



TuffGrout™ PM

Precision High Strength Pointing Mortar

1.01 DESCRIPTION

TuffGrout™ PM Pointing Mortar is for pavers, adhered stone, thin brick, and manufactured masonry veneers. It is factory prepared and designed to be mixed with water. Formulated from a blend of high strength Portland cement, graded aggregates, and color-fast pigments. TuffGrout™ PM provides a joint that is dense, hard and durable. Please use the correct product grade that complies with VOC regulations as per federal, state, county and city regulations/codes at the place of installation of product.

1.02 USES

- For Mortar Joint Widths of 3/16" (5 mm) to 1-1/4" (32 mm)
- Internal And External Floor and Wall Grouting
- Pavers, Ceramic, Terrazzo, Terracotta, Slate and Quarry Tiles

1.03 FEATURES

- Best For Commercial and Heavy Traffic Environments
- Exceptional One Day and Ultimate Compressive
- Fast Setting, Walk On After 3 Hours
- Pre-Measured Packaging of Components
- Shrinkage Compensated Which Prevents Cracking
- Substantial Cost Savings Over New Concrete

1.04 TECHNICAL DATA

TuffGrout™ PM conforms to requirements for dry-set mortars found in ANSI A118.1, ANSI A108.5 and C.T.I. 64-1. When mixed with TuffSet™ Enhancer, TuffGrout™ PM conforms to requirements for ANSI A118.4. ASTM C 91 Standard Specification for Masonry Cement.

1.05 COLOR

Multiple colors and specials available.

1.06 PACKAGING

50 lbs (22.7 kgs) multiple-plastic-lined bags

1.07 COVERAGE

TuffGrout™ PM bag will yield an approximate coverage of 700-750 ft (213-229 m) with 3/8" (9 mm) wide by 1/4" (6 mm) deep joint.

TuffGrout™ PM bag yields 50-75 sqft (4.6 - 6.9 sqm) when using a 12" x 12" x 1/2" (30 cm x 30 cm x 1.3 cm) tile with a 1/2" (13 mm) grout joint.

1.08 PREPARATION

Remove all dirt, oil, and loose or foreign material. Any metal in contact with TuffGrout™ PM must be free of rust, oil, grease, and other foreign matter which would limit bond. Concrete surface must be sound and roughened to ensure proper bonding. Prior to placing TuffGrout™ PM, the surface must be saturated surface dry (SSD), if possible for an hour. Remove all excess water before placement of grout. Bolts, base plates and equipment must be secure and rigid before placement of grout. All materials and surfaces in contact with TuffGrout™ PM should be conditioned between 50-80°F (10-26.66°C) for proper performance. Provide heating or cooling, as necessary, to compensate

for temperature extremes and changes in cure time.

1.09 MIXING

Use approximately 4-5 quarts (3.8-4.7 liters) of clean potable water or equal amounts of TuffSet™ Enhancer 4-5 quarts (3.8-4.7 liters) for 50 lbs (22.7 kgs) of TuffGrout™ PM Pointing Mortar. Place liquid in a clean mixing container and add mortar slowly. Mix by hand or with a slow speed mixer to a smooth flowable consistency. Allow the mortar to slake for 5 minutes. Remix mortar. Always add water to mixer first, then slowly add powder. Use only the amount of water required for the desired placement consistency. Do not mix more than can be placed before in 90 minutes.

1.10 APPLICATION

Dampen surface with water. Use either a trowel and tuck pointing tool or a mortar bag to place mortar. Once applied, allow to firm to "thumbprint" hardness. Unglazed pavers are extremely porous. Additional wetting of the grout joints is required to prevent extreme water loss for TuffGrout™ PM. (DO NOT LEAVE STANDING WATER IN THE JOINTS.) Apply TuffGrout™ PM in all areas of the installation with the exact same procedure. The most consistent results can be achieved by filling the joints with TuffGrout™ PM until flush with the surface of tile using a hard rubber float working diagonally across the grout joints to both fill and compact the joints. As soon as possible, remove all excess TuffGrout™ PM with the same rubber float. The least amount of TuffGrout™ PM left at this time on the face of the tile will make the final clean-up easier. Most importantly, allow TuffGrout™ PM to firm in the joint acquiring its initial set before any further cleaning is to be done.

