



# Granirapid<sup>®</sup> system

Premium, rapid-setting, flexible, polymer-modified mortar system



## DESCRIPTION

*Granirapid* is the next generation of high-performance, flexible mortar systems. As the industry's first and only fast-curing system geared for fast-track projects, it uses MAPEI's unique High-Hydrated Cement Technology (HCT™). It develops high, early mechanical strength and can be specified for the same demanding applications as *Keralastic*™; however, *Granirapid* will cure considerably faster because its superior drying-out characteristics produce low residual moisture behind the tile after 24 hours.

Unlike old-generation "rapid sets," *Granirapid* has a much better open and adjustability time while allowing application of grout in 3 to 4 hours. When used in conjunction with *Ultracolor*® grout (also with HCT), the installation will allow water immersion in a revolutionary 72 hours, as opposed to 28 days for traditional systems. *Granirapid* is a definite must when time is critical. *Granirapid* is formulated from a shrinkage-compensated technology that allows medium-bed, high-build capability for large-format tile.

Lastly, *Granirapid* (along with any HCT product) does not contribute to efflorescence.

## CLASSIFICATION STANDARDS

**ISO 13007:** *Granirapid* is C2FS2P2 = a cementitious (C) improved (2) adhesive that is fast-setting (F) and highly deformable (S2), and has improved adhesion to exterior-grade plywood (P2).

**ANSI:** *Granirapid* meets or exceeds ANSI A118.4 and ANSI A118.11 requirements.

## USES

- For interior and exterior floor, wall and ceiling installations
- For rapid retiling of floors and walls that must be ready for use within a short time, such as supermarkets, factories, hospitals, airports and shopping malls
- For use as a rapid-set medium-bed mortar for setting large-size or high-lugged and heavy ribbed-back ceramic tiles and stone
- For installing all types of natural stone, natural marble (except Rosso Levanto and Negro Marquina marble; or green marble, green granite or their agglomerates), natural granite, impervious porcelain tile and all other ceramic tile. For installing white, light-colored or translucent marble, use white *Granirapid*.

## TECHNICAL NOTES

- Do not use for setting Rosso Levanto, Negro Marquina marble, or any green marble or green marble agglomerates. Instead, use *Planicrete*® W or *Kerapoxy*®.

Note: Marble, granite and slate are products of nature made from a vast combination of minerals and chemicals that may cause the material to behave or react in a manner beyond our control. Likewise, we do not have control over any of the materials or processes used in the manufacturing of agglomerates. Therefore, determine the suitability of all materials before proceeding with the installation.



- Do not use over particleboard, Masonite, chipboard, Lauan, gypsum floor-patching compounds, metal or similar dimensionally unstable substrates.
- Use only at temperatures between 40°F and 95°F (4°C and 35°C).

## RECOMMENDED SUBSTRATES

- Fully cured concrete (28 days old)
- Concrete and masonry block
- Gypsum drywall panels (in dry areas only)
- Cement backer units (CBUs)
- Properly prepared existing ceramic tiles
- Properly prepared old cement terrazzo
- Exterior-grade plywood (interior residential floor and countertop applications in dry areas only)
- Properly prepared existing vinyl asbestos tile (VAT)
- Properly prepared existing cutback adhesive
- Cured *Planicrete*<sup>®</sup> W membrane (see Technical Data Sheet for details)

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

## INSTRUCTIONS

### 1. Surface Preparation

See MAPEI's "Surface Preparation Requirements" document.

### 2. Mixing

- 2.1 Into a clean mixing container, pour 2 U.S. gals. (7,57 L) of undiluted *Granirapid* liquid. Gradually add 50 lbs. (22,7 kg) gray or 46 lbs. (20,9 kg) of white *Granirapid* powder while slowly mixing.
- 2.2 Use a low-speed mixer (at about 300 rpm).
- 2.3 Mix thoroughly to a homogenous and smooth consistency.
- 2.4 Do not let sit ("slake"). Spread immediately.
- 2.5 Do not mix more material than can be installed in a 30-minute period. The set time depends on temperature and humidity.
- 2.6 Wash hands and tools with soap and water immediately after mixing.

