1. PRODUCT NAME
TEC® PermaSet® 200 Flooring Mortar (030/031)

2. MANUFACTURER
H.B. Fuller Construction Products Inc.
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Aurora, IL 60504-6451 U.S.A.
800.552.6225 Office
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3. DESCRIPTION
TEC® PermaSet® 200 Mortar is a Portland cement-based, dry-set, ceramic tile setting mortar for interior or exterior installations.

Key Features and Benefits
• Designed for floor applications
• Interior applications when mixed with water
• Exterior applications require use with TEC® acrylic latex mortar additive
• Mixed with water, meets ANSI A118.1 and ISO 13007 C1
• Mixed with TEC® XtraFlex™ additive, exceeds ANSI A118.4 and A118.11
• Mixed with TEC® AcryBond™ AMA additive, meets ANSI A118.4 and A118.11
• Contributes to LEED® project points
• VOC 0

Packaging
50 lb. (22.68 kg) moisture-resistant bags
Gray Product #7070153113
White Product #7070183113

Coverage
Coverage will vary with condition of substrate. Required trowel size will vary with the tile size, type and substrate uniformity. Select the trowel size that will ensure 100% coverage. Figures below are presented only as guidelines.

<table>
<thead>
<tr>
<th>Trowel Size</th>
<th>Approximate Coverage per 50 lbs. (22.68 kg)</th>
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<tbody>
<tr>
<td>1/4&quot; x 1/4&quot; x 1/4&quot; (6 x 6 x 6 mm)</td>
<td>100-110 sq. ft. (9.3-10.2 m²)</td>
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<tr>
<td>square-notched trowel</td>
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<tr>
<td>1/4&quot; x 1/2&quot; x 1/8&quot; (6 x 6 x 9 mm)</td>
<td>80-85 sq. ft. (7.4-7.9 m²)</td>
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<td>square-notched trowel</td>
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Suitable Substrates
When properly prepared, acceptable substrates include:
• Cementitious backer units (CBU)
• Glass mat backerboard*
• Adhesive residue (except tacky or pressure-sensitive adhesive)*
• Plastic laminate*
• Cured concrete, cured mortar beds, brick and masonry (if exterior)*
• CDX plywood*
• APA Grade Trademarked Exposure 1 Plywood (underlayment grade or better, two layers 11⁄16" (28 mm) total minimum thickness, interior floors only)*
• Existing ceramic tile and natural stone, provided existing flooring is well-bonded to an approved substrate*
• Vinyl composition tile, asphalt tile, linoleum or non-cushioned vinyl sheetgoods* (provided existing flooring is well-bonded to an approved substrate)*
  * Requires use with TEC® acrylic latex mortar additive

Substrate Preparation
All substrates must be dry, structurally sound with maximum deflection per industry standards of 1/360 for ceramic tile installations and 1/320 for natural stone installations; and free from oil, grease, dust, paint, sealers or concrete curing compounds. All contaminants must be removed prior to installation of tile. Surface protrusions and tile glazes shall be removed by sanding, scraping or scarifying. After preparation, remove all dust by vacuuming.

Notes: Vinyl asbestos tile or any substrate containing asbestos must not be sanded, scored or scarified because of the potential health hazard of breathing dust. Any substrate containing asbestos must be handled in accordance with existing EPA regulations. Contact your local EPA office.

Expansion joints must be provided in the tile work over all construction, control and expansion joints in the backing and where backing materials change. Follow ANSI A108.01 Section 3.7 Requirements for Expansion Joints, or TCNA EJ171 Joint Guidelines for Ceramic, Glass and Stone.

Maximum variations in all substrates must not exceed 1/4" in 10 ft. (6 mm in 3 m) or 1/4" in 1 ft. (1.6 mm in 0.3 m) from the required plane. For non-level, interior surfaces use a TEC® Self Leveling Underlayment.

