



# Granirapid<sup>®</sup> System

**Premium, Rapid-Setting,  
Flexible Tile Mortar**



## 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 develops high, early mechanical strength and can be specified for the same demanding applications as *Keralastic*<sup>™</sup>. However, *Granirapid* will cure considerably faster because of its superior drying-out characteristics, which produce low residual moisture behind the tile after 24 hours, and does not contribute to efflorescence. When installed in conjunction with *Ultracolor*<sup>®</sup> Plus FA grout, *Granirapid* will allow water submersion in a revolutionary 72 hours

## FEATURES AND BENEFITS

- High-performance bond
- Best for most difficult tiles, substrates and conditions
- Allows grouting in 3 to 4 hours
- Excellent for large tile and ungauged tile

## INDUSTRY STANDARDS AND APPROVALS

- ISO 13007: Classification C2FS2P2
- ANSI: Meets or exceeds ANSI A118.4F, ANSI A118.11 and ANSI A118.15F bond-strength requirements

LEED v4 Points Contribution LEED Points

Environmental Product Declaration (EPD):  
 TCNA Industry Average for Mortars\* ..... 1/2 point  
 Health Product Declaration (HPD)\* ..... Up to 2 points

\* Using this product may help contribute to LEED certification of projects in the categories shown above. Points are awarded based on contributions of all project materials.

## WHERE TO USE

- Most interior/exterior residential and commercial installations on floors, walls and ceilings
- Installation of ceramic and porcelain tile, glass tile, quarry tile, pavers, Saltillo tile, and most types of marble, granite and natural stone and dimensionally stable agglomerated stones

## LIMITATIONS

- Install only at temperatures between 40°F and 95°F (4°C and 35°C).
- Do not use for moisture-sensitive stone (green marble; some limestone and granite, or agglomerates made from these moisture-sensitive stones), cultured marble or resin-backed tiles. Instead, use suitable epoxy or urethane adhesives. (See the respective Technical Data Sheets for more information.)
- Some glass tile backings may not be suitable for use with *Granirapid*. Consult the recommendations of the TCNA and the glass tile manufacturer.
- For light-colored stones and translucent natural stone, a white mortar is recommended. Do not use over dimensionally unstable substrates such as hardwood flooring, oriented strand board (OSB), substrates containing asbestos, or metal. See the "Suitable Substrates" section.
- To use directly over gypsum-based patching or leveling substrates, apply a suitable sealer/primer before use. See MAPEI's Technical Bulletin "Gypsum-Based Floors and Walls: Which MAPEI Products Can Be Applied?" in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI's Website.
- Consult building code requirements for use on exterior commercial facades.
- Installations of tile over nonporous surfaces, such as waterproofing membranes and existing tile, may require extended setting/curing times.



- Large-and-heavy-tile mortars (formerly known as medium-bed mortars) are not designed to correct uneven floors. Substrates must be flat and level before the installation of large-format tile.

## SUITABLE SUBSTRATES

- Concrete (cured at least 28 days)
- Masonry cement block, brick, cement mortar beds and leveling coats
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- Gypsum wallboard and plaster – interior walls in dry areas only (priming may be required). See MAPEI's Reference Guide "Surface Preparation Requirements" in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI's Website.
- APA Group 1 and CANPLY 0121 exterior-grade plywood (interior, residential and light commercial floor and countertops in dry conditions only)
- Properly prepared vinyl composition tile (VCT), plastic laminate countertops, non-cushioned sheet vinyl and cutback residue (interior only)
- Properly prepared existing ceramic and porcelain tile, porcelain mosaics, cement terrazzo, quarry tile and pavers (interior in dry conditions only)
- MAPEI waterproofing, crack-isolation and sound-reduction membranes (limited to thin-set installations only when using weak stone)

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

## SURFACE PREPARATION

- All substrates should be structurally sound, stable, dry, clean and free of any substance or condition that may reduce or prevent proper adhesion.

See MAPEI's "Surface Preparation Requirements" document in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI's Website.

## MIXING

Before product use, take appropriate safety precautions. See the Safety Data Sheet for details.

1. Into a clean mixing container, pour about 2 U.S. gals. (7,57 L) of *Granirapid* liquid.
2. Gradually add 50 lbs. (22,7 kg) of *Granirapid* gray powder (or 46 lbs. [20,9 kg] of *Granirapid* white powder) while slowly mixing.
3. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or double-box mixer. Mix thoroughly until the mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
4. Do not mix more material than can be installed in 30 minutes. The setting time depends on temperature and humidity.
5. Do not slake. Spread immediately.

