



Novoplan[®] Easy[®]

**Easy-Preparation,
Self-Leveling
Underlayment**



DESCRIPTION

Novoplan Easy is a high-strength, self-leveling cement-based underlayment and repair mix for interior concrete and engineer-approved floors. It typically requires only a clean, soundly bonded substrate before application. *Novoplan Easy* provides low installation costs and fast turnaround on jobsites.

- For leveling, smoothing and repairing interior floors
- Allows flooring installations as soon as 12 hours

INDUSTRY STANDARDS AND APPROVALS

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

** Using this 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

Novoplan Easy is well-suited for leveling, smoothing and repairing interior floors before the installation of floor coverings. Ceramic tile and natural stone can be installed 12 hours after application. Suitable floor coverings – such as carpet, vinyl sheet goods, vinyl tile, vinyl composition tile (VCT), homogenous PVC, rubber and engineered wood plank – can be installed 36 to 48 hours after application, depending on the thickness of the application. Do not use *Novoplan Easy* for “reduced-preparation” applications under surfaces subject to dynamic loading or deflection.

LIMITATIONS

- Do not install over substrates containing asbestos.
- Fluid once mixed, *Novoplan Easy* can easily be installed from 1/8" to 1" (3 mm to 2,5 cm) in a single lift. *Novoplan Easy* is ready to accept installation of ceramic tile and natural stone after 12 hours. After 36 to 48 hours, it can accept installation of such floor coverings as carpet, vinyl sheet goods, vinyl tile, VCT, homogenous PVC, rubber and engineered wood plank.
- *Novoplan Easy* has a compressive strength greater than 1,800 psi (12,4 MPa) after 1 day, 3,200 psi (22,1 MPa) after 7 days and 4,000 psi (27,6 MPa) after 28 days.
- *Novoplan Easy* is compatible with a wide variety of floor-covering adhesives, epoxy adhesives, polyurethane adhesives, and tile and stone installation mortars.
- *Novoplan Easy* also can provide an ideal level substrate for cement and epoxy terrazzo flooring systems.
- Before application of *Novoplan Easy*, always properly prepare the surface and prime with the appropriate MAPEI primer. For the appropriate primer, see MAPEI’s “Primers for Self-Leveling Materials” product selection guide, and refer to the primer’s current TDS.
- For use in dry, interior areas only. For exterior use or for areas subject to prolonged exposure to moisture, use an exterior-rated MAPEI topping or screed and consider applicability of a waterproofing membrane.
- *Novoplan Easy* should only be used between 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 through *Novoplan Easy* and the primer. The minimum recommended width for expansion and control joint cuts in *Novoplan Easy* is 1/4" (6 mm). Where control or expansion joints do not exist in the substrate, provide for them in the system per industry standards.
- Do not mix *Novoplan Easy* with any other self-leveling underlayment.
- Radiant-heating applications require a concrete surface profile (CSP) of #3 or greater as categorized by the International Concrete Repair Institute (ICRI), as well as an appropriate MAPEI primer. See MAPEI's "Primers for Self-Leveling Materials" product selection guide.

Because not all radiant-heat systems are alike, consult the radiant-heating supplier along with all industry standards to ensure a successful installation.

SUITABLE SUBSTRATES

- Properly prepared, sound, dimensionally stable, fully cured concrete that is at least 28 days old and free from hydrostatic pressure
- When *Novoplan Easy* is used over a properly primed sound and stable substrate, surface profiling is not required.
- *Novoplan Easy* can be installed over well-bonded coatings, adhesives and glues, such as cutback, carpet glue and VCT, when using the appropriate MAPEI primer for these nonabsorbent materials. Excluded are finished surfaces that will be subject to dynamic loading (such as pallet jacks), forklifts or rubber-wheeled traffic; surfaces subject to dynamic loading require a surface profile.
- When using *Novoplan Easy* to install over substrates other than clean sound concrete, the installer warrants that the materials being bonded to will be solid, stable and well-bonded, capable of passing 75 psi (0,52 MPa) tensile pull tests throughout the installation according to ISO 13007 Sections 3 and 4 (Direct Tensile Pull Tests). All substrate materials must be compatible with MAPEI primers. Contaminated surfaces or weak substrates (not conforming to at least 75 psi [0,52 MPa] direct tensile bond) must be removed by shotblasting, scarification or other industry-approved means before *Novoplan Easy* is applied.
- *Novoplan Easy* can be used over ceramic tile, VCT, cement terrazzo and small amounts of old cutback adhesive residue. Surfaces must be properly prepared, bonded, free of dirt and dust, and primed.
- Engineer-approved plywood subfloors may be resurfaced with *Novoplan Easy*. Subfloors must be properly

prepared, bonded, and free from dirt and dust (see the final bulleted instruction under "Surface Preparation" section for details).

