



## PRODUCT INFORMATION

### multi-purpose

Polymer modified, thin-set mortar

**MULTI-PURPOSE** is a professional grade, specially refined dry-set mortar with latex-polymer powder pre-blend in the bag. Composed of portland cement, sand and special polymer additives, **MULTI-PURPOSE** is used as a bond coat for setting all types of ceramic tile, porcelain tile, marble and stone over a variety of substrates. **MULTI-PURPOSE** offers the economy and ease of application of dry-set mortars while significantly improving bond strengths, freeze-thaw stability, flexibility and other qualities.

#### TEXTURE:

Powder, consisting of portland cement and graded sand.

#### COLORS:

Gray and white.

#### PACKAGING:

50lb (22.7 kg) bag.

#### BASIC USE:

> **MULTI-PURPOSE** is used as a bond coat for setting high lug absorptive tiles, semi-vitreous and vitreous ceramic tile for service in residential and commercial use.

> It is used in a mortar bed as thin as 3/32" - 3/16" (3-5 mm) thickness after the tiles are properly embedded.

#### AREA OF USE:

Suitable backings include properly prepared plumb and true masonry, concrete (broom finished), cementitious backer units, cured portland cement mortar beds, brick, ceramic tiles and marble. In interior dry areas only, it can be used over gypsum board (walls only) and exterior grade plywood. Any other substrate including waterproofing and anti-fracture membranes must be approved in writing by an officer of the manufacturer.

#### BENEFITS:

> **MULTI-PURPOSE** has excellent water and impact resistance, is water cleanable, non-flammable, good for exterior and interior work and requires no soaking of tiles.

> **MULTI-PURPOSE** provides a permanent installation with higher bond strength and lower material and labor costs than conventional portland cement mortar bond coats.

#### LIMITATIONS:

> **MULTI-PURPOSE** must not be applied directly to asphalt sheeting, vinyl covered wall board, masonite, lauan plywood, cement asbestos board, metal, glass or plastic, cut back adhesives, curing compounds and chemically treated surfaces.

> Improperly cured or wet plywood, tongue and groove plywood, particle board, strip wood surfaces or gypsum mortar beds are not considered suitable substrates.

> Some green or red marbles may warp when installed with setting materials containing water, causing loss of bond and/or damage to the finish. These marbles must be set with EPOXYPLUS.

> Use in temperature range above 40 °F (4 °C). Do not allow mortar to freeze for the first 72 hours.

> This product is not affected by prolonged water contact but it does not form a waterproof barrier.

## TECHNICAL DATA

*Open time @ 70 °F (21 °C)		20 minutes
*Adjustability @ 70 °F (21 °C)		15 minutes
*Pot life @ 70 °F (21 °C)		8 hours
*Compressive strenght (psi)		> 3200
ASTM C-109		
Shear bond (psi) ANSI A118.4		
Non-vitreous tile 7 days	300 minimum	> 400
28 days	300 minimum	> 500
Vitreous (paver) 7 days	100 minimum	> 200
28 days	150 minimum	> 300
Non-vitreous tile 7 days	100 minimum	> 250
(over wood) ANSI A118.11 28 days	150 minimum	> 300

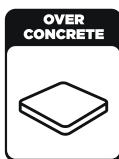
#### APPLICABLE STANDARDS:

Meets and exceeds requirements for dry-set mortars found in ANSI A118.1, ANSI A118.4, A118.11, A108.5, A108.11, A108.12, CT1-64-1.

#### INSTALLATION:

##### PREPARATORY WORK

All surfaces on which tiles are to be set must be structurally sound, completely clean and free of frost and in an atmosphere above 40 °F (4 °C) and below 90 °F (32 °C) during its initial cure (72 hours).



## CEMENTITIOUS SUBSTRATES

Area must be clean and dry. Remove all efflorescence, grease, oil, dirt, dust, paint, sealers, curing compounds, asphalt, cut back residue, old adhesives and other foreign matter. Failure to remove these items causes bond loss and void product warranty. Roughen smooth steel troweled concrete. Remove foreign matter and/or roughen surface by mechanical scarified or shot-blasting to prepare surface. Dampen porous surfaces with clean water before installing the mortar and leave no puddles or remaining water on surface for best conditions. Substrate deflection shall not exceed 1/360 that of the span.

Stir by hand tool or low RPM (less than 300) drill mixer into a lump-free, mortar paste consistency. Drill mixer paddle or wand should be "open-loop" design to not add air or weaken the mortar. Mortar should be very soft paste mixture that does not slump, slide or flow from container, tool or trowel. Allow freshly mixed mortar to slake (wait) for 15 minutes, then re-stir into a paste to get maximum working and spreading time. Do not add any additional water after this point. Mix only enough mortar than can be used within 30 minutes. The proper mortar paste consistency is such that when applied with a notched trowel to the substrate, the ridges formed in the mortar will not flow or slump. Stir mortar occasionally to prevent firm set of mortar. If a mortar sets firm in container discard it and re-mix a new batch. Mix approximately 5 1/2 quarts (5.2 liters) per 50 lb (22.7 kg) bag. There's no need to add another latex liquid to this product.

