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MAPEI®

Planitex™ SL

Self-Leveling Underlayment for Gypsum and Wood Substrates

DESCRIPTION

Planitex SL is a high-performance gypsum-based self-leveler. It is a low-VOC floor-smoothing compound for patching, skimming, smoothing and leveling in dry interior residential or commercial areas. *Planitex SL* is suitable under normal loading in interiors from featheredge to 1-1/4" (3,2 cm). *Planitex SL* provides a suitable substrate for floor coverings such as rubber, sheet vinyl and vinyl composition tile (VCT). *Planitex SL* can be used to cover radiant or in-floor heating systems, and features exceptional compressive and flexural strengths so that it can support light wheeled traffic.

INDUSTRY STANDARDS AND APPROVALS

LEED Points Contribution	LEED Points
MR Credit 5, Regional Materials*	Up to 2 points

* *Using this MAPEI 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

- For repairing, skimming and smoothing existing gypsum underlayments and wood before installing floor coverings
- For repairing and smoothing of plywood, oriented strand board (OSB) and wood flooring when applied at a minimum thickness of 3/4" (19 mm)
- For application over sound mats when applied at a minimum thickness of 1.5" (3,8 cm)

Note: Use appropriate primer.

TECHNICAL NOTES

- *Planitex SL* is a fine white powder consisting of alpha-hemihydrate calcium sulphate, rapid hydrating components, specially selected quartz sands to defined grain sizes, resins and special binder combinations.
- *Planitex SL* is very low in emissions of volatile organic compounds (VOCs) and contains no Portland cement. Due to its optimum pH value, skin irritation is not an issue.
- When mixed with water, *Planitex SL* may be poured or pumped and then applied with gauge rake, notched trowel or squeegee to a very smooth self-leveling compound with optimum bonding.
- Minimum thickness over wood subfloors is 3/4" (19 mm). When applications over a sound mat are required, use *Planitex SL 35* and pour a minimum thickness of 1.5" (3,8 cm).
- With a thickness of at least 1/8" (3 mm) over a sound existing gypsum substrate, or over concrete, *Planitex SL* is suitable for wheeled chair traffic.
- After proper drying, *Planitex SL* has exceptional compressive and flexural strength and resistance to indentation.
- *Planitex SL* can be opened to light foot traffic in about 3 hours. Once dried sufficiently – dependent on temperature, humidity and depth of application – floor coverings can be installed (with the exception of directly bonded parquet, sheet coverings and laminate).
- Residual moisture must be checked using a moisture meter before laying floor coverings. Consult MAPEI's Technical Services.
- *Planitex SL* is very fluid once mixed and can be installed easily from featheredge to 1-1/4" (3,2 cm) in a single lift. *Planitex SL* quickly hardens within 2 to 3 hours. As soon as sufficiently dry enough for the floor

covering selected, it can accept installation of ceramic tile, natural stone, and floor coverings such as carpet, vinyl sheet goods, vinyl tile, vinyl composition tile (VCT), homogenous PVC and rubber.

- Drying time is dependent on temperature, humidity and the thickness applied. Use a Delmhorst Model G-79 or BD-2100 (set to the gypsum scale). With reliable, properly calibrated equipment, the floor is considered ready for the installation of the floor covering when the calibrated meter reads 5% or less. Readings should be taken on multiple locations.
- *Planitex SL* has a compressive strength greater than 4,000 psi (27,6 MPa) after 28 days.
- Before application of *Planitex SL*, always properly prepare the surface and prime with MAPEI's *Primer L*™, *Primer T*™ or *Primer WE*™ (see respective Technical Data Sheets [TDSs] for details).
- *Planitex SL* is for dry interior applications only. For exterior applications or applications subject to moisture, use a MAPEI exterior-grade product suited for these conditions (contact MAPEI's Technical Services for details).
- *Planitex SL* can only be used between the temperatures of 50°F and 95°F (10°C and 35°C). In cooler conditions, use indirect auxiliary heaters to maintain ambient and substrate temperatures within the required range. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.
- Provide for expansion and control joints where specified, including the perimeter of the room, columns, supports and equipment pedestals. Do not bridge expansion and control joints; ensure that such joints are honored completely throughout *Planitex SL* and primer. The width for expansion and control joint cuts in *Planitex SL* should be at least 1/4" (6 mm).
- If applying *Planitex SL* in multiple layers, wait until the first layer is firm enough to walk on and immediately apply the second layer. If the leveling coat is allowed to harden, prime between coats with a suitable MAPEI primer.
- If *Planitex SL* is sanded, prime the sanded surface with a suitable MAPEI primer before adhering coverings.

