



PermaLastic® LHT Polymer Modified Mortar

Updated October 2024

1. PRODUCT NAME

TEC® PermaLastic® LHT Polymer Modified Mortar (434/435)

2. MANUFACTURER

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3. DESCRIPTION

TEC PermaLastic LHT Polymer Modified Mortar is a one-component, Portland cement based tile mortar designed to set large format ceramic and stone tile firmly in place, without lippage or shrinkage, for interior and exterior floor applications where the embedded thickness is between 3/32"-1/2" (2.4 mm-12 mm).

PermaLastic LHT Mortar may be used for the installation of porcelain tile, ceramic tile, quarry tile, non-moisture sensitive natural stone*, cement tile, pavers and high bottom lugged tile, and uncoupling membrane applications.

* All natural stone should be tested to be sure discoloration does not occur.

Key Features and Benefits

- Ideal for large & heavy tile and stone
- For floors and walls
- Bonds to a variety of surfaces, including plywood
- Interior/exterior
- Exceeds ANSI A118.4HT and A118.11 specifications
- Approved for setting under and tiling over uncoupling membranes
- Contributes to LEED® project points
- VOC 0

Packaging

50 lb. (22.68 kg) moisture-resistant bags	
Gray	Product #15036188
White	Product #15036189

Coverage

Coverage may vary according to substrate conditions and thickness of application. Select the trowel size that will ensure 100% coverage. Figures below are presented only as guidelines.

Trowel Size	Approximate Coverage per 50 lbs. (22.68 Kkg)
3/8" slant notch trowel	45-50 sq. ft. (4.2-4.6 m ²)
In an effort to improve coverage achieved by installers, H.B. Fuller is not recommending the use of a 1/2" x 1/2" notch trowel due to the challenges in fully collapsing the ridges. In place, a 3/8" slant notch can be used. If using a 1/2" x 1/2" notch trowel, the coverage for a 3/8" slant notch is similar for material calculations.	
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) square-notch trowel	90-100 sq. ft. (8.4-9.3 m ²)

Suitable Substrates

Mixed with water, TEC PermaLastic LHT Mortar exceeds ANSI A118.4 and ANSI A118.11 specifications. Use interior and exterior. When properly prepared, suitable substrates include:

- Gypsum wallboard
- Water resistant gypsum wallboard (greenboard)
- Cured concrete, cured mortar beds, brick and masonry
- Existing ceramic tile and natural stone primed with TEC® Multipurpose Primer (provided existing flooring is well-bonded to an approved substrate)
- Adhesive residue (except tacky or pressure-sensitive adhesive)
- Glass mat backerboard
- Cementitious backer units (CBU)

- APA Grade Trademarked Exposure 1 Plywood [Underlayment grade or better, two layers, 1 1/8" (28 mm) total minimum thickness, interior floors only]
- Vinyl composition tile, asphalt tile, linoleum or non-cushioned vinyl sheet goods (provided such surfaces are single layered, well-bonded to an approved substrate and properly prepared)
- Extruded foam waterproof tile board
- Uncoupling membranes

Substrate Preparation

All substrates must be dry, structurally sound with maximum deflection per industry standards of 1/360 for ceramic tile installations and 1/720 for natural stone installations; and free from oil, grease, dust, paint, sealers or concrete curing compounds. All contaminants should 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.

Concrete floors must be fully cured (28 days) and have a fine broom finish. Sprinkle water on the substrate in various areas looking for penetration. If water droplet or beading of water is noticed then surface contaminants are present that will cause loss of adhesion and must be removed. Smooth troweled surfaces should be scarified to assure bond. Inspect surfaces that will receive the tile and the tools used to install it.

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.

Maximum variations in all substrates **must not exceed** 1/4" in 10 ft. (6 mm in 3 m) and 1/16" in 1 ft. (1.6 mm in 0.3 m) from the required plane for tile less than 15" (381 mm) on all sides. Maximum variations in all substrates **must not exceed** 1/8" in 10 ft. (3 mm in 3 m) and 1/16" in 2 ft. (1.6 mm in 0.6 m) from the required plane for tile 15" (381 mm) or greater on any one side. For non-level, interior surfaces use an approved TEC Self Leveling Underlayment.