- *Novoplan Easy* is compatible with a wide variety of floor-covering adhesives, epoxy adhesives, polyurethane adhesives, and tile and stone installation mortars. Consult the floor-covering or coating manufacturer's recommendations regarding the maximum allowable moisture vapor emission rate (MVER) and retained moisture content in the substrate. For substrates with an 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), install a suitable MAPEI moisture-reduction barrier.

Note: The maximum allowable MVER is always determined by the complete system installed, including primers, underlayments/toppings, floor coverings and sealers. The wide variety of substrate conditions, floor coverings and adhesives available requires careful analysis of the intended final floor use, as well as compliance with each manufacturer's recommendations for MVER, retained moisture content and adhesive selections.

- Do not install *Novoplan Easy* over particleboard, chipboard, hardboard (Masonite), Luaun panels, metal, asbestos, gypsum-based patching materials or any other nondimensionally stable materials.
- *Novoplan Easy* can be installed over steel decking when properly primed with *Primer E*[™], using the sand broadcast method. See MAPEI's "Primers for Self-Leveling Materials" product selection guide and the current TDS for *Primer E*.

To ensure installation success, test a small area for compatibility, bond strength and performance. Contact MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

- All substrates must be structurally sound, stable and solid. Substrates must be free of deflection beyond L/360 (or L/720 for stone applications), taking into consideration both live and dead loads. Reference the ASTM C627 standard dealing with deflection.
- Thoroughly clean and remove from the surface of any substance that could interfere with the bond of the installation material, including dirt, tar, wax, oil, grease, latex compounds, sealers, curing compounds, form release agents, laitance, loose toppings, and any material that could prevent the proper bonding of *Novoplan Easy* to the substrate. Well-bonded adhesive residue that has been well-scraped can be covered with *Novoplan Easy*, in conjunction with the appropriate primer. Refer to

MAPEI's "Primers for Self-Leveling Materials" product selection guide, and to the "Suitable Substrates" section of this data sheet.

- Concrete surfaces that are sound, stable and uncontaminated may be bonded to without mechanical profile, shotblasting, sandblasting, water-jetting, scarifying, diamond-grinding or other methods.

Note: *Novoplan Easy* may not be installed over low-psi (low-MPa) concretes, or concrete surfaces that are weak or degraded near the surface. In most cases, weak upper layers of concrete must be removed by mechanical method to produce sound and solid conditions, and then the resulting substrate must be properly primed.

- After cleaning and mechanically profiling the substrate, test for MVER (calcium chloride test reference ASTM F1869). *Novoplan Easy* is an underlayment for use with other finished floor systems (such as resilient, VCT and ceramic). Always follow manufacturers' recommendations regarding the maximum allowable moisture content and MVER before installation.
- Concrete substrate 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 *Novoplan Easy*.
- Fill in deep areas, holes or cracks with appropriate concrete restoration materials (such as MAPEI's *Mapecem® Quickpatch*), especially when installing on a second-story floor or above where fluid material could leak to a floor below. Contact MAPEI's Technical Services Department for details.
- Always prime the prepared surface with a MAPEI primer before applying *Novoplan Easy*.
- Do not apply primer over standing water.
- Apply *Novoplan Easy* only when the selected primer is in its recommended state as defined in that primer's TDS.
- Some mechanically prepared substrates may be more porous than others. This may require a specific application of the primer.
- Moisture vapor transmission exceeding 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m²) per 24 hours must first be treated by installing a suitable MAPEI moisture-reduction barrier. Refer to the associated TDS for installation details and capabilities.
- To install *Novoplan Easy* over properly prepared ceramic tile, VCT, cement or epoxy terrazzo, or small amounts of old cutback adhesive residue, the surface must be properly prepared, bonded, free of dirt and dust, and primed.
- To install *Novoplan Easy* over properly prepared steel decking or metal, the surface must minimally meet L/360 deflection requirements for tile and L/720 deflection requirements for stone, taking into consideration both live and dead loads (per ASTM C627). Prime the properly prepared surface with *Primer E*, using the sand broadcast method (See *Primer Es* TDS).
- *Novoplan Easy* can be used over engineer-approved plywood or oriented strand board (OSB) subfloors in accordance with the Tile Council of North America's F185-05 specification. Subfloors must be properly prepared, bonded, and free from dirt and dust.

