

1. PRODUCT NAME

TechPro™ Commercial Tile Mortar PM

2. MANUFACTURER

TechPro™ is a registered trademark of TCC Materials
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3. PRODUCT DESCRIPTION

TechPro Commercial Tile Mortar PM is a professional grade, one-component, polymer-modified tile setting mortar for interior and exterior installation of many types of tile over a variety of substrates. It is used in a mortar bed from 3/32" to 3/16" (2.4-4.8 mm) after the tiles have been properly embedded. Provides excellent water and impact resistance.

Features and Benefits

- For commercial floors and residential walls and floors
- Polymer-modified, just add water
- Good bond strength
- Interior and exterior
- Easy use and cleanup
- Freeze/thaw stable
- Excellent water and impact resistance
- Meets ANSI A118.4, A118.11, and ISO 13007 C2P1

When/Where to Use

For installation of:

- Absorptive, semi-vitreous, and vitreous ceramic tile
- Porcelain tile
- Quarry tile
- Cement tile and pavers
- Non-moisture sensitive natural stone

Note: All natural stone should be tested to be sure color bleed-through does not occur.

For installation over:

(when properly prepared)

- Properly cured and finished concrete
- Cured Portland cement mortar beds
- Masonry cement block (CMU)
- Portland cement-based self-leveling underlayments
- Cement backer units (CBU)
- APA rated exterior grade/exposure 1 plywood or OSB underlayment grade equivalent (interior floor only, 16 in./41 cm on center maximum)
- TechPro Waterproofing & Crack Isolation Membrane
- Gypsum plaster or gypsum board (interior dry walls only)

4. TECHNICAL DATA

Typical Values • TechPro Commercial Tile Mortar PM	
Mix Ratio (Liquid to Powder)	5 - 6 qt. (4.7-5.7 L) per 50 lb. (22.7 kg)
Open time at 70°F (21°C)	12 minutes
Adjustability time at 70°F (21°C)	12 - 15 minutes
Bucket Life @ 70°F (21°C)	2 - 3 hours

Compressive Strength ASTM C-109 (28 days)	> 3,200 psi (22.06 MPa)	
	Typical Values	ANSI 118.4
Shear Strength to Glazed Tile		
7 days dry	> 510 psi (3.5 MPa)	> 300 psi (2.1 MPa)
Shear Strength to Porcelain Mosaic Tile		
28 days dry	> 300 psi (2.1 MPa)	> 200 psi (1.4 MPa)
Shear Strength to Quarry Tile		
28 days dry	> 360 psi (2.5 MPa)	> 150 psi (1.0 MPa)
Shear Strength Quarry Tile to EGP Plywood		
28 days dry	> 150 psi (1.0 MPa)	> 150 psi (1.0 MPa)

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

Available Size

- Gray 50 lb. (22.7 kg) bag (BOM #)
- White 50 lb. (22.7 kg) bag (BOM #)

Coverage

Commercial Tile Mortar PM Approximate Coverage per 50 lb. (22.7 kg) bag	
1/4" x 1/4" x 1/4" Square Notched Trowel (6 x 6 x 6 mm)	80 - 95 sq. ft. (7.4 - 8.8 m ²)
1/4" x 3/8" x 1/4" Square Notched Trowel (6 x 9.5 x 6 mm)	65 - 75 sq. ft. (6 - 6.9 m ²)
1/2" x 1/2" x 1/2" Square Notched Trowel (13 x 13 x 13 mm)	40 - 45 sq. ft. (3.7 - 4.2 m ²)

5. INSTALLATION

Preparation

Read all directions before starting work.

