

NIVOPLAN

Smoothing mortar for internal and external walls
and ceilings for thicknesses from 2 to 20 mm



WHERE TO USE

Nivoplan is particularly suitable for rendering and levelling indoor and outdoor wall and ceiling surfaces in layers of thicknesses from 2 to 20 mm.

Nivoplan makes the surfaces suitable for the installation of ceramic tiles or for paint finishing.

Some application examples

- Smoothing walls prior to installing ceramic tiles.
- Repairing old, damaged renders.
- Levelling reinforced concrete surfaces of swimming pools and façades prior to installing ceramic coverings, waterproofing by painting.
- Smoothing foamed cement, brick, eraclit, etc. walls.

TECHNICAL CHARACTERISTICS

Nivoplan is a grey or white powder composed of cement, selected aggregates and special synthetic resins which, when mixed with water, provide a mix that is easy to apply on vertical surfaces with a trowel or with a rendering spraying machine.

***Note:** The choice of bonding requirement is based around the porosity of the substrate and the required finishes.

Nivoplan's bonding properties can be improved by adding **Planicrete** and water to the product during mixing, 1-2 litres per bag (used as a partial replacement for the mix water).

The addition of **Planicrete** is necessary for thin applications over concrete or in cases where the render will receive tile or natural stone coverings.

***Note:** **Nivoplan** is a normal setting Portland based product. The waiting time to fix tiles is based in the development of the mechanical strength. Mapei **Planicrete** is a SBR additive used, when mixed as per the recommendations:

To improve the mechanical characteristics of cement-based renders.

To improve the adhesive characteristics of cementbased renders.

To provide higher compressive and flexural strengths.

Nivoplan is classified as GP ("General purpose mortar for internal/external render"), category CS IV according to EN 998-1.

RECOMMENDATIONS

- **Nivoplan** must never be used on gypsum or gypsum-based surfaces, unless those surfaces have been prepared with a coat or two of Primer G (see relative Technical Data Sheet).
- **Nivoplan** is not suitable for smoothing over floors due to its limited compressive strength. In this case, please refer to the Technical Data Sheets regarding products for preparing substrates, or contact the MAPEI Technical Assistance Department.

APPLICATION PROCEDURE

Preparation of the substrate

The substrate must be compact, free of dust, loose parts and clean from oils, grease, paint or glue residues.

Nivoplan can also be applied to damp surfaces without any problem, but cure time will be slightly prolonged.

It is advisable to wet highly absorbent substrates (brick, foamed cement, etc.) before applying **Nivoplan**, especially if the layer is less than 3 mm thick. **Nivoplan** cannot be used on gypsum surfaces and the like, unless they are treated before hand with **Primer G**.

Preparing the mix

Nivoplan should be mixed with clean water and stirred until a smooth, lump-free paste is obtained. It is advisable to use a mechanical stirrer.

One 25kg bag of **Nivoplan** should be mixed with 5.0-5.5 litres of water.

Or

One 25kg bag of **Nivoplan** should be mixed with 3.0 litres of water and 2 litres of **Planicrete**.

The **Nivoplan** mix remains usable for 2 hours after mixing.

Applying the mix

It is invariably advisable to apply a first coat of **Nivoplan** to the substrate so as to ensure perfect coverage and then, without waiting, apply the layer necessary for good levelling, up to a maximum of 2 cm at a time.

Nivoplan should be applied with a rendering machine, with a flat trowel or screed (for thick layers) under firm pressure to make the mix adhere well to the substrate.

Spatterdash Key

Mix proportions Mapei **Nivoplan**: Mapei **Planicrete**: Water (25:2:3)

Consistency: Thick slurry, well stirred.

Application: Throw onto dampened background and leave rough.

Thickness: 3-5 mm.

It is recommended to apply a first coat of Mapei **Nivoplan** to the substrate to ensure the correct coverage and then, without waiting, apply the layer necessary for good levelling, up to a maximum of 20mm at a time.