LIMITATIONS

- Do not use *Planitex SL*:
  - In external areas or wet rooms;
  - On substrates with high residual moisture or substrates that do not have under-slab moisture vapor barriers;
  - On bonded screeds where re-wetting is anticipated from moisture in the subfloor;
  - On highly absorbent substrates without the relevant primer;
  - At temperatures below 50°F (10°C) or above 95°F (35°C) or when the relative humidity is above 75%. Lower temperatures and higher humidity increase the setting time, whereas higher temperatures and lower humidity shorten the setting time;
  - For receiving parquet;
  - At high room temperatures, in direct sunshine or under drafts.
- Do not re-temper or add water once mixed.
- Do not mix *Planitex SL* with lime, gypsum, cement or other levelers including proprietary dry mortars. Before applying any cement-based adhesives (or materials) over *Planitex SL*, prime with *Primer L* diluted 1:3 (primer:water), or *Primer T* diluted 1:2 (primer:water). Perform a second primer application where required to ensure that a continuous thin film of primer exists before the application of cementitious adhesives.
- Installations that will receive engineered or solid wood must be at least 1/4" (6 mm) thick, be allowed sufficient drying time (a minimum of 5 to 7 days at 1/4" [6 mm], or waiting longer when application is deeper), be moisture-tested (see "Curing" section for appropriate methods to determine product readiness for receiving finished flooring goods), and use the appropriate MAPEI adhesive – *Ultrabond ECO® 975*, *Ultrabond ECO 980* or *Ultrabond ECO 990*.

SURFACE PREPARATION

1. All substrates must be indoor, structurally sound, stable, solid and dry. *Planitex SL* may not be used where consistently exposed to water, or where intermittently or permanently high moisture vapor emission rates (MVERs) are present. The presence of water or a high MVER will compromise the performance of the flooring system. Substrates must conform to the manufacturer's suitability specifications for the floor coverings.
2. Thoroughly clean the surface of any substance that could interfere with the bond of the installation material or product performance including but not limited to dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, sealers, curing compounds, form release agents, laitance, loose toppings, foreign substances and thick adhesive residues.
3. Concrete surfaces do not need to be mechanically profiled or shotblasted when applying *Planitex SL*, but must meet requirements of Step 1. in this section and be properly primed. Remove weak or powdery surfaces and prime with a suitable MAPEI product. Consult MAPEI's Technical Services.
4. Repair cracks before placement of *Planitex SL*.

5. When using *Planitex SL* as an underlayment with other finished floor systems (resilient, VCT, ceramic, etc.), always consult and follow manufacturer's recommendations regarding maximum allowable moisture content and MVER before installation. After cleaning the substrate, test the substrate MVER to ensure that it does not exceed 3 lbs. per 1,000 sq. ft. (1,36 kg per 92,9 m^2) per 24 hours as measured by a calcium chloride test (reference ASTM F1869). Perform the test on properly located areas before installation of *Planitex SL*. Floors with an unacceptably high MVER may be treated by installing a MAPEI moisture-reduction barrier.
6. Substrates and ambient room temperatures must be between 50°F and 95°F (10°C and 35°C) before application. Temperatures must be maintained within this range for at least 72 hours after the installation of *Planitex SL*.
7. Fill in deep areas by extending *Planitex SL* up to 30% with clean 3/8" (10 mm) aggregate. Fill holes or cracks with appropriate sealant or patching materials, especially when installing on a second-story floor or above where fluid material could leak to a floor below (contact MAPEI Technical Services for details).
8. Always prime the prepared surface with a suitable MAPEI primer before the application of *Planitex SL*.

   8.1 Do not apply primer over standing water.

   8.2 Apply *Planitex SL* only when primer is in correct condition. See the primer's TDS for instructions.

   8.3 Some substrates may be more porous than others and require specific primer application. See the primer's TDS or contact MAPEI's Technical Services for application recommendations.

   8.4 When leveling/smoothing over gypsum-based screeds, including anhydrite screeds, first treat the screed with *Primer L* diluted with water at a 1:3 (primer:water) ratio or *Primer T* diluted at a 1:2 (primer:water) ratio. Multiple coats may be required to properly primer the substrate.

