

Novoplan SP

Standard-Performance, Self-Leveling Underlayment



DESCRIPTION

Novoplan® SP is a standard-performance, self-leveling, calcium-aluminate-based underlayment and repair mix for interior concrete and engineer-approved floors.

FEATURES AND BENEFITS

- Value-priced
- Good flow properties

INDUSTRY STANDARDS AND APPROVALS

- Meets compression and flatness requirements of ASTM F710-17, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
- Meets compression and flatness requirements of ASTM F2873-13, Standard Practice for the Installation of Self-Leveling Underlayment and the Preparation of Surface to Receive Resilient Flooring

Green Certifications

- CRI Green Label Plus #GLP01646. Refer to the CRI's Website at www.carpet-rug.org for additional information.

WHERE TO USE

- For leveling, smoothing and repairing of interior residential or commercial floors before the installation of flooring systems and floor coverings
- For use over radiant-heated floors or to encapsulate hydronic or electric radiant-heated floors
- Interior residential (rental apartments, condominiums and homes)

- Interior commercial (office buildings, hotel rooms/hallways, restaurants and cafeterias)
- Interior heavy commercial (hotel lobbies, convention centers, airports, shopping malls, grocery stores and department stores)
- Interior institutional (hospitals, schools, universities, libraries and government buildings)

LIMITATIONS

- Do not mix with other self-leveling underlayments.
- Do not install over floor-covering products, over adhesives or over substrates containing asbestos.
- For interior use only
- Do not use as a final wear surface. *Novoplan SP* must be covered with a finished flooring system.
- Install *Novoplan SP* in temperatures between 50°F and 85°F (10°C and 29°C).
- Do not install over moving control joints (with active cracks) or over expansion joints.
- If the substrate has a moisture vapor emission rate (MVER) exceeding 5 lbs. per 1,000 sq. ft. (2.27 kg per 92.9 m²) per 24 hours using a calcium chloride test (reference ASTM F1869), and a relative humidity (RH) reading greater than 80% (ASTM F2170), use a MAPEI epoxy moisture barrier. Consult MAPEI's Technical Services Department for product recommendations.
- Do not install *Novoplan SP* over sheet vinyl or self-stick vinyl tile; luxury vinyl tile or luxury vinyl plank (LVT or LVP); glue-down wood flooring; particleboard; chipboard; hardboard (Masonite); Lauan panels; crack-isolation or sound-control membranes; gypsum-based patching materials; or any other nondimensionally stable materials.
- Do not install if the maximum allowable deflection of the supporting surface exceeds L/360 (or L/720 for installations involving natural stone or their agglomerates) when exposed to live or dead loads.
- Do not use in areas subjected to prolonged exposure to moisture. Contact MAPEI's Technical Services Department for waterproofing recommendations.

SUITABLE SUBSTRATES

- Sound, dimensionally stable, fully cured concrete at least 28 days old and free from hydrostatic pressure
- Well-bonded and dimensionally stable ceramic tile, porcelain tile, quarry tile, natural stone, vinyl composition tile (VCT), cement, epoxy-based moisture barriers and epoxy terrazzo
- Properly installed cement backer units
- Durable, sound, stable and fully cured cement-based mortar beds
- Engineer-approved plywood or oriented strand board (OSB) subfloors in accordance with the most recent edition of the Tile Council of North America's F185 specification. Before a MAPEI underlayment is applied over plywood flooring, ASTM C847 specifications for finished flooring, load, use and/or deflection may require a synthetic lath or an appropriate diamond mesh on top of the primed surface.
- Existing nailed-down wood flooring (including plank wood subfloors, strip wood subfloors or nailed-down solid wood flooring) that has been covered over with at least one layer of 5/8" (16 mm) plywood, glued and screwed
- Gypsum-based underlayments

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

SURFACE PREPARATION

- All substrates must be properly prepared, primed, structurally sound, stable, solid and dry.
- Concrete surfaces must be mechanically profiled to an International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #3.
- On concrete substrates, fill in deep areas, holes and cracks with an appropriate MAPEI patching compound or screed. Fluid self-leveler may leak through to a floor below or other unwanted cavities.
- On plywood substrates, fill joints with an acrylic-based caulking compound to prevent underlayment from leaking onto a floor below.

Refer to MAPEI's reference guide "Surface-Preparation Requirements for Self-Leveling Underlayments" for details on proper surface preparation.

MIXING

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

General mixing

1. Mix water and *Novoplan SP* powder at a mixing ratio of 5.2 to 5.5 U.S. qts. (4.92 to 5.2 L) of clean potable water per 50 lbs. (22.7 kg) of powder.
2. Measure and pour the required amount of cool, clean potable water for the number of bags to be mixed into a clean mixing vessel (mixing barrel or plastic pail measuring 5 U.S. gals. or 18.9 L). For best results, the water temperature should be at about room temperature (70°F or 21°C). The mixing ratio must remain consistent; do not overwater the mixture.
3. Slowly add *Novoplan SP* powder into the pre-measured water. Use a high-speed drill and an oval paddle mixer to mix *Novoplan SP* to a homogeneous, lump-free consistency. Continue to mix for 2 to 3 minutes. Do not overmix. Overmixing or moving the mixer up and down during the mixing process could trap air or cause pinholing during the application and curing process.

