



Novoplan[®] HFL

High-Flow, Self-Leveling Compound



DESCRIPTION

Novoplan HFL is a self-leveling, calcium-aluminate-based underlayment and repair mix for interior concrete and engineer-approved floors with high-flow characteristics.

FEATURES AND BENEFITS

- High-flow properties for easy placement
- Suitable for use under carpet, resilient, wood and ceramic flooring

WHERE TO USE

- For leveling, smoothing and repairing interior or radiant-heated floors before installation of flooring systems and coverings

LIMITATIONS

- Do not install over substrates containing asbestos.
- For interior use only
- Install *Novoplan HFL* at between the temperatures of 50°F and 85°F (10°C and 29°C).
- Do not mix with any other self-leveling underlayment.
- 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 8 lbs. per 1,000 sq. ft. (3.63 kg per 92.9 m²) per 24 hours using a calcium chloride test (reference ASTM F1869), and an RH reading greater than 90% (ASTM F2170). Use a MAPEI moisture barrier to treat

concrete slabs with elevated moisture conditions. Consult MAPEI's Technical Services Department for product recommendations.

- Do not install *Novoplan HFL* over sheet vinyl, self-stick vinyl tile, luxury vinyl tile (LVT), luxury vinyl plank (LVP), glue-down wood flooring, particleboard, hardboard (Masonite), Lauan panels, waterproofing, crack-isolation or sound-reduction 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 MAPEI's Technical Services Department for waterproofing recommendations.

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 for an 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 into a floor 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.

SUITABLE SUBSTRATES

- All substrates must be primed with the appropriate MAPEI primer before self-levelers are applied. See the “Primers for Self-Leveling Materials” product selection guide and the appropriate primer’s TDS on MAPEI’s Website.
- 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 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 a MAPEI underlayment is applied to plywood flooring, installation requirements (finished flooring, load, use and/or deflection) may include the utilization of MAPEI’s *Mapelath*[™] or diamond metal lath (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, strip wood subfloors and 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 “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

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

- *Novoplan HFL* can be mechanically mixed, using the appropriate mixing ratio in the “Application Properties” table below, in barrels; in continuous mixer and pump systems (and at least 140 ft. [42.7 m] of hose); or with a batch mixer and pump (and 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. 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, during and 24 hours after installation, keep all doors and windows closed, and keep HVAC off to prevent drafts. Protect areas from direct sunlight. Make sure to fill all open holes, cracks and seams with the appropriate MAPEI caulking compound to avoid leveler from flowing into unwanted areas.
3. Quickly pour or pump *Novoplan HFL* onto the 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 HFL*, spread the material with a gauge rake to assist in gauging out the *Novoplan HFL* to the desired depth. After achieving the desired depth, smooth the surface with a smoother to obtain evenness.
5. Second applications of *Novoplan HFL* require priming the surface of the first pour.

CURING

- *Novoplan HFL* is self-curing; do not use a damp-curing method, or curing and sealing compounds.
- Protect *Novoplan HFL* from excessive heat or drafty conditions during curing.
- 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 HFL* is completely cured and final flooring has been installed.
- Do not expose *Novoplan HFL* 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.

Product Performance Properties

Laboratory Tests	Results
Compressive strength – ASTM C1709	
7 days	> 2,500 psi (17.2 MPa)
28 days	Up to 4,500 psi (31.0 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
28 days	> 870 psi (6 MPa)
Cured density	128 lbs. per cu. ft. (2.06 kg per L)
VOCs (Rule #1168 of California's SCAQMD)	0 g per L
VOCs (Section 01350 of California's CDPH)	Passes

Shelf Life and Product Characteristics before mixing

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C) and 50% relative humidity
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 at 73°F (23°C) and 50% relative humidity

Mixing ratio	6 to 6.4 U.S. qts. (5.68 to 6.01 L) of room-temperature water per 50 lbs. (22.7 kg) of <i>Novoplan HFL</i> powder
Mixing time	1 to 2 minutes
Profile required	CSP #3
Cured density	128 lbs. per cu. ft. (2.06 kg per L)
pH of mixture	11
Application temperature range	50°F to 85°F (10°C to 29°C)
Flow time	30 to 45 minutes
Time before permitting light foot traffic	2 to 3 hours
Single-lift application thickness	1/8" to 1" (3 mm to 2.5 cm)*
Minimum thickness over highest point in floor	1/8" (3 mm)
Waiting time before secondary applications at 1/2" (12 mm) depths	12 hours
Drying time before installation of tile and stone at 70°F (21°C) at 1/2" (12 mm)	12 hours**
Drying time before installation of moisture-sensitive floor coverings at 70°F (21°C) at 1/2" inch (12 mm) thickness	48 hours**

* *Novoplan HFL is very fluid and as such is difficult to build thickness without the use of dikes to control the flow.*

** *Drying time before installation of all flooring types varies based on thickness of leveler application. Thin applications can result in shorter drying times, while thicker applications will extend drying time.*

CSI Division Classifications

Cast Underlayment	03 54 00
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Packaging

Size
Plastic bag: 50 lbs. (22.7 kg)

Novoplan HFL



Approximate Coverage* per 50-lb. (22.7-kg) bag

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)
1" (2.5 cm)	6 sq. ft. (0.55 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.

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.**

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