   8.5 When a MAPEI moisture reduction-barrier product is used to reduce the MVER of a substrate, ensure that the correct primer selection has been made. See the appropriate TDS or contact MAPEI's Technical Services for details.
9. *Planitex SL* can be used over engineer-approved plywood. Subfloors must be properly prepared, bonded, and free of dirt and dust. The minimum depth of applications over wood subfloors is 3/4" (19 mm).
10. To install over properly prepared ceramic tile, VCT, cement and epoxy terrazzo, and thin layers of old cutback adhesive residue, surface must be properly prepared, bonded, free of dirt and dust, and primed. Prime with the appropriate primer (contact MAPEI's Technical Services for application recommendations).
11. To install over properly prepared steel decking or metal, surface must not exceed L/360 deflection requirements for tile installations or L/720 for stone installations. Prime the properly prepared surface with the appropriate primer (contact MAPEI's Technical Services for application recommendations).

MIXING

General mixing

Into a clean mixing container, pour the required amount of cool, clean potable water. If available water is not cool, chill water to 70°F (21°C). Add *Planitex SL* powder while slowly stirring. Mix water and *Planitex SL* powder at a mixing ratio of 5.5 to 5.8 U.S. qts. (5,20 to 5,49 L) water per 50 lbs. (22,7 kg) bag of *Planitex SL*. The mixing ratio must remain consistent. Do not overwater material. For best results, use the *MAPEI Self-Leveling Tool Kit* (contact MAPEI's Technical Services for details).

Barrel mixing

Using the mixing ratio above, mix using a medium-speed mixer (at about 700 rpm) with an "egg-beater" mixing paddle. Mix to a homogenous, lump-free consistency (for about 2 minutes). Do not overmix. Overmixing or moving the mixer up and down during the mixing process could cause air entrapment, which could shorten pot life or cause pinholing during application and curing.

Pump mixing

Planitex SL can be mechanically mixed, using the mixing ratio above, with a continuous mixer and pump (for best performance, use at least 140 ft. [42,7 m] of hose) or a batch mixer and pump (for best performance, use at least 110 ft. [33,5 m] of hose). Adhere to pump manufacturer's specifications. Mixer and pump must be in good working condition. Periodic cleaning of pumping equipment is required per the manufacturer's instructions. Be sure to pressure-test rotor and stator for proper mixing. Apply to a small test area before general application to ensure a successful installation.

Note: Cool-weather conditions may require longer mixing or additional hose length to ensure best performance.

APPLICATION

1. Before installation, close all doors and windows. Tape gaps, cracks, etc., under doors and around windows to prevent drafts. Adjust ventilation system to prevent air movement across the surface. Protect application areas from direct sunlight.
2. Make sure concrete substrate and ambient room temperatures are between 50°F and 95°F (10°C and 35°C) before application. Temperatures must be maintained within this range for at least 72 hours after the installation of *Planitex SL*. In cooler conditions, use indirect auxiliary heaters to maintain ambient and substrate temperatures within the required range. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.
3. Application of *Planitex SL* over large areas can be made easier and more efficient by using rotor-stator or underlayment-type pumps. Contact MAPEI's Technical Services for recommendations.
4. For best results, work as a team to provide a continuous flow of wet material, thereby avoiding the entrapment of air or the creation of a cold joint.
5. Set the width of the pour at a distance that is ideal for maintaining a wet edge throughout placement. Quickly pour or pump *Planitex SL* onto the properly prepared and primed surface in a ribbon pattern. If a wet edge cannot be maintained, reduce the width of the pour.

6. *Planitex SL* has an approximate working time of 15 minutes at 73°F (23°C), is self-leveling and is recommended for depths of featheredge to 1-1/4" (3,2 cm). Please note that temperature and humidity will affect working time, flowability and setting time. Apply enough material to adequately cover all high spots.
7. Immediately after placing the *Planitex SL*, spread the material with a MAPEI Gauge Rake. After achieving the desired depth, smooth surface with a MAPEI Smoother to obtain an even surface. To avoid air entrapment, do not overwork the material.
8. For extended installations from 1-1/4" to 5" (3,2 to 12,5 cm), pre-place clean aggregate sized 1/4" to 3/8" (6 to 10 mm) on the primed surface at no more than half of the total pour depth. Pour *Planitex SL* over placed aggregate and rake aggressively to ensure full contact and bond with substrate; then immediately pour 1/4" (6 mm) of *Planitex SL* over the application to provide smooth level surface.