Pump mixing

1. The mixer and pump must be designed for cement materials and in good working condition. Periodic cleaning of pumping equipment is required per the manufacturer's instructions. Be sure to pressure-test the rotor and stator before mixing. Use a mesh screen "sock" at the end of the hose to catch any foreign material that may have fallen into the hopper during mixing.
2. *Novoplan SP* can be mechanically mixed to a ratio of 5.2 to 5.5 U.S. qts. (4.92 to 5.2 L) of clean potable water per 50 lbs. (22.7 kg) of powder. For best results, the water temperature should be at about room temperature (70°F or 21°C). Use a continuous mixer and pump (and at least 140 ft. or 42.7 m of hose), or with a batch mixer and pump (and at least 110 ft. or 33.5 m of hose).
3. To ensure a suitable mix and flow, test the mixed material from the pump hose's end in a small test area before general application.

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

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Concrete substrates and ambient room temperatures should be maintained between 50°F and 85°F (10°C and 29°C) during application as well as for 72 hours before and after application.
2. Before product installation, close doors and windows, and turn off HVAC systems to prevent drafts during application and until the underlayment is cured. Protect installation areas from direct sunlight.
3. Quickly pour or pump *Novoplan SP* onto the properly prepared and primed surface in a ribbon pattern. Set the width of the pour at a distance that is ideal for maintaining a wet edge throughout placement. If a wet edge cannot be maintained, reduce the width of the pour. For best results, work as a team to provide a continuous flow of wet material, to avoid trapping air or creating a cold joint. Apply enough material to adequately cover all high spots.
4. Shortly after placing *Novoplan SP*, use a gauge rake to spread the material and assist in gauging it to the desired depth. After achieving the desired depth, use a smoother to obtain an even surface.

CURING

- *Novoplan SP* is self-curing; do not use a damp-curing method, or curing and sealing compounds.
- Cool-weather conditions may extend curing or setting times. Warmer weather conditions may accelerate working, curing and setting times.

CLEANUP

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

PROTECTION

- Protect *Novoplan SP* from direct sunlight, excessive heat and drafty conditions during curing. Turn off all forced ventilation and radiant heating systems, and protect the installation for up to 24 hours after completion.
- Avoid walking on the installed surface for at least 2 to 3 hours after installation, depending upon temperature and humidity conditions.
- Protect the installation from traffic, dirt and dust from other trades until *Novoplan SP* is completely cured and final flooring has been installed.
- Do not expose *Novoplan SP* to rolling dynamic loads, such as fork lifts or scissor lifts, for at least 72 hours after installation.

Product Performance Properties

at 73°F (23°F) and 50% RH

Laboratory Tests	Results
Cured density	128 lbs. per cu. ft. (2.06 kg per L)
pH (of wet mixture)	11
VOCs (Rule #1168 of California's SCAQMD)	0 g per L
VOCs (Section 01350 of California's CDPH)	Passed
Compressive strength – ASTM C109 Modified	
7 days	> 2,500 psi (17.2 MPa)
28 days	> 3,600 psi (24.8 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
28 days	> 870 psi (6 MPa)

Shelf Life and Product Characteristics

before mixing

Shelf life	1 year in original, unopened packaging stored at 73°F (23°C) and 50% RH
Physical state	Powder
Color	Gray

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

Application Properties

Application temperature range	50°F to 85°F (10°C and 29°C)
Mixing ratio	5.2 to 5.5 U.S. qts. (4.92 to 5.2 L) of water at about 85°F (29°C) per 50 lbs. (22.7 kg) of powder
Flow time	Up to 15 minutes
Single-lift application range	1/8" to 1" (3 mm to 2.5 cm)
Minimum thickness over highest point in floor	1/8" (3 mm)
Waiting time for secondary applications	24 hours
Drying time before installation of non-moisture-sensitive floor coverings at 70°F (21°C) at 1" (2.5 cm) thickness*	24 hours

Drying time before installation of moisture-sensitive floor coverings at 70°F (21°C) at 1" (2.5 cm) thickness*	48 to 72 hours
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* Note that shorter drying times may be obtained with thinner applications.

Packaging

Size
Plastic bag: 50 lbs. (22.7 kg)

Approximate Coverage**

per 50 lbs. (22.7 kg)

Thickness	Coverage
1/8" (3 mm)	48 sq. ft. (4.46 m ²)
1/4" (6 mm)	24 sq. ft. (2.23 m ²)
1/2" (12 mm)	12 sq. ft. (1.11 m ²)
3/4" (19 mm)	9 sq. ft. (0.83 m ²)
1" (2.5 cm)	6 sq. ft. (0.56 m ²)

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

CSC Division Classification

Cast Underlayment	03 54 00
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RELATED DOCUMENTS

- Reference Guide: "Surface-Preparation Requirements for Self-Leveling Underlayments"***
- Reference Guide: "Primers for Self-Leveling Materials"***

*** At www.mapei.com

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (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-durabilite@mapei.com.

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.

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 nor 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. **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.**

CONTACT INFORMATION

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For the most current product data and BEST-BACKEDSM warranty information, visit www.mapei.com.

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