Storage

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

Shelf Life

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

Limitations

- Only install when the temperature is between 50°F (10°C) - 90°F (32°C).
- Substrate temperature should be a minimum of 43°F (6°C) during application and air temperature maintained above 50°F (10°C) during installation and for 72 hours after installation.
- Not for installing green marble, other moisture-sensitive stone tile or resin-backed marble; use TEC® AccuColor EFX® Epoxy Grout and Mortar.
- For non-green marble tile applications, use white PermaLastic LHT Polymer Modified Mortar.
- Do not expose to freezing conditions during the first 72 hours of curing.
- 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.
- Do not allow traffic on freshly installed tile for 24 hours.
- Do not allow heavy traffic until 72 hours after installation.
- Do not use over masonite, particle board, luan or plastic.
- Do not use to level floors.
- Certain natural stone tiles may be affected by mortar shadowing or staining. Test a small area prior to use to determine suitability.
- Do not use as a patch.

Product Data

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**

Exceeds ANSI A118.4 and A118.11 specifications.

PermaLastic LHT Polymer Modified Mortar (434/435)		
Description	ANSI Requirement	Typical Results
28 Day Shear Strength Glazed Wall Tile Impervious Ceramic Tile (Porcelain)	> 300 psi (2.1 MPa) > 200 psi (1.4 MPa)	375-410 psi (2.6-2.8 MPa) 300-350 psi (2.1-2.4 MPa)
Open Time at Room Temperature	> 20 minutes	Pass
Tested in accordance with ANSI 118.11 Specifications for Latex-Modified Dry Set Mortars over Exterior Grade Plywood		
28 Day Shear Strength Quarry Tile	> 150 psi (1.0 MPa)	165-175 psi (1.1-1.2 MPa)

Greater than: > Greater than or equal to: ≥ Less than: < Less than or equal to: ≤

Physical Properties

Description	
Physical State	Dry powder
Color	Available in white and gray
Pot Life	2 to 3 hours
Initial Cure [at 72°F (22°C)]	16 to 24 hours
Final Cure	21 days
Storage	Store in cool, dry location away from moisture and direct sunlight. Do not store open containers.
Shelf Life	Maximum 1 year from date of manufacture in properly stored, unopened package.

5. INSTALLATION INSTRUCTIONS**Mixing**

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) PermaLastic LHT Polymer Modified Mortar with 5-6 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.

Application

Apply only to surfaces that are frost free and above 50°F (10°C) and below 90°F (32°C) within 24 hours of application and 72 hours thereafter. Installation must conform to the current specifications in ANSI A108.5 and the TCNA Handbook for Ceramic Tile Installations.

The proper trowel should result in a minimum of 80% coverage for interior or dry areas and 95% for exterior, wet areas or when placing natural stone. Use only for direct bond adhesive applications.

With pressure, apply a skim coat to the substrate with the flat edge of the trowel. Comb the mortar in one direction, with the recommended notched trowel. Apply mortar only on sections that can receive tile before skinning. If skinning occurs, scrape and discard skinned mortar. Press tile into place and slide perpendicular to the combed ridges to insure proper coverage. Final bond coat thickness must be between $\frac{3}{32}$ "- $\frac{1}{2}$ " (2.4 mm-12 mm) after the tile is embedded. Tile may be adjusted up to 15 minutes after placing.

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, working time, and pot life. Hot temperatures or low humidity may decrease curing time, working time, and pot life. Unglazed tiles may require sealing prior to grouting so discolorations will not occur. The use of TEC® brand grouts is highly recommended.

6. AVAILABILITY

TEC premium surface preparation, tile, stone, carpet, wood and resilient floor covering installation products are available nationwide. To locate TEC products in your area, please contact:

Phone: 800-832-9002
Website: tecspecialty.com

7. LIMITED WARRANTY

The product(s) covered by this Product Data Sheet are sold subject to a Limited Warranty and related terms. **H.B. Fuller Construction Products disclaims the implied warranties of merchantability and fitness for a particular purpose and all incidental and consequential damages arising out of the sale, purchase or use of this product.** For Limited Warranty details visit tecspecialty.com. To obtain a hard copy of the Limited Warranty call H.B. Fuller Construction Products at 800-832-9023 or mail a written request to the address in Section 2 of this Product Data Sheet.

8. MAINTENANCE

Not applicable

9. TECHNICAL SERVICES**Technical and safety literature**

To acquire technical and safety literature, please visit our website at tecspecialty.com.

10. FILING SYSTEM

Division 9



To learn more, visit TECSpecialty.com



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