



# Novoplan<sup>®</sup> 2 Plus

## Professional Self-Leveling Underlayment



### DESCRIPTION

*Novoplan 2 Plus* is a high-strength, self-leveling cement-based underlayment and repair mix with quicker curing time, for interior concrete and engineer-approved floors.

### FEATURES AND BENEFITS

- For leveling, smoothing and repairing interior floors
- Ready for tile in 24 hours

### INDUSTRY STANDARDS AND APPROVALS

LEED v4 Points Contribution

LEED Points

Health Product Declaration (HPD)\* ..... Up to 2 points

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

### WHERE TO USE

- For leveling, smoothing and repairing interior floors before the installation of floor coverings
- 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 install over substrates containing asbestos.

- For interior use only
- *Novoplan 2 Plus* should only be used 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.
- Do not install if the substrate has a moisture vapor emission rate (MVER) exceeding 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m<sup>2</sup>) 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 to treat concrete slabs with elevated moisture conditions. Consult MAPEI's Technical Services Department for product recommendations.
- Do not install *Novoplan 2 Plus* over sheet vinyl, self-stick vinyl tile, luxury vinyl tile/plank (LVT or LVP), glue-down wood flooring, particleboard, hardboard (Masonite), Luan panels, waterproofing, crack-isolation or sound-control membranes, gypsum-based patching materials, or any other non-dimensionally 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 Technical Services for waterproofing recommendations.

### SURFACE PREPARATION

- All substrates must be properly prepared, primed and structurally sound, stable, solid and dry.
- CSP required: Concrete surfaces must be mechanically profiled to International Concrete Repair Institute (ICRI) concrete surface profile (CSP) #3 standards for acceptable profile.



- 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.
3. Slowly add the powder into the pre-measured water. Use a high-speed drill and an oval paddle mixer to mix for 2 to 3 minutes, or to a homogenous, lump-free consistency.
  4. Do not overmix. Overmixing or moving the mixer up and down during the mixing process could trap air, shorten the pot life or cause pinholing during the application and curing process.

#### Pump mixing

1. *Novoplan 2 Plus* can be mechanically mixed, using the mixing ratio/time shown above, with a continuous mixer and pump (with at least 140 ft. [42,7 m] of hose) or a batch mixer and pump (with at least 110 ft. [33,5 m] of hose). The 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 the rotor and stator before mixing.
2. Use a mesh screen "sock" at the end of the hose to catch any foreign material that could enter the hopper of the mixer.
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) 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 installation areas from direct sunlight.
3. Quickly pour or pump *Novoplan 2 Plus* 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 flowable wet edge throughout placement. If a flowable 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 2 Plus*, spread the material with a gauge rake to assist in gauging out *Novoplan 2 Plus* to the desired depth. Then smooth the surface with a smoother to obtain evenness.
5. For fills of 1" to 5" (2,5 to 12,5 cm) in depth, pre-place clean, 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. (Use only clean, stable aggregate; limestone and other potentially reactive aggregates are not suitable.) Pour *Novoplan 2 Plus* over the 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 2 Plus* during mixing.

## SUITABLE SUBSTRATES

- All substrates must be primed with the appropriate MAPEI primer before applying self-levelers. See MAPEI's Product Selection Guide "Primers for Self-Leveling Materials" and the appropriate primer's Technical Data Sheet.
- Properly prepared, sound, dimensionally stable, fully cured concrete at least 28 days old and free from hydrostatic pressure
- Properly prepared, well-bonded and dimensionally stable ceramic tile, porcelain tile, quarry tile, natural stone, VCT, cement and epoxy terrazzo, and epoxy-based moisture barriers
- 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 the Tile Council of North America's F185 specification. When MAPEI underlayments are applied to plywood flooring, installation requirements (finished flooring, load, use and/or deflection) may require the utilization of *Mapelath™* or diamond mesh (meeting the requirements of ASTM C847) on top of the primed surface before the underlayment is applied.
- Existing nailed-down wood flooring (including plank wood subfloors, stripwood 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 (refer to MAPEI's Technical Bulletin #010313-TB, "Gypsum-Based Floors and Walls: Which MAPEI Products Can Be Applied?")

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

## MIXING

Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for details.

#### General mixing

1. For the best results, use a clean mixing barrel or a plastic pail measuring 5 U.S. gals. (18,9 L) along with clean, potable water at room temperature (about 85°F or 29°C).
2. Mix at a ratio of 5 to 5.28 U.S. qts. (4,73 to 5,0 L) water per 50-lb. (22,7-kg) bag of *Novoplan 2 Plus*. The mixing ratio must remain consistent. Do not overwater material.

## Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C349	
1 day	> 1,250 psi (8,62 MPa)
7 days	> 2,700 psi (18,6 MPa)
28 days	> 4,200 psi (29,0 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
28 days	> 1,050 psi (7,24 MPa)
VOCs (Rule #1168 of California's SCAQMD)	0 g per L
Cured density	128 lbs. per cu. ft. (2,06 kg per L)
pH	11

## Shelf Life and Product Characteristics (before mixing)

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

## Application Properties

Surface profile required	ICRI CSP #3
Application temperature range	50°F to 85°F (10°C and 29°C)
Mixing ratio	5 to 5.28 U.S. qts. (4,73 to 5,0 L) of water per 50 lbs. (22,7 kg) of powder
Mixing time	2 to 3 minutes
Flow time	8 to 10 minutes
Single-lift application range	1/8" to 1" (3 mm to 2,5 cm)
Single-lift application range with 30% aggregate	1" to 5" (2,5 to 12,5 cm)
Minimum thickness over highest point in floor	1/8" (3 mm)
Time until light foot traffic is permitted	24 hours
Drying time before installation of tile and stone at 70°F (21°C) at 1/2" (12 mm) thickness	24 hours
Drying time before installation of moisture-sensitive floor coverings at 70°F (21°C) at 1/2" (12 mm) thickness	48 to 72 hours
Waiting time for secondary applications	24 hours

## CSI Division Classification

Cast Underlayment	03 54 00
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## 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 m²)
1/4" (6 mm)	24 sq. ft. (2,23 m²)
1/2" (12 mm)	12 sq. ft. (1,11 m²)

\* 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.

# Novoplan® 2 Plus



Immediately pour an additional 1/4" (6 mm) of *Novoplan 2 Plus* over the raked aggregate to provide a smooth, level surface.

- A second application of *Novoplan 2 Plus* requires that the surface of the first pour is primed with MAPEI's *Primer L™* or *Primer T™* at the appropriate dilution ratio or with MAPEI's *ECO Prim Grip™* neat.

## CURING

- Novoplan 2 Plus* is self-curing; do not use a damp-curing method or curing and sealing compounds.
- Protect *Novoplan 2 Plus* from excessive heat and draft conditions during curing. Turn off all forced ventilation and radiant heating systems. Protect the installation for up to 24 hours after completion.
- Avoid walking on the installed surface for at least 4 to 5 hours after installation, depending upon temperature and humidity conditions.
- Protect the installation from traffic, dirt and dust from other trades until *Novoplan 2 Plus* has completely cured and the final flooring has been installed.
- Do not expose *Novoplan 2 Plus* to rolling dynamic loads, such as forklifts or scissor lifts, for at least 72 hours after installation.

## CLEANUP

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

## RELATED DOCUMENTS

Product Selection Guide "Primers for Self-Leveling Materials"	RG0609*
Reference Guide "Surface-Preparation Requirements for Self-Leveling Underlayments"	RGF0214*

\* 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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