</tr>
</tbody>
</table>

Recommended minimum coverage (80% for dry areas and 95% for wet areas and exteriors). Back buttering may be necessary.

Note that mortar coverage does not include backbuttering tiles. When backbuttering, consider the tile underside pattern and depth to estimate thickness and usage to add to your estimate.

Chart for estimating purposes. Coverage may vary based on installation practices and jobsite conditions. For more sizes, use the material calculator at CustomBuildingProducts.com or contact CUSTOM Technical Services at 800-282-8786.