



Super Flex™ Ultra-Premium Thin Set Mortar

Updated November 2023

1. PRODUCT NAME

TEC® Super Flex™ Ultra-Premium Thin Set Mortar
(392/393)

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

Whether for new construction or renovation, Super Flex premium latex mortar delivers unsurpassed bonding strength with virtually any tile and substrate combination. Perfect for porcelain and most glass tile, Super Flex mortar's high polymer solids content, together with its special adhesion promoter, ZS-100*, give you unparalleled bond strength.

* ZS-100 is covered under US patent number 5,366,550.

Key Features and Benefits

- Flexible: absorbs 1/16" (1.6 mm) in-plane movement
- Patented bonding formula
- Approved for up to 20" (50 cm) o.c. manufactured, I-beam, floor truss systems
- Best for bonding porcelain tile
- One part—just add water and mix
- Exceeds ANSI A118.4E, A118.11 and A118.15E specifications
- Interior/exterior use
- Zero VOC
- Contains recycled materials*

* Gray formula contains 7% pre-consumer recycled material.
White formula contains 0% pre-consumer recycled material.

Packaging

50 lb. (22.68 kg) moisture-resistant bags	
Gray	Product #15035028
White	Product #15035030
50 lb. (22.68 kg) plastic bags	
Gray	Product #15030008
White	Product #15030005
25 lb. (11.34 kg) moisture-resistant bags	
White	Product #15035029
9.75 lb. Pure Pak* container (4.42 kg)	
White	Product #15035031

*Registered trademark of Excello Corporation

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)	25 lbs. (11.34 kg)	9.75 lbs. (4.42 kg)
3/16" x 5/32" (4.7 x 4 mm) V-notch trowel	—	—	28-30 sq. ft. (2.6-2.8 m ²)
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) square-notched trowel	90-100 sq. ft. (8.4-9.3 m ²)	45-50 sq. ft. (4.2-4.6 m ²)	17-19 sq. ft. (1.6-1.8 m ²)
1/4" x 3/8" x 1/4" (6 x 9 x 6 mm) square-notch trowel	65-75 sq. ft. (6-7 m ²)	33-38 sq. ft. (3.1-3.5 m ²)	12-14 sq. ft. (1.1-1.3 m ²)

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.
- Plastic laminate (interior countertops only) provided the counter is structurally sound and level.
- Adhesive residue (except tacky or pressure-sensitive adhesive).

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.

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

Storage

Store in a cool, dry area away from 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).
- Glass tile may not be suitable over some substrates (such as plywood, or some membranes). Verify substrate with the glass tile manufacturer.
- Use only for thin-bed installation of glass tile.
- Contact TEC Technical support before installing glass with a decorative coating on the tile backing or glass tile larger than 6" x 6" (15 x 15 cm) as these materials require more detailed precautions.
- 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 plywood.
- Do not apply over single layer wood floors.
- 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.
- Certain natural stone tiles may be affected by mortar shadowing or staining. Test a small area prior to use to determine suitability.

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 A118.4E, A118.11 and A118.15E specifications
ISO 13007: Classification C2ES1P2

Super Flex Ultra-Premium Thin Set Mortar (392/393)		
Description	ANSI Requirement	Typical Results
28 Day Shear Strength Glazed Wall Tile Impervious Ceramic Tile (Porcelain) Quarry Tile	> 450 psi (3.10 MPa) > 400 psi (2.76 MPa) > 150 psi (1.03 MPa)	> 600 psi* (4.1 MPa) 700 psi (4.8 MPa) 725 psi (5.0 MPa) * ANSI-specified glazed wall tile failed at 600 psi (4.1 MPa)
Sag on Vertical Surfaces	≤ 1/16" (1.6 mm)	0-1/32" (0-0.8 mm)
Extended Open Time	> 75 psi (0.5 MPa) at 30 Minutes	Pass
Adjustability at Room Temperature	≥ 30 minutes	50-70 minutes
Final Set	9-15 hours	11-13 hours
<i>Tested in accordance with ANSI A118.15E Specifications for Latex-Modified Dry Set Mortars</i>		
Flexibility (movement absorbed before shear) Porcelain to Concrete	No ANSI spec currently available	1/16" (1.6 mm)
<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	> 150 psi (1.0 MPa)	335 psi** (2.3 MPa) ** Plywood laminates typically failed over 325 psi (2.2 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
Foot Traffic Rating (ASTM C627)	Residential to Extra Heavy Commercial (depending on substrate)
Storage	Store in a cool, dry area away from 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 installation. Maintain recommended room temperature for 48 hours after installation. In a clean mixing container, add Super Flex™ mortar to clean, cool water as specified in the chart.

Size	Water
50 lbs. (22.68 kg)	4½ to 6 quarts (4.3-5.7 L)
25 lbs. (11.34 kg)	2½ to 3 quarts (2.3-2.8 L)
9.75 lbs. (4.42 kg)	28-37 fl. oz. (0.83-1.09 L)

Add powder to liquid for ease of mixing. Mix material to a thick 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. 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 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

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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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