



Novoplan[®] 710 SL

Specialty, Self-Leveling Underlayment



DESCRIPTION

Novoplan 710 SL is a self-leveling, calcium-aluminate-cement-based underlayment designed for rapid smoothing and leveling of interior concrete floors before the installation of finished flooring.

FEATURES AND BENEFITS

- Cementitious underlayment compliant with ASTM F710 and designed for rapid turnaround
- Suitable installation substrate for all adhesives and setting systems approved for use on concrete
- Fluid consistency; can be easily installed from featheredge to 1-1/4" (3.2 cm) in a single lift
- Compressive strength greater than 3,000 psi (20.7 MPa) after 7 days and 5,000 psi (34.5 MPa) after 28 days
- Contains no added coal combustion residues (CCRs), including fly ash and slag
- Floor coverings may typically be installed as early as 16 hours after the application is complete.*
- Surface profiling not required over substrates that are primed with MAPEI's *Primer X™*

** For application temperatures of 70°F (21°C) and higher. Cooler temperatures may require additional drying time before finished flooring installation.*

INDUSTRY STANDARDS AND APPROVALS

- Complies with ASTM F710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
- Complies with ASTM F2873, Standard Practice for the Installation of Self-Leveling Underlayment and the Preparation of Surface to Receive Resilient Flooring

WHERE TO USE

- For leveling, smoothing and repairing interior institutional or commercial floors before the installation of flooring systems and coverings
- As a component of moisture-control systems requiring an absorptive surface
- On distressed substrates that are unsuitable for floor-covering installation
- On substrates requiring high-tolerance flatness or levelness

LIMITATIONS

- Do not install over any flooring coverings, adhesives or substrates containing asbestos.
- For interior use only
- Do not use as a final wear surface. *Novoplan 710 SL* must be covered with a finished floor system.
- Install *Novoplan 710 SL* only in temperatures between 50°F and 90°F (10°C and 32°C). For temperatures above 90°F (32°C), follow the American Concrete Institute (ACI) hot-weather application guidelines to ensure a successful installation.
- Do not install over moving control joints (with active cracks) or over expansion joints.
- *Novoplan 710 SL* can be installed over substrates with a moisture vapor emission rate (MVER) up to 15 lbs. (6.80 kg) per ASTM F1869, a relative humidity (RH) reading up to 99%, and a pH reading up to 12 per ASTM F710. Concrete substrates should comply with ASTM F710, including the presence of an effective under-slab vapor retarder in direct contact with the concrete as required for all on-grade or below-grade slabs. The use of *Novoplan 710 SL* does not stop moisture transmission or alter the flooring installation requirements. Follow all manufacturers' recommended installation procedures and industry standards to ensure a successful installation.

- Do not install *Novoplan 710 SL* over sheet vinyl; self-stick vinyl tile; luxury vinyl tile (LVT) or luxury vinyl plank (LVP); glue-down wood flooring; particleboard; chipboard; hardboard (Masonite); Luan panels; waterproofing, 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.

SUITABLE SUBSTRATES

- All substrates must be primed with the appropriate MAPEI primer before applying self-levelers. See MAPEI's "Primers for Self-Leveling Materials" product selection guide and the appropriate primer's Technical Data Sheet (TDS).
- 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 (CBUs)
- Durable, sound, stable and fully cured cement-based mortar beds
- Engineer-approved plywood or OSB subfloors in accordance with the most recent edition of specification F185 by the Tile Council of North America (TCNA). MAPEI underlayments are applied to plywood flooring, installation requirements (finished flooring, load, use and/or deflection) may necessitate the use of *Mapelath*™ or diamond mesh (meeting the requirements of ASTM C847) on top of the primed surface before the application of an underlayment.
- 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 that is glued and screwed

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

SURFACE PREPARATION

- All substrates must be structurally sound, dry, solid and stable.
- The substrate should be clean and free of dust, dirt, oil, grease, paint, curing agents, concrete sealers, loosely bonded toppings, loose particles, old adhesive residues, and any other substance or condition that may prevent or reduce adhesion.
- Concrete surfaces that require mechanical profiling should be prepared by shotblasting, sandblasting, water-jetting, scarifying, diamond-grinding or other engineered-approved methods. Reference International Concrete Repair Institute (ICRI) concrete surface profile (CSP) standards for the acceptable profile height.
- Prime porous, broom-finished or properly profiled surfaces with the appropriate MAPEI primer. Extremely porous concrete may require multiple coats of primer.
- For smooth concrete surfaces or those that cannot be mechanically profiled, prime the surface with *Primer X*™.

- On plywood substrates, fill joints with an acrylic-based caulking compound to prevent *Novoplan 710 SL* from leaking onto a level below.
- For details on proper surface preparation, refer to the reference guide "Surface preparation requirements for self-leveling underlayments" in the Floor Covering Installation Systems section of MAPEI's Website.

