

1. PRODUCT NAME

TEC® Ultimate 6 Plus Mortar
(487)

2. MANUFACTURER

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3. DESCRIPTION

TEC® Ultimate 6 Plus is a high performance, polymer modified, full contact (full coverage) mortar designed for the installation of ceramic, porcelain and natural stone tile. Unlike other mortars, Ultimate 6 Plus has a unique combination of features that allow grouting in 6 hours while providing extended open time. It is ideal for all gauged porcelain tile panels/slabs and large heavy tile (LHT) installations. Ultimate 6 plus significantly reduces the need for back buttering and has exceptional non-sag / non-slump characteristics for wall and floor applications.

Key Features and Benefits

- Ideal for all Gauged Porcelain Tile Panels/Slabs and LHT installations
- Extended open time and pot life
- Grout in as little as 6 hours
- Superior transfer - full coverage with minimum effort
- Approved for setting and tiling on uncoupling membranes
- Non-sag for wall applications and non-slump for floor applications
- Mixes to an extremely smooth, creamy consistency providing superior handling
- Exceeds ANSI A118.4TE and A118.11 specifications
- Interior/exterior use

Packaging

40 lb. (18.14 kg) moisture-resistant bags

Product #7200373511

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.

Trowel Size	Approximate Coverage per 40 lbs. (18.14 kg)
¼" x ¾/16" (6 x 4.7 mm) V-notch trowel	182-204 sq. ft. (16.9-19.0 m²)
¼" x ¼" x ¼" (6 x 6 x 6 mm) square-notch trowel	91-102 sq. ft. (8.4-9.5 m²)
¼" x ¾/8" x ¼" (6 x 9 x 6 mm) square-notch trowel	75-85 sq. ft. (7.0-7.9 m²)
¾/8" x ¾/8" x ¾/8" (9 x 9 x 9 mm) square-notch trowel	60-68 sq. ft. (5.6-6.3 m²)
½" x ½" x ½" (12 x 12 x 12 mm) square-notch trowel	45-51 sq. ft. (4.2-4.7 m²)
¾/4" x ¾/16" x ¾/8" (19 x 14 x 9 mm) rounded-notch trowel	30-34 sq. ft. (2.8-3.2 m²)
Euro-notch trowel	26-33.5 sq. ft. (2.4-3.1 m²)*
¼" (6 mm) slant-notch trowel	25-30 sq. ft. (2.3-2.8 m²)*

*Based on application to both the substrate and tile back

Suitable Substrates

When properly prepared, suitable substrates include:

- Cured concrete, cured mortar beds, brick and masonry (interior and exterior installations)
- APA Grade Trademarked Exposure 1 Plywood [Underlayment grade or better, two layers, 1 1/8" (28 mm) total minimum thickness for joists 16" (40 cm) o.c., interior floors only]

- Gypsum wallboard (dry interior wall areas only)
- Water resistant gypsum wallboard (i.e.: greenboard, interior walls only, dry to intermittent water exposure only)
- Cementitious backer units (CBU) or glass mat backerboard
- 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 such surfaces are single layered, well-bonded to an approved substrate and properly prepared
- Adhesive residue (except tacky or pressure-sensitive adhesive). Mechanically remove the adhesive to expose at least 80% of the concrete surface. Random specks of adhesive and the appearance of a brown surface stain are acceptable
- Uncoupling membranes

Some uncoupling membrane manufacturers list gypsum underlayment and oriented strand board (OSB) as suitable substrates for their uncoupling membranes. H.B. Fuller Construction Products Inc. ("HBF-CP") does not recommend direct application of Ultimate 6 Plus to either of these materials. TEC® Multipurpose Primer must be applied directly to gypsum underlayments or OSB prior to application of Ultimate 6 Plus for bonding of the uncoupling membrane. Please see the Multipurpose Primer product data sheet for dilution ratios and application instructions.

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 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.

For Gauged Porcelain Tile Panels/Slabs installation, reference the TEC® Thin Porcelain Panel Installation Guide on tecspecialty.com.

