



PRODUCT INFORMATION

360 smartflex

Premium, flexible, multipurpose, ultra-creamy mortar with maximum bond strength

360 SMARTFLEX is premium, special polymer modified, large and heavy tile mortar. It has very strong non-sag properties to help with any vertical installation. It is composed of portland cement, sand and special additives that give it an ultra-creamy feel. It is used as a bonding mortar for any type of tile and stone including large format, large panels, and very heavy pieces. It is intended for interior and exterior use, over a wide variety of substrates. It can be used for setting porcelain tile, ceramic tile, glass tile, natural stone, and marble for service in any residential or commercial application.

TEXTURE:

Powder, consisting of portland cement, polymer additives and graded sand.

COLORS:

white.

PACKAGING:

50lb (22.7 kg) bag.

BASIC USE:

> **360 SMARTFLEX** is specifically formulated for the installation of large format tiles or panels.

> It may be used in a setting bed as thin as 3/32" (3 mm) or for large heavy tile mortar with a 1/2" (12 mm) thickness after the tiles are properly embedded.

> **360 SMARTFLEX** may be used for setting absorptive, semi-vitreous, vitreous and impervious ceramic, porcelain, and stone tiles in any residential or commercial service areas.

> It may be used for interior or exterior (including harsh freeze-thaw conditions), in vertical or horizontal applications.

AREA OF USE:

Suitable substrates include masonry, concrete, cementitious backer units, cured Portland cement mortar beds, brick, ceramic tiles, marble, and cement based terrazzo that are plumb and true interior and exterior. Gypsum board, Exterior glue plywood, and high pressure laminate interior dry areas only.

BENEFITS:

> **360 SMARTFLEX** is ideal for all ceramic, porcelain, glass tile or natural stone tiles.

> Its superior Non-sag properties allow for the ease of use on vertical installations.

> Its Gel-Tech helps prevent installer fatigue and along with the extended open time (40min+) allows for a faster and problem free installation.

> **360 SMARTFLEX** has a semi lightweight aggregate that helps it yield up to 30% more sq ft per bag than regular mortars.

> **360 SMARTFLEX** has excellent water and impact resistance, is water cleanable, non-flammable, and requires no soaking of tiles.

> **360 SMARTFLEX** may be used over waterproofing or crack isolation membranes meeting ANSI A118.10 and A118.12. Any other substrate must be approved in writing by an officer of the manufacturer.

LIMITATIONS:

> **360 SMARTFLEX** 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, OSB or strip wood surfaces 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.

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

APPLICABLE STANDARDS:

Meets and exceeds requirements found in ANSI A118.1, A118.4HTE, A118.11, A118.15HTE. ISO 13007 C2TES1P1.

INSTALLATION:

PREPARATORY WORK

All surfaces on which tiles are to be set must be structurally sound, completely clean and free of frost and in a temperature range 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.

PLYWOOD SUBSTRATES

Floor systems, including the framing system and subfloor panels over which underlayment and tile will be installed shall be in conformance with the IRC for residential applications, the IBC for commercial



applications or other applicable building codes. Further, the underlayment to receive the **360 SMARTFLEX** mortar should be exterior glue plywood (interior only), secured with screw-type nails and glued where possible. A gap of 1/8" - 3/16" (3-5 mm) shall be left between sheets of plywood and remain empty after the installation 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 3/8" to 3/4" (10-20 mm) reinforced mortar bed for walls and a 1 1/4" (32 mm) reinforced mortar bed for floors. After a minimum of 20 hours, **360 SMARTFLEX** may be applied to the mortar bed.

TILE OVER TILE AND OTHER SURFACES

It is 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 and 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 EJI7I in TCNA Handbook for detailed specifications. Remove all thin set mortar, grout, and debris from joints before backer rod and sealant are placed.

MIXING

Add cool, drinkable water and dry powder 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 stake (wait) for 10 minutes, the restir into a paste to get maximum working and spreading time. Do not add any additional water 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 between 7.6 qt and 8.5 qt (7.2 L and 8 L) per 41 lb (18.5 kg) bag.

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" - 1/2" (3 -12 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. Do not abut tile to perimeter walls or restraining surfaces.

Leave a minimum spacing of 1/4", void of any setting material or tile to allow for expansion. Fill the 1/4" spacing with caulk or sealant if exposed. 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" bed thickness and up to 1/2"

CLEANING:

Water is all that is needed to remove uncured product.

COVERAGE:

Will vary depending on tile, substrate conditions and installation methods A 41 lbs. (18.5 kg) bag using a square-notched trowel covers up to:

1/4"X1/4"=8lsqft

1/4"X3/8"=72 sq

1/2"X1/2"=47 sqft

CURING AND GROUTING:

Do not allow **360 SMARTFLEX** to freeze for the first 48 hours. A minimum cure is obtained in 12-24 hours depending on ambient temperatures. Normal grouting should be done 48 hours after tiles have been set (ANSI AIO8.5) except for when installing over existing tile or other low absorptive substrates which requires 72 hours before grouting. Wait at least 14 days when using this product in submerged applications before filling with water.

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

GUARANTEE: The recommendations, suggestions, statements and technical data in this bulletin are based on our best knowledge. They are given for informational purposes only and without any responsibility for their use. The responsibility for the seller and manufacturer is only to replace that portion of the product of this manufacturer, which proves to be defective due to the quality of the ingredients or the manufacturing process itself. However, since handling and use is beyond our control, we do not guarantee the results to be obtained. Only written statements signed by an officer of the manufacturer are binding on the manufacturer or seller. Nothing in this bulletin should be interpreted as a recommendation for a use, which violates any patent rights.

TECHNICAL DATA			
Extended Open Time Sag	30 minutes at 28 days	a 75 psi (0.5 MPa) < 0.02 in. (0.5 mm)	Pass
Glazed Wall Tile Shear Strength	7 days	> 450 psi (3.10 MPa)	500
	7 day water immersion	> 250 psi (1.72 MPa)	280
	28 day heat aging	> 450 psi (3.10 MPa)	480
Porcelain I'tosaic Tile Shear Strength	1 day	> 100 psi (0.69 MPa)	120
	7 days	> 300 psi (2.07 MPa)	340
	7 days	> 200 psi (1.38 MPa)	220
	7 day water immersion	> 400 psi (2.76 MPa)	415
	7 day water immersion	> 250 psi (1.72 MPa)	280
Quarry Tile Shear Strength	28 day w/freeze-thaw cycling 28 days heat aging	> 400 psi (2.76 MPa)	440
	8 day w/freeze-thaw cycling	> 150 psi (1.03 MPa)	Pass
	*28 days	> 100 psi (0.69 MPa)	Pass
Plywood		> 150 psi (1.03 MPa)	Pass