5100
PORCELAIN BOND
FLOOR AND WALL THIN-SET MORTAR

DESCRIPTION

A dry-set mortar consisting of a blend of Portland Cement, mineral fillers and water retentive additives packaged in dry powder form to be mixed with water or latex mortar additive just prior to use. Cures to provide good bond strength with minimal shrinkage.

INDUSTRY STANDARDS

Meets or Exceeds ANSI A118.1 specification requirements.

BASIC USES

- Interior installation of porcelain tile, marble, slate, and all types of ceramic tile on vertical or horizontal surfaces of concrete, concrete block, masonry, brick and, in dry interior areas only, gypsum wallboard.
- For exterior installations or for installation of tile over exterior grade plywood surfaces (dry interior areas only), mix with Flextile 43 Thin-Set Mortar Additive or Flextile 44 High Solids Thin-Set Mortar Additive.

FEATURES

- Good bonding of porcelain tile to interior concrete surfaces.
- Good slip resistance on vertical applications.
- High cement content.
- Excellent workability.
- Water resistant when cured.

LIMITATIONS

- Do not use over particleboard, Masonite, chipboard, OSB or similar unstable materials.
- Do not use over cushioned resilient flooring, rubber, plastic, paint, asphalt, or plywood surfaces in wet areas.
- Do not use over single layer plywood floors.
- Use only on surfaces, which are maintained at a temperature above 10°C (50°F) and below 35°C (95°F) during application and for at least 72 hours after application.
- For exterior applications, mix with Flextile 44 or Flextile 43 latex additives, protect from excessive moisture until thoroughly dried and protect from freezing for at least 14 days after installation.
- To use directly over gypsum-based patching or leveling substrates, mix with Flextile 43 Thin-Set Mortar Additive or Flextile 44 High Solids Thin-Set Mortar Additive, also, apply suitable primer before use.
- Do not use for moisture-sensitive stone such as green marble, certain limestone and granite, agglomerate tiles, cultured marble or resin-backed tiles.

LEED Points Contribution

	LEED Points
MR Credit 5, Regional Materials*	Up to 2 points
IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants	1 point
IEQ Credit 4.3, Low-Emitting Materials – Flooring Systems	1 point

**May be eligible*

TECHNICAL DATA at 23°C (73°F) and 50% humidity

Description	ANSI Spec.	Typical Result
7 Day Shear Strength Glazed Wall Tile	MPa (psi) >1.73 (250)	MPa (psi) 1.73 to 2.42 (250 to 350)
28 Day Shear Strength Porcelain Mosaic Tile	MPa (psi) > 1.03 (150)	MPa (psi) 1.21 to 1.38 (175 to 200)

Typical Physical Properties

Pot Life	2 hours
Open Time	20 minutes
Initial Cure	24-48 hours
Final Cure	28 days
Cleanability	With water before material dries
VOCs	0 g/L
Shelf Life	1 year from production date when stored in dry, heated conditions

Approx. coverage per 22.7 kg (50 lb) bag:

5 mm (3/16") notched trowel - 10.0 m² (105 ft²)
6 mm (1/4") notched trowel - 7.1 m² (77 ft²)
10 mm (3/8") notched trowel - 5.5 m² (60ft²)

** Coverages given are for estimating purposes only. Actual coverages may vary depending on job site conditions and installation techniques used.*

VOC FREE

STT SMOOTH TROWEL TECHNOLOGY

INSTALLATION

PREPARATORY WORK

Surfaces must be sound, even, dry and free of grease, oil, dirt, paint, curing compounds or sealers, or other foreign matter. Surfaces must be true to a tolerance of ±3 mm (1/8") in 2.4 meters (8 ft.) for walls and 6 mm (1/4") in 3 meters (10 ft.) for floors. Concrete surfaces should have a wood float or steel trowel with broom finish, to a minimum CSP (Concrete Surface Profile) of 2 - 3. Roughen smooth concrete surfaces using mechanical abrasion such as grinding or shot/sand blasting or prime using Flextile 4050 FlexSil Primer. Refer to current editions of TTMAC 09 30 00 Tile Installation Manual, or TCNA Handbook For Ceramic Tile Installation for information regarding placement of movement or expansion joints, or for further substrate acceptability information. Per TTMAC and TCNA, floor systems, including the framing system and subfloor panels, over which the tile will be installed shall be in conformance with the Canadian National Building Code 2020, the International Residential Codes for residential applications, the International Building Codes for commercial applications, or applicable local building codes taking into consideration anticipated live and dead loads.