Before applying **Mapelastic**, 20 mm of thick **Nivoplan** should be cured for approx. 14 days.

Nivoplan is a normal setting Portland based product. The waiting time to fix tiles is based on the development of the mechanical strengths, whereas to apply a waterproofing membrane one of the parameters is the residual moisture.

Based on actual environmental conditions, 1 week per 10mm (in good season) is a reasonable timing to avoid possible risks. It makes mixes much harder, more resistant to abrasion.

Planicrete

As an admixture to improve the mechanical and adhesive characteristics of cement based screed, renders and thin smoothing layers. As an admixture for highly adhesive cement bonding layers.

It is inadvisable to work in temperatures lower than +5°C.

After setting and hardening, cementitious mixes with added **Planicrete** have the following properties:

Better adhesion to substrates Higher compressive and flexural strengths. A 1 cm thick layer of **Nivoplan** is strong enough to receive tiles after 12 hours in normal conditions (+23°C - 50% R.H.) on sub-layers with a normal level of absorption. If the surrounding temperature or the level of humidity are higher, it may be necessary to wait more than 24 hours.

The surfaces can be painted over after at least 2 weeks. This time becomes longer in winter and shorter in summer.

When applying on walls directly exposed to the sun or wind, it is advisable to wet the surface of the **Nivoplan** to avoid premature curing.

CLEANING

Tools and hands may be cleaned using water before the product sets.

CONSUMPTION

Consumption depends on the thickness of the layer but is 1.5 kg/m² per millimetre of thickness (1 cm of thickness = 15 kg/m²).

PACKAGING

Nivoplan is supplied in multi-layer-paper bags of 25 kg and should be stored in a dry place, where it will remain undeteriorated for at least 12 months.

STORAGE

Nivoplan, in its original unopened packaging and in a dry place, can be stored for 12 months.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.co.uk.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	powder
Colour:	grey and white
Density (kg/m ³):	1,400
Dry solids content or active substance (%):	100

APPLICATION DATA (at +23°C - 50% R.H.)

Mix ratio:	20-20.5 parts water per 100 parts of Nivoplan by weight
Consistency of mix:	very pasty
Density of mix (kg/m ³):	1,830
pH of mix:	approx. 12
Pot life:	2-3 hours
Application temperature range:	from +5°C to +30°C
Thickness possible for one coat (mm):	from 2 to 20
Waiting time before bonding:	≥ 24 hours dependant on the thickness applied, the temperature and the humidity
Waiting time before painting:	at least 14 days

FINAL PERFORMANCES

Resistance to alkalis:	excellent
Resistance to oils:	excellent (poor to vegetable oils)
Resistance to solvents:	excellent
Temperature range when in use:	from -30°C to +90°C
Compatibility with adhesives:	excellent
Flexural strength (N/mm ²):	3.5
Compressive strength (N/mm ²):	6.0

Performance characteristic	Test method	Requirements according to EN 998-1 type GP-CSIV	Performance of product	
			White	Grey
Compressive strength (MPa):	EN 1015-11	≥ 6 category CS IV	≥ 12 category CS IV	≥ 12 category CS IV
Bond strength on brickwork (MPa):	EN 1015-12	not required	≥ 0.8 FP: B	≥ 1.0 FP: B
Water absorption (kg/(m ² ·min ^{0.5}):	EN 1015-18	W0 (not specified) W1 (≤ 0.40) W2 (≤ 0.20)	W0	W1
Thermal conductivity -λ- (W/m·K°):	EN 1745	not required	0.95	0.95
Coefficient of vapour permeability:	EN 1015-19	14-22	17.3	13.6
Reaction to fire:	Euroclass	Class declared by manufacturer	A1	A1



Mixing with a mini cement-mixer



Restoring old brickwork



Levelling with a laying-on trowel



Levelling off the render with a straight-edge



Application of Nivoplan with a float

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.co.uk

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 force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.co.uk.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

All relevant references for the product are available upon request and from www.mapei.co.uk

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