### 3. Application

- 3.1 Use a typical notched trowel (see Technical Data chart) with sufficient depth to achieve at least 80% mortar contact to the back of the tiles for all interior applications. For exterior installations, commercial floor and shower applications, and when installing marble,

granite and agglomerate tile floors, achieve coverage in accordance with applicable ANSI specifications and TCNA guidelines.

- 3.2 Using the trowel's flat edge, spread a thin, pressure-applied coat onto the substrate. Apply additional material and comb the surface using the trowel's notched side to achieve an even-setting bed. Do not spread more material than can be covered with tile within 5 to 10 minutes (about 20 sq. ft. [1,86 m<sup>2</sup>]).

Note: When back-buttering is required, a helper should proceed with this operation simultaneously while the mechanic is spreading the *Granirapid* mortar on the substrate.

- 3.3 Do not soak tiles before installation. Before installing slate, marble, granite or their agglomerates, wipe the stone's back side with a damp cloth to remove any residue or dust left over from the manufacturing process.
- 3.4 Set tiles firmly into position with a slight twisting motion before skinning occurs. Should skinning occur, scrape off the skinned mortar and replace it with fresh material.
- 3.5 Follow immediately with proper and thorough beat-in procedure to flatten the ridges or notches into a continuous setting bed, allowing at least 25% of the thickness of the tiles to be embedded in the mortar. Check pieces periodically to ensure that there is sufficient mortar contact with the reverse side of the tiles or stones.
- 3.6 Make all alignments and adjustments immediately after beat-in (within 30 to 40 minutes).
- 3.7 Clean all joints and wipe smudges from the tile face with a damp towel before the material hardens.
- 3.8 Wash hands and tools with water while the material is still fresh.

### 4. Expansion and Control Joints

- 4.1 Provide for expansion and control joints where specified. Refer to the most recent TCNA handbook for ceramic tile installation, Detail EJ-171.
- 4.2 Do not cover or bridge any expansion joints with mortar or surfacing material.
- 4.3 Cut tiles on both sides along the edges of expansion joints.
- 4.4 Protect tilework with metal strips along both edges of structural building expansion joints.
- 4.5 Install the specified compressible bead and sealant in all expansion and control joints.

### 5. Grouting

Do not disturb, grout or walk over tiles for at least 2-1/2 hours after installation. When this material is installed in cooler temperatures, a longer curing time may be required before grouting. Allow tiles to reach a firm set, and then grout with the appropriate MAPEI grout.

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

**ISO 13007:** Granirapid is C2FS2P2 .

**ANSI:** Granirapid meets or exceeds ANSI A118.4 and ANSI A118.11 requirements.

Pot life .....	30 to 40 minutes
Open time .....	About 20 minutes
Adjustability time .....	About 40 minutes
Ready for grout .....	About 3 hours
Ready for light foot traffic .....	About 3 to 4 hours
Flexibility .....	Moderate
	<u>Flexural strength</u> <u>Compressive strength</u>
After 24 hours .....	570 psi (3,93 MPa)      2,145 psi (14,8 MPa)
After 7 days .....	1,210 psi (8,34 MPa)      3,575 psi (24,7 MPa)
After 28 days .....	1,350 psi (9,31 MPa)      4,500 psi (31,0 MPa)
Color .....	Gray, white
Shelf life .....	1 year when stored in original sealed containers at room temperature in a dry, heated area. Protect from moisture and freezing.
Health and safety .....	Consult the Material Safety Data Sheet (MSDS) for safe-handling instructions.