Storage
Store in a cool, dry area away from direct sunlight. Do not store open containers.

Shell Life
Maximum of 1 year from date of manufacture in unopened package.

Limitations
• Do not use over masonite, particle board, luan, plastic, vinyl asbestos tile or painted surfaces.
• Do not use over wood other than exterior grade plywood (for interior applications only) when mixed with TEC® acrylic latex mortar additive.
• Do not use for exterior applications unless mixed with TEC® acrylic latex mortar additive.
• Do not allow traffic on freshly installed tile for 16-24 hours.
• Do not allow heavy traffic until 72 hours after installation.
• Do not adjust tile after mortar takes its initial set or the bond will be permanently broken.
• Do not soak tile.
• Do not use worn trowels. It is important to have the ridges of the tile setting mortar the full depth of the trowel notches.
• Certain natural stone tiles may be affected by mortar shadowing or staining. Test a small area prior to use to determine suitability.

Cautions
Read complete cautionary information printed on product container prior to use. For medical emergency information, call 1-888-853-1758.

This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of the covered TEC® brand product(s) under normal environmental and working conditions. Because each project is different, H.B. Fuller Construction Products Inc. cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

4. TECHNICAL DATA
Applicable Standard

<table>
<thead>
<tr>
<th>PermaSet® 200 Flooring Mortar (030/031)</th>
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<tbody>
<tr>
<td>Description</td>
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<tr>
<td>7 Day Shear Strength</td>
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<tr>
<td>28 Day Shear Strength</td>
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</tbody>
</table>

Greatest than: >
Greater than or equal to: ≥
Less than: <
Less than or equal to: ≤
5. INSTALLATION INSTRUCTIONS

Mixing—With Water
For best results, maintain all tiling materials, substrates, room and adhesives at 50°- 70°F (10-21°C) for 24 hours before and 48 hours after installation. Thoroughly mix 50 lbs. (22.68 kg) PermaSet® 200 Mortar with 5 to 6 quarts (4.7-5.7 L) clean, cool water. Add powder to liquid for ease of mixing. Mix material to a thick creamy consistency, then allow the mortar to stand for 10 minutes. Remix and apply. Avoid breathing dust and contact with eyes and skin. Avoid using high speed mixing, not to exceed 300 rpm, to prevent entraining air.

Mixing—With Latex Additive
For improved performance in any application, use a TEC® acrylic latex mortar additive in place of water. For installations subjected to freeze/thaw conditions; bonding over most non-cementitious substrates; bonding porcelain and other difficult-to-bond tile; or any ANSI A118.4 or A118.11 latex mortar project, the use of an additive is required.

When using a mortar additive, always follow label directions for detailed mixing and substrate recommendations.

Application
Apply mortar using flat side of trowel to promote better substrate contact, then comb in one direction with the notched side of the trowel. Spread only an area that can be tiled while surface is still tacky (typically 15 minutes). Press tiles into setting bed, then push in a direction perpendicular to the notched trowel ridges to achieve optimum coverage. Apply mortar in a heavy enough layer so that complete contact (no voids) between mortar and tile is accomplished when tile is positioned. It may be necessary to "back-butter" large tiles to achieve complete coverage and firm support. Periodically remove and check a tile to assure proper coverage. Keep a minimum of ⅔ of the joint depth between tiles for grouting.

Open time and tile hand adjustability may vary with job site conditions. Stir occasionally during use to maintain the smooth, creamy consistency of the product. Do not add additional water.

Clean-up
Clean tools, hands, and excess materials from face of tile, while mortar is still fresh, with warm soapy water.

Grouting/Curing
Grouting may be accomplished when tiles are held firmly in place, typically 16 to 24 hours after installation is completed. No traffic is permitted over the tiles prior to grouting. Cold temperatures or high humidity may extend curing time. Unglazed tiles may require sealing prior to grouting so discolorations will not occur. The use of TEC® brand grouts is highly recommended.