Planislope RS

Rapid-Setting, Polymer-Modified Sloping Mortar

DESCRIPTION

Planislope™ *RS* is a rapid-setting, pre-blended, cement-based, polymer-modified mortar that includes a blend of select aggregates for use in sloping and thick-bed mortar installations. It only needs mixing with water to produce a mortar of exceptional strength. Used for preparing a substrate before the installation of tile and stone, *Planislope RS* is designed for pre-sloping under waterproofing membranes and mortar beds in showers when quick turnarounds are desired.

FEATURES AND BENEFITS

- Rapid-setting: Set tile in 1 to 2 hours
- Pre-blended: Requires no jobsite blending of powders or additives
- Polymer-modified; mix with water for most interior/exterior installations
- Screed, float and level from 1/4" to 3" (6 mm to 7.5 cm)
- Can be applied up to 3" (7.5 cm) thick for leveling and ramping on horizontal substrates
- Can be applied up to 5" (12.5 cm) thick for use in trenches
- Formulated for wet and dry environments
- Smooth finish

WHERE TO USE

- For interior/exterior environments for residential and commercial installations on walls and floors in wet and dry areas
- For use as a bonded or unbonded, conventional, thick mortar bed

- Ideal to float shower pre-slopes and bases
- For leveling, screeding, ramping and trench applications
- For areas where leveling, flattening or contouring of finished floor height is required
- For areas where floor flatness is critical, such as when tiles with any edge longer than 15" (38 cm) are specified
- For concrete substrates that are cracked or present bonding issues
- For areas with in-slab hydronic tubing

INDUSTRY STANDARDS AND APPROVALS

- ANSI: Meets A108.1 requirements
- ASTM: Meets C109 and C348 requirements

LIMITATIONS

- Install only at temperatures between 45°F and 95°F (7°C and 35°C).
- See ANSI A108.1 industry standard for details on mortar bed installations.
- Per mortar-bed installation methods TCNA F141 and F145 (and TTMAC 313F-C), wood-frame floor systems, including the framing system and subfloor panels, over which tile will be installed must conform with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or applicable building codes. For calculating suitability for live load or if the suitability of the structure is unclear, consult a structural engineer or design consultant.
- Do not apply over standing water or wet surfaces.
- Do not apply directly over plywood, oriented strand board (OSB), metal, fiberglass, plastic, lightweight concrete, gypsum underlayment, particle board or hardwood floors.

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

SUITABLE SUBSTRATES

- Concrete (cured at least 28 days)
- Masonry cement block, brick and cement mortar beds
- Cement backer units (CBUs), which should be dampened with water by a sponge or spray mist before mortar application. See manufacturer's installation guidelines.
- Adequately designed wood frame floor systems; see details in the handbook of the Tile Council of North America (TCNA) or Terrazzo, Tile & Marble Association of Canada (TTMAC)
- APA Group 1 and CANPLY 0121 exterior-grade plywood (interior, residential and light-commercial applications in dry conditions only, in accordance with TCNA F141 or F145 [or TTMAC 313F-C]) with the required cleavage membrane
- Existing ceramic and porcelain tile, cement terrazzo, quarry tile and pavers when approved for interior/dry conditions only and that must be primed with *ECO Prim Grip*™
- Well-bonded cement plaster

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

SURFACE PREPARATION

- All substrates must be structurally sound, stable, clean and free of any substance or condition that may reduce or prevent proper adhesion.
- The surface for direct-bond applications must be porous, with an International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #3 to #5. Then the surface must be primed with a slurry bond coat as directed below.

See the "Surface Preparation Requirements" reference guide in the Tile & Stone Installation Systems section of MAPEI's Website.

MIXING

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

For use as a dry-pack mortar bed

1a. Hand-mix in a clean wheelbarrow or mortar box by gradually adding water while slowly mixing in mortar using a mortar hoe.
1b. For machine mixing, add the water first to the mixer.
2. Use 2.3 to 3.2 U.S. qts. (2.18 to 3.03 L) of cool, clean water per 50 lbs. (22.7 kg) of *Planislope RS*.
3. Mix thoroughly to a dry or semi-dry consistency that can be formed, by hand, into a ball without crumbling apart.

For use as a direct-bond mortar bed

1. Create a slurry bond coat with *Planislope RS* and 1 U.S. gal. (3.79 L) of water, or with a mixed MAPEI mortar that meets ANSI A118.4 requirements. Mix to a creamy consistency.

For use as a floating or unbonded mortar bed

- Follow ANSI A108.1A industry requirements.

For use as a scratch coat and wall render

- Follow methods approved by TCNA or TTMAC.
- Mix to a plastic consistency.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

Dry-pack mortar bed

- See the application directions below for direct-bond mortar beds or floating/unbonded mortar beds.

Direct-bond mortar bed (installed directly over concrete)

1. Broom or scrub a slurry bond coat into the concrete substrate. It is critical that the slurry be completely wet (rather than partially dry) when applying the *Planislope RS* mortar bed. It is best to "prime as you go" to ensure a constantly wet primer on the floor. Set the screed guides using float strips or mortar screeds to the necessary floor tolerances.
2. If sloping, slope where necessary to the drains. Screed guides should be tooled to a square-edge right angle.

3. While the slurry is still wet, spread a thin layer of *Planislope RS* onto the floor surface between strips using a straight edge. Work *Planislope RS* with a wood or magnesium float into the slurry bond coat. Immediately follow with more *Planislope RS* to the desired height, compacting and closing up the surface.
4. Finish the surface true and flat to the necessary tolerances.

