



Full Set Plus® Unmodified Thin Set Mortar

1. PRODUCT NAME

TEC® Full Set Plus® Unmodified Thin Set Mortar
(380/381)

2. MANUFACTURER

H.B. Fuller Construction Products Inc.
1105 South Frontenac Street
Aurora, IL 60504-6451 U.S.A.
800.552.6225 Office
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3. DESCRIPTION

Full Set Plus® mortar is a high strength, quick grab formulation, ideal for wall installations of vitreous and semi-vitreous (non-porous or semi-porous) tile. Also highly recommended for floors.

Key Features and Benefits

- Extended pot life and tile adjustability
- Superior working consistency and handling
- Mixed with water, exceeds ANSI A118.1 specifications. Mixed with TEC® XtraFlex™ additive, exceeds ANSI A118.4 and A118.11 specifications. Mixed with TEC® Acrylbond® AMA additive, meets ANSI A118.4 and A118.11 specifications.
- Contributes to LEED® project points
- VOC 0

Packaging

50 lb. (22.68 kg) moisture-resistant bags	
Gray	Product #15035019
White	Product #15035021
50 lb. (22.68 kg) plastic bags	
Gray	Product #15030013
White	Product #15030011

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 50 lbs. (22.68 kg)
¼" x ¼" x ¼" (6 x 6 x 6 mm) square-notched trowel	95-105 sq. ft. (8.8-9.8 m ²)
¼" x ¾" x ¼" (6 x 9 x 6 mm) square-notch trowel	65-75 sq. ft. (6-7 m ²)

* Thin set mortar must be mixed with a TEC® acrylic latex mortar additive for installing impervious porcelain or glass tile.

Suitable Substrates

When properly prepared, acceptable substrates include:

- Cured concrete, cured mortar beds, brick and masonry (**Interior and exterior installations subjected to freeze/thaw conditions require use with TEC® acrylic latex mortar additive only**)
- APA Grade Trademarked Exposure 1 Plywood [Underlayment grade or better, two layers, 1½" (28 mm) total minimum thickness, 16" OC (40 cm), interior floors only]. **Requires use with TEC® acrylic latex mortar additive.**
- Gypsum wallboard (dry interior wall areas only)
- Water resistant gypsum wallboard (e.g.: greenboard, interior walls only, dry to intermittent water exposure only)

- Cementitious backer units (CBU) or coated glass mat backerboard
- Existing ceramic tile and natural stone, provided existing flooring is well-bonded to an approved substrate. **Use with TEC® acrylic latex mortar additive is highly recommended.**
- 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. **Requires use with TEC® acrylic latex mortar additive.**
- Plastic laminate, provided the counter is structurally sound and level. **Requires use with TEC® acrylic latex mortar additive.**
- Adhesive residue (except tacky or pressure-sensitive adhesive). **Requires use with TEC® acrylic latex mortar additive.**

Substrate Preparation

All substrates must be dry, structurally sound with maximum deflection per industry standards of ¼/360 for ceramic tile installations and ¼/720 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.

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) or ¼/16" in 1 ft. (1.6 mm in 0.3 m) from the required plane. For non-level, interior surfaces use TEC® EZ Level® Premium Self Leveling Underlayment.

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

- Only install when the temperature is between 40-95°F (4-35°C).
- 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 thin set mortars.
- Not for use over rubber, strip wood floors, oriented strand board, particle board, lauan or CDX plywood.
- Do not apply over single layer wood floors.
- Temperature of area to be tiled must remain above 40°F (4°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.

Applicable Standard

Exceeds ANSI A118.4 specifications
ISO 13007: Classification C1

TEC® Full Set Plus® Unmodified Thin Set Mortar (380/381)					
ANSI Standard	Test	Section	Test Duration/Conditions	ANSI Specification	Typical Results
A118.1	Open Time	5.3.6	20 minute	75 psi (0.5 MPa) at 20 minutes	120
	Glazed Wall Tile Shear Strength	7.1.2	7 day	>200 psi (1.38 MPa)	275
	Porcelain Mosaic Tile Shear Strength	7.2.5	28 day	>150 psi (1.03 MPa)	200

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

4. TECHNICAL DATA**Physical Properties**

Description	
Physical State	Dry powder
Color	Available in white and gray
Pot Life	4 to 5 hours
Initial Cure [at 72°F (22°C)]	16 to 24 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—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) Full Set Plus® 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 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. 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 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.**

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 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. 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



Conforms with LEED v4 low emitting interiors.
Compliant with (CDPH) Standard Method v1.2 VOC Emissions.



To learn more, visit TECSpecialty.com



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