1.11 CURING

During the first 72 hours, care must be taken to prevent TuffGrout™ PM from drying out by covering the installation with natural kraft paper. Plastic sheeting or newspaper should not be used. If additional water is required to maintain a moist joint on non-latex-modified grouts, it should be applied in even amounts, but in no case should standing water be allowed. During this time, it is also important to keep the installation covered with kraft paper, not polyethylene, to prevent staining and dirt being worked into the fresh grout joints by other construction trades.

Hot weather conditions: Accelerates setting time and causes premature drying of the grout. Keep the grout cool. Store unopened bags in the

shade. Provide shade for the area to be grouted. Use cool or chilled mixing water. Protect grout from direct sun exposure for up to 24 hours after grouting. For additional information, refer to ACI 305 (Recommended Practices for Hot Weather Concreting).

Cold weather conditions: Retards strength gain and set time. Warm the grout above 50°F (10°C). Raise the temperature of the area to be grouted with space heaters or steam. Warm the mixing water. Cover and insulate the grout to retain warmth. The minimum temperature (ambient, substrate, and grout) for grouting is 40°F (5°C) unless special provisions are followed. For additional information, refer to ACI 306 (Recommended Practices for Cold Weather Concreting).

1.12 CLEAN UP

Tools and Equipment: Clean with water or PSI's **EnviroClean™**.

1.13 STORAGE AND SHELF LIFE

The material should be stored between 40-95°F (4-35°C) in a cool, dry area away from direct sunlight. The shelf life of properly stored, unopened containers is 12 months from date of manufacture. An excessive temperature differential and/or high humidity can shorten the shelf life expectancy.

1.14 LIMITATIONS

DO NOT place at temperatures below 40°F (5°C) unless special provisions are followed. At low temperatures, water requirement should be field tested. DO NOT mix over 5 minutes. DO NOT over water; this can cause bleeding or separation. DO NOT retemper. DO NOT add cement, sand, or admixtures. Avoid hazards by following all precautions found in the Safety Data Sheets (SDS), product labels, and technical literature.

1.15 SEALING AND STAINING

Sealers, waxes, and stains may be used to further enhance the grout by offering richer colors and future prevention of unwanted stains. A period of at least 30 days and complete satisfaction of grout conditions should be allowed before these products are applied. Some sealers may have adverse effects on grout joints, such as softening or discoloration. Try a small test area to be sure.

1.16 CAUTION

Wear protective gloves and goggles. Avoid prolonged skin contact. May cause eye, skin or lung injury. Contains free silica. Prolonged exposure to dust may cause delayed lung disease (silicosis). Eliminate exposure to dust. Use NIOSH approved mask for Silica dust. Contains

Portland cement. If any cement or cement mixtures get into the eye, flush immediately and repeatedly with water, and consult a physician promptly. Freshly mixed cement, mortar, concrete or grout may cause skin injury. Avoid contact with skin where possible and wash exposed skin areas promptly with water.

READ SDS PRIOR TO USING PRODUCT. KEEP OUT OF THE REACH OF CHILDREN.

1.17 PHYSICALS	
Compressive Strength (ASTM C-109)	
7 days	>2600 psi (17.92 MPa)
28 days	>3500 psi (24.13 MPa)
Water Absorption (ASTM D570)	< 6%
Hardness (ASTM D2240)	>80 Shore D
Density (ASTM D1475)	16.7 lbs/gal (2.01 g/cc)
Compressive Modulus (ASTM D695)	350,000 psi (2413 MPa)
Initial Set (ASTM C266)	1 1/2 Hours
Final Set (ASTM C266)	4 Hours
Pot Life	1 1/2 Hours
All values approximate - will vary with temperature and humidity.	

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with the PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

LIMITED WARRANTY

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical and chemical properties. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

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