MIXING

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

General mixing

1. Measure and pour the required amount of cool, clean, potable water (see "Mixing ratio" in the chart below) for the number of bags to be mixed into a clean mixing barrel. For best results, the water should be at approximately room temperature (70°F [21°C]). The mixing ratio of water to *Novoplan 710 SL* must remain consistent. Do not overwater.
2. Slowly add the *Novoplan 710 SL* powder into the pre-measured water. Use a high-speed drill and an oval paddle mixer to mix the *Novoplan 710 SL* to a homogenous, lump-free consistency.
3. Do not overmix. Overmixing or moving the mixer up and down during the mixing process could trap air, which could shorten the pot life or cause pinholing during the application and curing process.

Pump mixing

1. *Novoplan 710 SL* can be mechanically mixed, using the appropriate mixing ratio (see "Mixing ratio" in the chart below), with a continuous mixer and pump (and at least 140 ft. [42.7 m] of hose) or a batch mixer and pump (and at least 110 ft. [33.5 m] of hose). Periodic cleaning of pumping equipment may be required per the manufacturer's instructions.
2. 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.
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.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Concrete substrates and ambient room temperatures should be maintained between 50°F and 90°F (10°C and 32°C) for 72 hours before, during and after application.
2. Before installation, close doors and windows, and turn off HVAC systems to prevent drafts during application and until the underlayment is cured. Protect areas from direct sunlight.
3. Quickly pour or pump *Novoplan 710 SL* 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.

Continued on Page 4

Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C109 Modified	
1 day	> 1,500 psi (10.3 MPa)
7 days	> 3,000 psi (20.7 MPa)
28 days	> 5,000 psi (34.5 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
28 days	> 1,000 psi (6.90 MPa)
VOCs (Rule #1168 of California's SCAQMD)	0 g per L
Cured density	112 to 118 lbs. per cu. ft. (1 794 to 1 890 kg per m ³)
pH	11
Slump test	5-1/2" (14 cm)
Flow time	Up to 15 minutes

Shelf Life and Product Characteristics before mixing

Shelf life	1 year when stored in original, unopened plastic bag 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

Mixing ratio	4.8 to 5.25 U.S. qts. (4.54 to 4.97 L) of water per 50 lbs. (22.7 kg) of powder
Mixing time	2 to 3 minutes
Application temperature range	50°F to 90°F (10°C to 32°F)
Profile required	CSP #3 for porous surface primers
Application range for a single lift	Featheredge to 1-1/4" (3.2 cm)
Minimum thickness over highest point in floor	1/8" (3 mm)
Maximum use thickness	1-1/4" (3.2 cm) neat; 5" (12.5 cm) with aggregate
Waiting time for secondary applications	3 hours
For use over radiant-heated floors	Yes
For use to encapsulate hydronic or electric radiant-heated floors	Yes
Drying time before installation of tile and stone at 70°F (21°C)	3 hours
Drying time before installation of moisture-sensitive floor coverings at 70°F (21°C)	16 hours after application is complete

CSI Division Classification

Cast Underlayment	03 54 00
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Packaging

Size
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. (0.84 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 applications methods used.

**Novoplan
710 SL**



Novoplan 710 SL



Continued from Page 2

4. Shortly after placing *Novoplan 710 SL*, spread the material with a gauge rake. After achieving the desired depth, smooth the surface with a smoother and/or spiked roller to obtain a uniform finish.
5. For deeper fills, pre-place clean, washed, dry, nonreactive aggregate or pea gravel measuring 1/8" to 3/8" (3 to 10 mm) in diameter over the primed surface at no more than half of the total pour depth. Pour *Novoplan 710 SL* over placed aggregate, and rake aggressively to ensure full contact and bond with the substrate. Alternately, up to 30% by weight in aggregate can be added directly to *Novoplan 710 SL* during mixing.
6. Immediately pour an additional 1/4" (6 mm) of *Novoplan 710 SL* over any raked aggregate to provide a smooth, level surface.

Note: Use only clean, washed, dry, stable aggregates. Do not use limestone or other potentially reactive aggregates for extension.

Note: Second-coat applications of *Novoplan 710 SL* require priming the surface of the first pour using an appropriate MAPEI primer.

CURING

- *Novoplan 710 SL* is self-curing. Do not use a damp-curing method or curing and sealing compounds.
- Cool-weather conditions may extend the drying or setting time. Warmer weather conditions may accelerate the flow, drying or setting time.

CLEANUP

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

PROTECTION

- Protect *Novoplan 710 SL* from direct sunlight, excessive heat and drafty conditions during curing. Turn off all forced ventilation and radiant-heating systems, and protect 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 710 SL* is completely cured and final flooring has been installed.
- Do not expose *Novoplan 710 SL* to rolling dynamic loads, such as fork lifts or scissor lifts, for at least 72 hours after installation.

RELATED DOCUMENTS

Product selection guide: "Primers for self-leveling materials"*

Reference guide: "Surface-preparation requirements for self-leveling underlayments"*

* At www.mapei.com

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).

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.**

We proudly support the following industry organizations:



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

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