   Note: Use only clean, stable aggregates. Do not use limestone or other potentially reactive aggregates for extension. Contact MAPEI's Technical Services for further assistance.
9. If a second lift of *Planitex SL* is required, it should be applied after the first lift has cured completely (see "Curing" section). Apply suitable MAPEI primer before the application of the second lift.

   Coats of *Planitex SL* up to 3/16" (4,5 mm) can be overlaid after about 24 hours at 73°F (23°C) and can be covered with all types of flooring. For wood flooring, allow longer drying times and test to ensure proper dryness.

   Protect the surface from contaminants until the final flooring installation is complete.

CURING

1. *Planitex SL* is self-curing. Do not use a damp-curing method, or curing and sealing compounds.
2. Protect *Planitex SL* from excessive heat or draft conditions during curing. Turn off all forced ventilation and radiant-heating systems, and protect for up to 24 hours after completion.
3. When dry, *Planitex SL* can accept installation of ceramic tile and natural stone as well as floor coverings such as carpet, vinyl sheet goods, vinyl tile, VCT, homogenous PVC, rubber and engineered wood.

   Note: If *Planitex SL* is sanded after laying, prime with *Primer L* (1 part *Primer L* diluted with 3 parts water) before bonding coverings.
4. Depending on the temperature, air circulation and humidity, a 3/4" (19 mm) pour will usually dry in 5 to 7 days while a 1-1/4" (3,2 cm) pour may take 14 to 21 days. In normal conditions (73°F [23°C]) on a 1/4" (6 mm) deep pour, wait 3 days before installing breathable flooring, and 5 to 7 days before installing impervious floor coverings.

   Environmental conditions will affect the cure rate. Use a Delmhorst Model G-79 or BD-2100 (set to the gypsum scale). With reliable, properly calibrated equipment, the floor is considered ready for the next step when the calibrated meter reads 5% or less. Readings should be taken on multiple locations. Ensure that the moisture content meets the manufacturer's specifications for the floor covering.
5. Protect from traffic, dirt and dust from other trades until the floor sealer has been installed and completely cured. When used for repairing a concrete surface, do not leave surface exposed. Cover with a final wear surface.

CLEANING

Wash hands and tools with water promptly before material hardens. Cured material must be mechanically removed.

Product Performance Properties

Laboratory Tests	Results
Consistency	Powder
Color	Light beige
Flammability	Flame spread: 0 Fuel contribution: 0 Smoke development: 0
***Planitex SL* (mixed)**	
Mix ratio	5.5 to 5.8 U.S. qts. (5,2 to 5,5 L) of water per 50 lbs. (22,7 kg) of *Planitex SL*
Cured density (24 hours)	About 122 lbs. per cu. ft. (2 000 kg per m^3)
Bed thickness	Featheredge to 1-1/4" (3,2 cm)
Flow properties	Self-flowing
pH value	Neutral
Application temperature range	50°F to 95°F (5°C to 35°C)
Working time	About 30 minutes (15 minutes with notched trowel)
Ready for light foot traffic	About 3 hours
Ready for regular traffic	After about 24 hours (maximum thickness 3/16" [4,5 mm]) (moisture measurements necessary for thicker coats)
Compressive strength (after 28 days)	> 4,000 psi (27,6 MPa)
Flexural strength (after 28 days)	> 1,000 psi (6,90 MPa)
In-floor heating	Suitable
Light-wheeled traffic	Suitable from 1/8" to 1-1/4" (3 mm to 3,2 cm)

Shelf Life and Application Properties

Shelf life	6 months in original unopened packaging in a cool, dry area

CSI Division Classifications

Gypsum Cement Underlayment	03 54 13

Packaging

Product code	Size/color
117450	Bag: 50 lbs. (22,7 kg)

Approximate Product Coverage

Thickness	Yield
1/4" (6 mm)	24 sq. ft. (2,23 m^2)

* *Coverage shown is for estimating purposes only. Actual jobsite coverages may vary according to substrate conditions, type of equipment, thickness applied and applications methods used.*

Planitex™ SL

Refer to MAPEI's Material Safety Data Sheet (MSDS) for specific data related to VOCs, health and safety, and handling of product.

STATEMENT OF RESPONSIBILITY

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.**

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.

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