When applying MAPEI underlayments to plywood flooring, mechanically fasten *Mapelath™* or diamond mesh on top of the primed surface (meeting the requirements of ASTM C847) before application of

Novoplan Easy. Refer to the current *Mapelath* TDS for installation instructions. Differential movement within plywood substrate may lead to hairline cracks at plywood joints.

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 *Novoplan Easy* powder while slowly stirring. Mix water and *Novoplan Easy* powder to a mixing 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 Easy*. 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 Department for details).

Barrel mixing

- Using the mixing ratio in the "General mixing" section above, mix using a high-speed mixer (at about 850 to 1,200 rpm) with an "egg-beater" mixing paddle. Mix to a homogenous, lump-free consistency (for about 90 to 120 seconds). 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 application and curing.

Pump mixing

- *Novoplan Easy* can be mechanically mixed, using the mixing ratio in the "General mixing" section above, with a continuous mixer and pump (with at least 100 ft. [30,5 m] of hose) or with a batch mixer and pump (with at least 70 ft. [21,3 m] of hose). 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 for proper mixing. Use a mesh screen "sock" at the end of the hose to catch any foreign material that could enter the hopper of the mixer. Apply to a small test area before general application to ensure a successful installation.

Note: Choose all appropriate safety equipment before use. Refer to MSDS for more information.

APPLICATION

1. Read all installation instructions thoroughly before installation.
2. Before installation, close doors and windows, and turn off HVAC systems to prevent drafts during application and until floor is cured. Protect areas from direct sunlight.
3. Make sure the 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 *Novoplan Easy*. In cooler conditions, use indirect auxiliary heaters to maintain the 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.
4. Application of *Novoplan Easy* over large areas can be made easier and more efficient by using conventional piston, rotor-stator or underlayment-type pumps (contact MAPEI's Technical Services Department for recommendations).

5. For best results, work as a team to provide a continuous flow of wet material to avoid trapping air or creating a cold joint.
6. Set the width of the pour at a distance that is ideal for maintaining a wet edge throughout placement. Quickly pour or pump *Novoplan Easy* onto the properly prepared and primed surface in a ribbon pattern. If a wet edge cannot be maintained, reduce the width of the pour.
7. *Novoplan Easy* has an approximate flow time of 10 minutes at 73°F (23°C), is self-leveling and can be applied from 1/8" to 1" (3 mm to 2,5 cm) in a single application. Temperature and humidity affect the working time, flowability and setting time. Apply enough material to adequately cover all high spots.
8. Immediately after placing the *Novoplan Easy*, spread the material with MAPEI's Gauge Rake. After achieving the desired depth, smooth the surface with MAPEI's Smoother to obtain an even surface. Do not overwork the material, which could trap air.
9. *Novoplan Easy* hardens and is ready to accept installation of ceramic tile and natural stone in 12 to 24 hours. Suitable floor coverings – such as carpet, vinyl sheet goods, vinyl tile, VCT, homogenous PVC, rubber and engineered wood plank – can be installed 36 to 48 hours after application. Protect the surface from contaminants until the final flooring installation is complete. Applications of greater depths (more than 1" [2,5 cm]) (see Item 10 below in this section) and in cooler temperatures may require extra curing time before the installation of covering surfaces.
10. *Novoplan Easy* may be extended with 1/4" to 3/8" (6 to 10 mm) clean, saturated surface-dry (SSD) aggregate on the primed surface at no more than half of the total pour depth. Pour *Novoplan Easy* over placed aggregate and rake aggressively to ensure full contact and bond with substrate. Immediately pour 1/4" (6 mm) of *Novoplan Easy* over the raked aggregate to provide a smooth, level surface. Alternately, one may add aggregate (up to 30% by weight, 6,80 kg or 15 lbs.) directly to the *Novoplan Easy* when mixing; in this case, add the aggregate after reaching a homogenous mix of *Novoplan Easy* and water.