- All surfaces on which tiles are to be set must be dry, structurally sound, frost free and between 40°F-100°F (4°C-38°C) for 24 hours prior to application and 72 hours thereafter.
- Surfaces must be dry and free of all oil, grease, dirt, dust, curing compounds, sealers, coatings, efflorescence, old adhesive residues, gypsum based underlayments and any other foreign matter that could inhibit bonding.
- Surfaces to receive tile shall be plumb and true with square corners. Maximum variation from the required plane shall be: Subfloor Surfaces – 1/4 in. (6 mm) in 10 ft. (3 m) for tile less than 15 in. (381 mm) on any one side and the required plane shall be 1/8 in. (3 mm) in 10 ft. (3 m) for tile 15 in. (381 mm) or greater on any one side.
- Detailed installation procedures may be found in the TCNA Handbook and ANSI A108.5.

Notify the architect or other designated authority in writing of any defects or conditions that prevent a satisfactory tile installation. (See ANSI A108.5)

In case of truing or leveling the work of others, use TechPro Feather Edge Pro, Feather Patch Pro, Vinyl Concrete Patch, or Level-Flo Underlayment.

Concrete Substrates:

- Concrete floors must be fully cured (28 days) and have a fine broom finish. Smooth troweled surfaces should be scarified to assure bond. 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. Inspect surfaces that will receive the tile and the tools used to install.
- It is advisable to dampen dry porous concrete before installing ceramic tile with mortar. Do not leave puddles or standing water on surfaces.

Interior Wood Subfloors:

(Light traffic, dry area, residential floors only)

- APA rated exterior grade/exposure 1 plywood or OSB underlayment grade equivalent Subfloor - See the most current edition of the TCNA Methods Handbook F150.
- Double plywood layer floor required.
- Maximum joist spacing: 16 in. (41 cm) OC. When placed over conventional floor joist or other systems, should be of a design and thickness so as to maintain a maximum deflection of L/360 for ceramic tile, or L/720 for stone (including live, dead, impact, and concentrated loads).
- A gap of 3/16" (4.8 mm) shall be left between sheets of plywood and between the plywood edges and all materials which they abut to allow for expansion. These gaps shall remain empty when the installation is complete.
- Maximum variation in plywood surface shall not exceed ¼ in. (3 mm) in 10 ft. (3 m) from required plane.
- Secure with screw-type nails in plywood at 6 in. (152 mm) OC along the sheet edge and at 8 in. (203 mm) OC throughout the sheet, and glued where possible.
- Overlap all joints of the subfloor.
- Damp mop floor to remove any dust or sawdust. Allow to dry before applying Commercial Tile Mortar PM.

Note: For joist spacing greater than 16" (40.6 cm) OC: See TCNA Methods Handbook.

Cement Backerboard:

As an alternative to an additional layer of plywood, cement backerboard (CBU) may be installed over plywood subfloors. Refer to the respective data sheet for floor and wall installation information.

Gypsum Wallboard:

Gypsum substrates on walls (drywall /sheetrock) must be clean, hard, and free of dust, paint, or other contaminants, and is not recommended in wet areas.

Movement Joints:

Expansion joints shall be installed in accordance with local building codes. See EJ 171 in TCNA Handbook for detailed specifications. Expansion joints, control joints and cold joints shall never be bridged with setting material, rather they must be brought through the tile work and filled with an appropriate elastomeric sealant.

Note: It is the responsibility of the installer/applicator to ensure the suitability of the product for its intended use.

Mixing

All materials should be stored at 40°F-80°F (4°C-27°C) 24 hours prior to installation.

1. In a clean mixing container, Commercial Tile Mortar PM dry powder should be added to potable water at the rate of approximately 5-6 qt. (4.7-5.7 L) per 50 lb. (22.7 kg) bag while slowly mixing. Use only enough liquid for a workable mix, too much liquid will cause the mortar to have reduced strength.
2. Mix thoroughly until smooth, let mortar slake for 10 minutes, then remix. If a mechanical mixer is used, it must be done at a low RPM (300 or less) so as not to entrap air into the mortar. Do not add water, or additional powder after slaking period as this can cause shrinkage and result in poor bonding.
3. The proper mortar consistency is such that when applied with a notch trowel to the substrate, the ridges formed in the mortar will not flow or slump.
4. Bucket life is approximately 2-3 hours, warmer temperatures will reduce bucket life. Do not use mortar after initial set in bucket. During use, remix occasionally.