### Bond strength

	24 hours dry	7 days dry	24 hours dry plus 1 hour at 140°F (60°C)	7 days dry plus 1 hour at 140°F (60°C)	24 hours dry plus 21 days in water	7 days dry plus 21 days in water
Glass mosaics	215 psi (1,48 MPa)	286 psi (1,97 MPa)	429 psi (2,96 MPa)	429 psi (2,96 MPa)	200 psi (1,38 MPa)	215 psi (1,48 MPa)
Agglomerated marble	257 psi (1,77 MPa)	249 psi (1,72 MPa)	543 psi (3,74 MPa)	500 psi (3,45 MPa)	286 psi (1,97 MPa)	286 psi (1,97 MPa)
Porcelain tiles	215 psi (1,48 MPa)	472 psi (3,26 MPa)	472 psi (3,26 MPa)	458 psi (3,16 MPa)	229 psi (1,58 MPa)	243 psi (1,68 MPa)
Granit '90' (Repla)	143 psi (0,99 MPa)	229 psi (1,60 MPa)	229 psi (1,60 MPa)	286 psi (1,97 MPa)	71.5 psi (0,49 MPa)	71.5 psi (0,49 MPa)
Black slate	229 psi (1,57 MPa)	358 psi (2,47 MPa)	458 psi (3,16 MPa)	572 psi (3,94 MPa)	215 psi (1,48 MPa)	215 psi (1,48 MPa)

Note: Minimum value according to U.E.A.T.C. standard 71.5 psi (0,49 MPa)

### PACKAGING

#### Powder

Bags: 50 lbs. (22,7 kg), gray; 46 lbs. (20,9 kg), white

#### Liquid

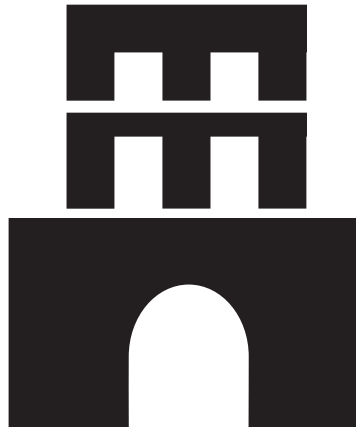
Jug: 2 U.S. gals. (7,57 L). Pail: 5 U.S. gals. (18,9 L). Drum: 55 U.S. gals. (208 L)

### TYPICAL TROWELS AND APPROXIMATE COVERAGES\*

1/4" x 1/4" x 1/4" ..... 70 to 90 sq. ft.  
(6 x 6 x 6 mm) ..... (6,50 to 8,36 m<sup>2</sup>)

1/4" x 3/8" x 1/4" ..... 55 to 65 sq. ft.  
(6 x 10 x 6 mm) ..... (5,11 to 6,04 m<sup>2</sup>)

5/8" x 3/4" x 5/8" ..... 23 to 28 sq. ft.  
(16 x 19 x 16 mm) ..... (2,14 to 2,60 m<sup>2</sup>)



\* Trowel dimensions are width/depth/space. Coverages shown are given for estimating purposes only. Actual job-site coverages may vary according to substrate conditions, type of equipment used, thickness applied, handling and application procedures.

## 6. Protection

- 6.1 Protect material from freezing during transportation and storage. *Granirapid* liquid is freeze/thaw-stable down to temperatures of 0°F (-18°C). However, protect all water-based materials from prolonged exposure to deep-freezing. If *Granirapid* liquid is frozen, do not stir it until it has completely thawed.
- 6.2 Provide for dry, heated storage on site and deliver materials at least 24 hours before tilework begins.
- 6.3 Protect finished tilework against weather, freezing and complete water immersion for at least 7 days after completion of the work.
- 6.4 Floors: Protect floors from traffic for at least 3 to 4 hours after installation. Prohibit heavy traffic on floors for at least 24 hours after installation.
- 6.5 Walls: Protect from impact, vibration and hammering on adjacent and opposite walls for at least 24 hours after installation.
- 6.6 Because temperature and humidity (during and after installation of tile) affect the final curing time of all cement-based and epoxy materials, allow for extended periods of cure and protection when temperatures drop below 60°F (16°C) and/or when the relative humidity is higher than 70%.

## NOTICE

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

## MAPEI

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### Additional Information

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For the most current  
product data, visit  
[www.mapei.com](http://www.mapei.com).



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