Note: Use only clean, nonreactive aggregates.

2. Do not bridge the substrate's expansion and control joints. Ensure that such joints are honored completely through *Novoplan Easy* and the primer.
3. Cut joints in *Novoplan Easy* at least 1/4" (6 mm) wide as soon as product has reached final set and can be walked on.

CURING

1. *Novoplan Easy* is self-curing; do not use a damp-curing method, or curing and sealing compounds.
2. Protect *Novoplan Easy* from excessive heat or draft conditions during curing. Turn off all forced ventilation and radiant-heating systems. (Some radiant-heating systems should not be tuned on after installation for 7 to 14 days; check with heat manufacturer.) Protect for up to 24 hours after completion.
3. Protect installation from traffic, dirt and dust from other trades until *Novoplan Easy* has completely cured and the final flooring has been installed.

CLEANUP

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

EXPANSION AND CONTROL JOINTS

1. Provide for expansion and control joints where specified, including the perimeter of the room, columns, supports and equipment pedestals. If control and expansion joints do not exist in the substrate, provide for them in the system.

Product Performance Properties

Laboratory Tests	Results
Novoplan Easy (before mixing)	
Physical state	Powder
Color	Gray
Flammability	Flame spread: 0; Fuel contribution: 0; Smoke development: 0
Novoplan Easy (mixed)	
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
Density	About 128 lbs. per cu. ft. (2,1 kg per L)
pH	11
Application temperature range	50°F to 95°F (10°C to 35°C)
Pot life	60 minutes
Flowing time	10 minutes
Final set	4.5 hours
Time required before installation of tile or stone	Typically 12 to 24 hours depending on temperature and humidity
Time required before installation of impervious floor covering	Typically 36 to 48 hours depending on temperature and humidity
Other data relating to Novoplan Easy – material and hardening conditions at 73°F (23°C) and 50% relative humidity without curing	
Compressive strength – ASTM C109 (CAN/CSA-A5)	
1 day	> 1,800 psi (12,4 MPa)
7 days	> 3,200 psi (22,1 MPa)
28 days	> 4,000 psi (27,6 MPa)
Flexural strength – ASTM C348	
1 day	> 500 psi (3,45 MPa)
7 days	> 850 psi (5,86 MPa)
28 days	> 1,050 psi (7,24 MPa)
Pull-out strength (Direct Tensile Bond test – rupture in concrete substrate) (CAN/CSA-A23.2-6B)	
3 days	> 260 psi (1,79 MPa)
7 days	> 300 psi (2,07 MPa)
28 days	> 350 psi (2,41 MPa)

Shelf Life and Application Properties

Shelf life	6 months in original bag in a dry, heated and covered area
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CSI Division Classification

Cast Underlayment	03 54 00
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Packaging

Product Code	Size
13550000	Bag: 50 lbs. (22,7 kg)

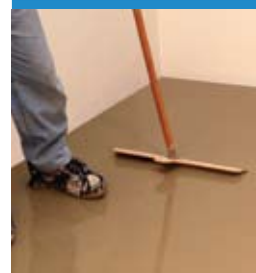
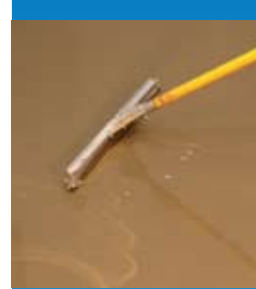
Approximate Product Coverage per thickness for a 50-lb. (22,7-kg) bag

Thickness	Yield
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. (0,56 m ²)

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

For the appropriate primer, see MAPEI's product selection guide titled "Primers for Self-Leveling Materials," and refer to the primer's current TDS.

**Novoplan[®]
Easy**



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RELATED DOCUMENTS

Reduced Surface Preparation Guide	RGC0509
Product Selection Guide: Primers for Self-Leveling Materials	RGC0609

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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(1-888-876-2734)

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Customer Service
1-800-42-MAPEI (1-800-426-2734)

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

Edition Date: June 21, 2010
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