## PLYWOOD SUBSTRATES

All plywood flooring, when placed over conventional floor joist or other systems should be of a design and thickness so as to maintain a substrate of deflection not to exceed 1/360 of span, including live and dead load. Further, the flooring to receive **MULTI-PURPOSE** mortar should be exterior grade plywood only, secured with screw type nails and glued where possible. A gap of 1/8" - 3/16" shall be left between sheets of plywood to allow for expansion. In addition, all plywood surfaces must be for interior use only and protected from exposure to water.

## NON-CEMENTITIOUS SUBSTRATES

All non conforming surfaces such as strip wood, old plaster or painted surfaces should be covered with a cleavage membrane topped with a mm) reinforced mortar bed for walls and a 1 for floors. After a minimum of 20 hours, the dry-set mortar may be applied to the mortar bed.

## TILE OVER TILE AND OTHER SURFACES

It is absolutely essential that the existing tile and other surfaces be well bonded. The surfaces must be prepared in accordance with the requirements for cementitious surfaces. It is also necessary to abrade the surface to assure proper bonding. Other surfaces include terrazzo, marble and vinyl composition tile. Remove all waxes, sealers and coatings that would interfere with the bond.

## EXPANSION JOINTS

Install expansion joints around all perimeters or restraining surfaces where possible to allow for expansion movement. Never bridge an expansion, contraction or construction joint. Add additional joints for large areas and areas subject to the sunlight, heat/cold temperatures in accordance with local building codes. See EJ171 in TCNA Handbook for detailed specifications. Remove all thinset mortar, grout and debris from joints before backer rod and sealant are placed.

## MIXING

Add cool, drinkable water and dry powder **MULTI-PURPOSE** in a clean container. Stir by hand tool or low RPM (less than 300) drill mixer into a lump-free, mortar paste consistency. Drill mixer paddle or wand should be "open-loop" design to not add air or weaken the mortar. Mortar should be very soft paste mixture that does not slump, slide or flow from container, tool or trowel. Allow freshly mixed mortar to slake and wait for 15 minutes, then re-stir into a paste to get maximum working and spreading time. Do not add any additional water after this point. Stir after this point. Stir mortar occasionally to prevent firm set of mortar. If a mortar sets firm in container discard it and re-mix a new batch. Mix approximately 6 quarts (5.6 liters) per 50 lbs (22.7 kg) bag. There's no need to add another latex liquid to this product.

## APPLICATION

Apply the wet mortar to the bond surface with flat-side of trowel in a scraping or scratching motion to drive the wet mortar into the surface. Then take additional mortar with the notched-side of trowel to form and comb the ridges. Trowel the mortar ridges in one straight direction helps to prevent hollow tiles and maximized bond contact. Tiles with deep patterns, high lugs or on those with irregular texture on the back surface may require "back buttering" to ensure 100% coverage of back of tiles. Proper method of bonding of tiles requires embedding, pressing and sliding tiles perpendicular to wet mortar ridges to have a nominal mortar thickness of 3/32" - 3/16" (3-5 mm) and 100% coverage. 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. Do not adjust tiles in mortar after they have been set past 10-15 minutes. NOTE: As a practical test, it is recommended that three or more separate twelve inch square areas of tile be bonded to the properly prepared surface with the actual tile and bonding materials that will be used on the finished installation. These should be allowed to cure for 3-7 days and then removed with a hammer and chisel. At this point, one can determine if adequate bond has been obtained or if a problem exists.

## TROWEL RECOMMENDATION

Suitable for providing a minimum 3/32" - 3/16" (3-5 mm) bed thickness after embedding the tile. Refer to coverage chart for proper trowel size.

## CLEANING:

Water is all that is needed to remove uncured product.

## COVERAGE:

A 20 lbs (11.3 kg) bag using a square-notched trowel covers:  
 1/4" X 1/4" = 77 sq ft  
 1/4" X 3/8" = 66 sq ft  
 1/2" X 1/2" = 40 sq ft

## CURING AND GROUTING:

A minimum cure is obtained in 12 to 24 hours depending on ambient temperatures (ANSI A108.5). Grouting can be done before the mortar takes its final set if caution is used not to break the plastic mortar bond to the tile. Normal grouting should be done 48 hours later.

## STORAGE LIFE:

One year if kept dry in sealed bag.

**SAFETY - CAUTION:** 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 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.

## KEEP OUT OF REACH OF CHILDREN

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