APPLICATION

Mix Flextile 5100 Porcelain Bond by adding dry powder to 5.7 - 6 Liters (1.5 - 1.6 U.S. gallons) of cool, clean water or Flextile 43 Thin-Set Mortar Additive, or Flextile 44 High Solids Thin-Set Mortar Additive. Avoid using high-speed mixers. Allow mixed mortar to slake for at least 10 minutes, then re-mix without adding further material or liquid. Spread a thin layer of mixed mortar with flat side of trowel to wet out the substrate; then reapply sufficient material with a suitably notched trowel that will leave enough mortar to give at least 85% (Interior applications) or 95% (Exterior and Large Format Tile applications) coverage to the backs of tile. It may be necessary to back-butter tiles in order to reach these requirements. (Refer to ANSI A108.5 specifications, and current TTMAC & TNCA guidelines regarding proper Flat Back-Troweling & Notch Back-Troweling methods for achieving proper bond coat transfer & coverage.) It is imperative that an appropriately sized trowel is used in conjunction with larger format tile or stone, so that adequate coverage is achieved. Comb that area which can be covered with tile before skinning occurs. Mortar should be troweled with notches running in straight, parallel lines. Press or beat in tile while moving slightly in the opposite direction as shown of troweled mortar ridges, to achieve maximum coverage. Do not adjust tiles after they have been set for more than 25 minutes.

CURING AND GROUTING

Protect from all traffic and delay grouting until cured at least 24 hours, and preferably 48 hours. On exterior or cold weather applications, extended curing is recommended to ensure that mortar is sufficiently cured prior to grouting. Grout using Flextile Polymer Modified Grout, Flextile 1600UPG Ultra Performance Grout or Flextile FlexEpoxy100 - 100% Solids Epoxy Grout.

CAUTION

Freshly mixed cement, mortar, concrete or grout may cause skin injury. Avoid extended contact with skin where possible and wash exposed skin areas promptly with water. If any cement or cement mixture gets into the eye, rinse immediately and repeatedly with water and get prompt medical attention. Keep out of reach of children.

SAFETY

Refer to Flextile Material Safety Data Sheet for detailed health and safety information.

AVAILABILITY

Flextile 5100 Porcelain Bond is available from Flextile Ltd. and its distributors in 22.7 kg (50 lb) bags.

WARRANTY

Flextile warrants that this product is of merchantable quality and is suitable for the purpose for which it is intended. Flextile's liability under this warranty shall be limited to replacement of its product found to be defective or, at its option, a refund of the purchase price.

MAINTENANCE

No maintenance is required except where damages result from unforeseen circumstances. Repair procedures shall be directed by Flextile or its distributors.

TECHNICAL SERVICES

Flextile maintains a well-equipped laboratory able to test its products in conjunction with the products with which they are used. Technical assistance for use of Flextile products is available upon request.

RELATED REFERENCES

Current editions of TTMAC 09 30 00 & TCNA Ceramic Tile Installation Manuals

Notice: The information herein is the best information we have relating to our products and the recommended uses of our products are based on tests believed to be reliable. Flextile warrants each of its products is of merchant- able quality and suitable for the purpose for which it is intended BUT DOES NOT MAKE ANY OTHER WARRANTY, EXPRESSED OR IMPLIED. This Warranty may not be enlarged or extended by our sales representatives, written sales information or drawings. Liability of Flextile under this warranty shall be limited to replacement of its product found to be defective or, at its option, a refund of the purchase price. All advice given and structural specifications supplied by Flextile representatives shall be used at the sole risk of those receiving the same and Flextile assumes no responsibility for the design or construction of any works in which its products are used. Any review or inspection of plans, buildings or product applications by Flextile representatives is not to be construed as approval thereof by Flextile. This information supersedes all previous issues and is subject to change without notice.