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** ¼" 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 large non-level, interior surfaces use TEC® Level Set® 300 Self-Leveling Underlayment. For exterior surfaces or smaller areas of rough uneven substrates, use a scratch coat of TEC® Ultimate 6 Plus up to 1/4" (6 mm) thick. Allow to cure to walkable hardness before applying mortar bond coat.

Storage

Store in cool, dry location. Do not store open containers.

Shelf Life

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

Limitations

- Not for installing green marble or other moisture-sensitive stone tile; use TEC® AccuColor EFX® Epoxy Grout and Mortar.
- For resin-backed marble see the TEC® Technical Bulletin "Installation Of Resin Backed Stone Tiles" at tecspecialty.com.
- Not for use over rubber, strip wood floors, oriented strand board, particle board, lauan plywood.
- For CDX plywood, use TEC® Super Flex™ mortar or TEC® XtraFlex™ acrylic mortar additive with TEC® Full Set Plus® thin set mortar.
- Do not apply over single layer wood floors.
- Temperature of area to be tiled must remain above 50°F (10°C) for 72 hours.
- 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**

Exceeds ANSI A118.4TE and A118.11 specifications

TEC® Ultimate 6 Plus (487)		
Description	ANSI Requirement	Typical Results
28 Day Shear Strength Porcelain Quarry Tile	> 200 psi (1.4 MPa) > 150 psi (1.0 MPa)	480 psi (3.31 MPa) 400 psi (2.75 MPa)
7 Day Shear Strength Glazed Wall Tile	> 300 psi (2.1 MPa)	545 psi (3.75 MPa)
Sag on Vertical Surfaces	≤ 1/16" (1.6 mm)	0-1/32" (0-0.8 mm)
Open Time at Room Temperature	20 Minutes	50-60 minutes
Adjustability at Room Temperature		30 minutes
Final Set		5-7 hours
<i>Tested in accordance with ANSI A118.11 Specifications for Latex-Modified Dry Set Mortars over Exterior Grade Plywood</i>		
28 Day Shear Strength Quarry Tile to Plywood	150 psi (1.0 MPa)	205 psi (1.41 MPa)

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

Physical Properties

Description	
Physical State	Dry powder
Color	White
Pot Life	2 to 3 hours
Initial Cure [at 72°F (22°C)]	6 hours
Final Cure	21 days
Foot Traffic Rating (ASTM C627)	Residential to Extra Heavy Commercial (depending on substrate)
Storage	Store in cool, dry location. 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. In a clean mixing container, add TEC® Ultimate 6 Plus to clean, cool water as specified in the chart.

Application	Water
LHT, Gauged Porcelain Tile Panels/Slabs or Wall Applications	6 to 6½ quarts (5.6 to 6.1 L)
Thin Set Floor Applications	6½ to 6¾ quarts (6.1 to 6.4 L)

Add clean, cool water to a clean mixing container. Add 2/3 bag of TEC® Ultimate 6 Plus and mix until all powder is consumed. Add final 1/3 bag and mix until powder is consumed. Be cautious not to over-water. Consistency will loosen during mixing process. Mix material for two (2) minutes to a smooth and creamy consistency. Avoid breathing dust and contact with eyes and skin. Allow the mortar to stand for 10 minutes. Remix and apply. Avoid using high speed mixing, not to exceed 300 rpm, to prevent entraining air.

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 20-30 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. Irregularities in substrate may require "back-buttering" of large tiles to achieve complete coverage and firm support. Periodically remove and check a tile to assure proper coverage. Keep a minimum of 2/3 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.**

For Gauged Porcelain Tile Panels/Slabs installation, reference the TEC® Thin Porcelain Panel Installation Guide on tecspecialty.com.

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 6 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.

6. AVAILABILITY

TEC® Premium Tile and Stone Installation Products are available nationwide.

To locate TEC® products in your area, please contact:

Phone: 800-832-9002

Website: tecspecialty.com

7. WARRANTY

For warranty details, see your sales associate or visit tecspecialty.com.

8. MAINTENANCE

Not applicable

9. TECHNICAL SERVICES**Technical assistance**

Information is available by calling the Technical Support Hotline.

Toll Free: 800-832-9023

Fax: 630-952-1235

Technical and safety literature

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

10. FILING SYSTEM

Division 9



tecspecialty.com