Application

Apply only to surfaces that are frost free and above 40°F (4°C) and below 100°F (38°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.

1. Select the proper trowel size. Proper trowel is one that will insure a minimum of 3/32" (2 mm) layer of mortar between the tile and substrate after the tile has been set. The proper trowel should also result in a minimum of 80% coverage for interior or dry areas and 95% for exterior, wet areas, or with marble or natural stone installations. It may be necessary to back-butter tiles to meet these requirements.
2. With pressure, spread mortar with flat side of trowel to key into substrate.
3. Then, apply additional mortar with the recommended notched trowel. Comb the mortar in one direction to create better contact with the back of the tile. Apply mortar only on sections that can receive tile before skinning. If skinning occurs, scrape and discard skinned mortar.
4. Firmly press tile into place and slide perpendicular, pressing into to the combed ridges to collapse ridges to better insure proper coverage.
5. During the setting of tile, it is advisable to occasionally remove a tile to be sure mortar has not skinned over and sufficient transfer is being made. It is also required that tiles be embedded to obtain good transfer of mortar to tile and for proper alignment.
6. Do not adjust tiles in mortar after they have been set past 15 minutes.
7. Remove any excess mortar from the joint areas, at least ⅔ of tile depth must be available for grouting. (Refer to ANSI A108.10)
8. Tile must be firmly set before grouting. This requires at least 16-24 hours. At cooler temperatures, time will be extended.

Curing

A minimum cure is obtained in 16 - 24 hours, depending on ambient temperatures. Do not allow any traffic on the installation for 24 hours after setting, and heavy traffic for 72 hours.

Clean Up

Use soapy water to clean hands and tools immediately after use. Dried material must be mechanically removed. Use a waste water hardener (e.g. Congelz® or similar product) for cementitious waste disposal.

Limitations

- Mix with clean water only, do not add latex.
- Do not apply directly over luan, particle board, asphalt sheeting, vinyl covered wall board, Masonite®, glass, cement asbestos board, metal, plastic, gypsum mortar beds, painted surfaces or wood other than exterior grade plywood.
- Apply in temperature range of 40°F to 100°F (4°C to 38°C). Do not allow mortar to freeze for the first 72 hours.
- Walls and floors must be structurally sound, free of movement, and dimensionally stable.
- Moisture sensitive stones, e.g. some green or red marbles, or resin-backed marble may warp when installed with setting materials containing water, causing loss of bond and/or damage to the finish. These stones must be set with a 100% solids epoxy mortar.
- 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 light traffic on freshly installed tile for 24 hours.
- Do not allow heavy traffic until 72 hours after installation.
- Follow all industry standard safety procedures when handling, such as gloves and eye protection.
- Use only clean mixing containers and tools.

Safety

READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT. SDS information is available on our website: techmixpro.com/techpro

Cautions

Read complete cautionary information printed on product container prior to use.

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 TechPro brand product(s) under normal environmental and working conditions. Because each project is different, TCC Materials cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

6. AVAILABILITY

To locate TechPro products in your area, please contact:

Phone: 1.651.688.9116

Website: techmixpro.com/techpro

7. WARRANTY

Seller warrants that its product will conform to and perform in accordance with the product specifications. The foregoing warranty is in lieu of all other warranties, expressed or implied, including, but not limited to those concerning merchantability and fitness for a particular purpose. Because of the difficulty in ascertaining and measuring damages hereunder, it is agreed that Seller's liability to the Buyer shall not exceed the total amount billed and billable to the Buyer for the product hereunder.

Shelf Life	Best when used within one year in original, unopened bags
Storage Conditions	Store dry, cool, out of direct sunlight. Best to condition material to 40-80°F (4°-27°C) before using.
Color	Gray or White

WARNING: INJURIOUS TO EYES

KEEP OUT OF REACH OF CHILDREN



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