Floating or unbonded mortar bed

1. Floating screeds are typically used when it is necessary to isolate a tile assembly from problematic floor conditions using a cleavage membrane (“slip sheet”). TCNA and TTMAC have a variety of application details regarding tile installations over mortar beds incorporating the use of a cleavage membrane. See the latest TCNA or TTMAC handbook for more information on floating mortar beds.
2. Apply a cleavage membrane (“slip sheet”) that measures 6 mils thick (if polyethylene) or 15 lbs. (6.80 kg) heavy (if roofing felt) to the substrate.
3. Lay out sheets or rolls of self-furred, 2" x 2" (5 x 5 cm), 16-gauge, galvanized wire mesh throughout installation. Overlap the mesh by 2" (5 cm) and connect the sheets using wire ties.
4. Apply *Planislope RS* into the wire mesh. The mesh must be either propped up before or during the application, so that the mesh is approximately in the middle of the mortar bed with at least 5/8" (16 mm) of mortar thickness covering the wire mesh.
5. Work the mortar mixture with a wood or magnesium float to compact and close up the surface.
6. Finish the surface true and flat to the necessary tolerances.

For use as a scratch coat and wall render (over masonry or concrete, following methods approved by TCNA or TTMAC)

1. Dampen the surface with a sponge.
2. Apply a slurry bond coat made from a MAPEI polymer-modified mortar that meets ANSI A118.4, mixed with water to a creamy consistency. This slurry bond coat should be keyed with pressure into the substrate using the flat side of a trowel. Immediately apply *Planislope RS* as a scratch coat to the desired thickness with the trowel’s flat side and scratch the coat with an appropriate scratching tool – before the coat hardens. The scratch coat should not exceed 3/8" (10 mm) in thickness.
3. After the scratch coat hardens, key *Planislope RS* into the scratch coat. Then apply a render coat (also known as a “brown coat” or “float coat”) that does not exceed 1/2" (12 mm) in thickness per lift.
4. Scratch all lifts that will receive additional render coats. Use a standard steel trowel to apply the final render coat, and then use a screed bar to create a plumb and true mortar surface.
5. Whether a tile mortar or a waterproofing membrane will be installed directly over the render coat, allow the render coat to cure for 1 to 2 hours at an ambient temperature of 70°F (21°C). Temperatures below 70°F (21°C) may necessitate longer curing times. For applications of a waterproofing membrane, refer to the Technical Data Sheet of the waterproofing membrane for recommended curing times of the membrane before tile installation or flood-testing.

Application notes

- The setting of Portland-cement mortars is retarded by low temperatures. Protect finished work for an extended period when installations take place in cold weather.
- The evaporation of moisture in Portland-cement mortars is accelerated by hot, dry conditions. When installing in temperatures over 85°F (29°C), dampen substrates, apply *Planislope RS* and protect the freshly spread mortar from premature drying using standard concrete protection methods.
- A slurry bond coat should also be applied to the edges of mortar beds installed from previous work periods.
- Previous mortar beds should have squared edges.

EXPANSION AND CONTROL JOINTS

- Provide for expansion and control joints as specified per TCNA Method EJ171 or per TTMAC Specification Guide 09 30 00, Detail 301MJ.
- Provide expansion and control joints at the perimeter edge of the floor, around columns, curbs and other areas where a change of plane occurs and at the intersection between areas of different substrates.
- Expansion and control joints in the substrate or placed within the mortar bed should be carried up through the tilework and left as soft joints that are filled with an approved expansive material.
- Do not cover expansion joints with mortar.

CLEANUP

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

PROTECTION AND CURING

- Provide for dry, heated storage on site and deliver materials at least 24 hours before work begins.
- Protect the installation from rain, snow, freezing and direct sunlight, which may affect curing and performance properties.
- Maintain a temperature between 45°F and 95°F (7°C and 35°C) for at least 24 to 48 hours after the installation.
- Allow the mortar to cure before installing tile. Curing time depends upon thickness applied and jobsite conditions.
- Note that cool, damp and humid conditions will slow the rate of evaporation and will cause *Planislope RS* to retain a higher moisture content for a longer period of time.
- If the installation will be covered with a non-breathable membrane or if a moisture-sensitive stone is the finish, allow an extended period of curing before applying the membrane.
- Protect the installation from foot traffic for 2 to 3 hours.
- Protect the installation from heavy traffic for 12 hours.

Product Performance Properties mixed as dry-pack

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

Laboratory Tests	Results
Application temperature range	45°F to 95°F (7°C to 35°C)
Compressive strength – ASTM C109	
4 hours	1,500 to 2,000 psi (10.3 to 13.8 MPa)
24 hours	2,000 to 3,000 psi (13.8 to 20.7 MPa)
7 days	3,000 to 4,000 psi (20.7 to 27.6 MPa)
28 days	4,000 to 5,000 psi (27.6 to 34.5 MPa)
Shrinkage, 28-day cure – ASTM C157	0.1%
Flexural strength – ASTM C348	940 to 1,500 psi (6.48 to 10.3 MPa)
VOC content	0 g per L

Shelf Life and Application Properties

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
Pot life at 68°F (20°C)	25 to 30 minutes
Color	Gray
Cleanability	With water while fresh
Application temperature range	45°F to 95°F (7°C to 35°C)

Packaging

Size
Bag: 50 lbs. (22.7 kg)

Approximate Coverage*

Thickness	Coverage
1/2" (12 mm)	10 to 12 sq. ft. (0.93 to 1.11 m^2)
1" (2.5 cm)	5 to 6 sq. ft. (0.46 to 0.56 m^2)
2" (5 cm)	2.5 to 3 sq. ft. (0.23 to 0.28 m^2)

** Coverage shown is for estimating purposes only. Actual jobsite coverages may vary according to substrate conditions and setting practices.*

ADDITIONAL INFORMATION

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

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

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