6. If the mixture becomes heavy or stiff, remix without adding more liquid or powder.

## PRODUCT APPLICATION

1. Over porous surfaces or in hot climates, dampen the surface and keep the product cool to achieve maximum working time.
2. Choose a notched trowel (see the "Approximate Coverage" chart) with sufficient depth to achieve greater than 80% mortar contact to both the tile and substrate for all interior applications, and greater than 95% for exterior installations, commercial floor and wet applications. It may be necessary to back-butter tiles in order to meet these requirements. (Refer to ANSI A108.5 specifications and TCNA Handbook guidelines.)
3. With pressure, apply a coat by using the trowel's flat side to key mortar into the substrate.
4. Apply additional mortar, combing it in a single direction parallel to the tile's shortest dimension, with the trowel's notched side.
5. Spread only as much mortar as can be tiled before the product skins over. Open time can vary with jobsite conditions.
6. Place the tiles firmly into the wet mortar. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between the mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage.
7. Remove excess mortar from the grout joints so that at least 2/3 of the tile depth is available for grouting (see ANSI A108.10 guidelines).

## EXPANSION AND CONTROL JOINTS

Provide for expansion and control joints as specified per TCNA Method EJ171 or TTMAC Specification Guide 09 30 00, Detail 301MJ. Do not cover expansion joints with mortar.

## CLEANUP

- Clean tools and tile while the mortar is fresh using only water.

## PROTECTION

- Protect floors for 3 to 4 hours before grouting. Protect from heavy traffic for 24 hours.
- Protect from frost for 7 days.
- When installed in conjunction with *Ultracolor Plus FA* grout, *Granirapid* will allow water submersion in 72 hours.

## ISO 13007 Classifications

Classification Code	Classification Requirement
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles
F (fast-setting)	≥ 72.5 psi (0,5 MPa) at 6 hours
S2 (improved deformation of mortar)	≥ 0.2" (5 mm)
P2 (improved adhesion to plywood)	≥ 145 psi (1 MPa)

## ANSI Specification\*

Test Method	Specification Standard	Test Results
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1,03 MPa) at 28 days	220 to 390 psi (1,52 to 2,69 MPa)
ANSI A118.15F – shear strength, impervious ceramic (porcelain) mosaics	≥ 50 psi (0,34 MPa) at 4 hours	Pass
ANSI A118.15 – shear strength, impervious ceramic (porcelain) mosaics	> 400 psi (2,76 MPa) at 28 days	460 to 670 psi (3,17 to 4,62 MPa)
ANSI A118.15 – shear strength, glazed wall tile	> 450 psi (3,10 MPa) at 7 days	480 to 750 psi (3,31 to 5,17 MPa)
ANSI A118.15 – shear strength, quarry tile to quarry tile	> 150 psi (1,03 MPa) at 28 days	460 to 550 psi (3,17 to 3,79 MPa)





\* Anything that meets A118.15 by definition meets or exceeds A118.4.

## Shelf Life and Application Properties at 73°F (23°C) and 50% relative humidity

Shelf life	1 year (powder); 2 years (liquid)
Open time**	10 to 20 minutes
Pot life**	30 minutes
Time before grouting**	3 to 4 hours
VOCs (Rule #1168 of California's SCAQMD)	34 g per L
VOCs (Section 01350 of California's CDPH)	Passed

\*\* Open time, pot life and time before grouting vary based on jobsite conditions.

**Approximate Coverage\*\*\*** per 46 lbs. (20,9 kg) of gray powder or 50 lbs. (22,7 kg) of white powder, combined with 2 U.S. gals. (7,57 L) of liquid

Typical Trowel	Coverage
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) 	75 to 90 sq. ft. (6,97 to 8,36 m <sup>2</sup> )
1/4" x 3/8" x 1/4" (6 x 10 x 6 mm) 	55 to 65 sq. ft. (5,11 to 6,04 m <sup>2</sup> )
1/2" x 1/2" x 1/2" (12 x 12 x 12 mm) 	38 to 45 sq. ft. (3,53 to 4,18 m <sup>2</sup> )
3/4" x 9/16" x 3/8" (19 x 14 x 10 mm) 	25 to 30 sq. ft. (2,32 to 2,79 m <sup>2</sup> )

\*\*\* Trowel dimensions are width/depth/space. Actual coverage will vary according to substrate profile and tile type.

# Granirapid® System



## Packaging

Size and Color
Bag, powder: 50 lbs. (22,7 kg), gray
Bag, powder: 46 lbs. (20,9 kg), white
Jug, liquid: 2 U.S. gals. (7,57 L)
Pail, liquid: 5 U.S. gals. (18,9 L)
Drum, liquid: 55 U.S. gals. (208 L)

## RELATED DOCUMENTS

Reference Guide: Surface Preparation Requirements for tile and stone installation systems\*

Technical Bulletin: "Gypsum-Based Floors and Walls: Which MAPEI Products Can Be Applied?\*"

\* At [www.mapei.com](http://www.mapei.com)

Refer to the SDS for specific data related to health and safety as well as product handling.

## LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at

[www.mapei.com](http://www.mapei.com). **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use,

and the user alone assumes all risks and liability. **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.**

We proudly support the following industry organizations:



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For the most current **BEST-BACKED™** product data and warranty information, visit [www.mapei.com](http://www.mapei.com).

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