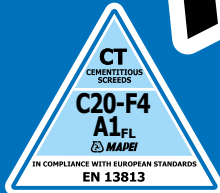




Novoplan Maxi



Rapid-hardening, highly fluid, fibre-reinforced cementitious levelling mortar for compact high conductivity heating systems
 $\lambda = 1.727 \text{ W/mK}$



WHERE TO USE

Novoplan Maxi is used for covering and embedding compact, under-floor heating/cooling systems and for levelling off all types of existing heated floors.

Novoplan Maxi may be used to form layers from 3 to 40 mm thick, depending on the type of application. Substrates levelled off with **Novoplan Maxi** are suitable for overlaying with ceramic, natural stone and pre-finished parquet flooring.

Novoplan Maxi is suitable for internal use only.

Some application examples

- Covering and embedding compact under-floor heating systems made from self-adhesive plastic heating panels bonded to all types of floor screed and existing ceramic or natural stone flooring and on pre-assembled insulating panels, as long as they are sufficiently strong. The latter type of application is suitable for residential environments only and the layer of **Novoplan Maxi** must be at least 30 mm thick. We recommend positioning galvanized screed mesh over pipe-work.
- Smoothing over compact under-floor heating systems made from gypsum fibre or cement fibre panels bonded to all types of existing ceramic, natural stone, etc. Flooring prepared according to specification and insulating panels sufficiently strong to withstand the loads to which they will be subjected. The latter type of application is suitable for residential environments only and the layer of **Novoplan Maxi** must be at least 20 mm thick.

- Smoothing over and embedding electric cables for heating systems prior to installation of ceramic, resilient or pre-finished parquet flooring.
- Smoothing over cementitious heated screeds and screeds made from **Mapecem**, **Mapecem Pronto**, **Topcem** or **Topcem Pronto**.

TECHNICAL CHARACTERISTICS

Novoplan Maxi is a light brown coloured powder made from special rapid-hydrating and rapid-setting cement, selected silica sand, synthetic fibres, resins and special admixtures mixed according to a formulation developed in the MAPEI research laboratories.

When **Novoplan Maxi** is mixed with water, it forms a rapid-drying, free-flowing, self-levelling mortar with good workability that adheres very strongly to the substrate.

Novoplan Maxi may be applied manually or with a continuous-mix pump system or a pump and pre-mixing hopper at distances of over 100 m.

Novoplan Maxi may be applied in layers up to 40 mm thick, and any hygrometric shrinkage in the material after application has no effect on flooring installed on the mortar. Once hardened it has a high level of compressive and flexural strength and is highly resistant to marks and abrasion.

Thanks to its special composition, heated floors levelled off with **Novoplan Maxi** are characterised by their high thermal efficiency and low inertia.

Novoplan Maxi



Preparing and pumping the Novoplan Maxi mix using a continuous mixing pump



Pumping and levelling off Novoplan Maxi



Spreading the mix to completely embed a compact heating system

Novoplan Maxi is characterised by its high thermal conductivity ($\lambda = 1.727 \text{ W/mK}$) which makes it particularly recommended for making heated screeds.

Flooring may be installed over **Novoplan Maxi** as soon as it is completely dry. The waiting time required depends on the thickness of the layer applied, the surrounding temperature and level of humidity and the absorption of the substrate.

The environmental impact of **Novoplan Maxi** during its entire life cycle has been measured using the LCA (Life Cycle Assessment) method and the results are reported in the EPD (Environmental Product Declaration) in compliance with ISO 14025 and EN 15804 standards) N° S-P-00908, certified and published by EPD International.

RECOMMENDATIONS

- Before applying **Novoplan Maxi**, make sure the heating system has been installed according to the manufacturer's specifications and that it is perfectly stable.
- Before installing the flooring, run and test the heating system according to EN 1264-4.
- Do not add water to the mix once it starts to set.
- Do not add lime, cement or gypsum to the mix.
- Do not use for skimming external surfaces.
- Do not use on substrates with continuous rising damp.
- Do not use **Novoplan Maxi** at temperatures lower than $+5^{\circ}\text{C}$.

APPLICATION TECHNIQUE

Substrate preparation

Whatever the type of heating/cooling system, it must be installed according to the manufacturer's specifications and must be stable and free of all traces of material that could compromise adhesion (dust, etc.). Substrates must be dry, sound and free of all traces of dust, loose or detached parts, paint, varnish, wax, oil, rust and gypsum. Cementitious surfaces that are not sufficiently sound must be removed or, if possible, consolidated with **Prosfas**, **Primer EP** or **Primer MF**.

Cracks in the substrate must be sealed beforehand with **Eporip**.

Absorbent or particularly porous concrete surfaces must be treated by applying **Eco Prim T** (1 part of **Eco Prim T** with 1 part of water) or **Primer G** (1 part of **Primer G** with 1 part of water) to anchor any trace of dust and to even out the absorbency of the concrete.

Anhydrite screeds may only be levelled off with **Novoplan Maxi** after applying a coat of **Eco Prim T** (as it is) or **Primer G** (as it is).

Prime existing ceramic and natural stone surfaces with a coat of **Eco Prim T** or

Eco Prim Grip after cleaning the surface with a suitable detergent or abrading it mechanically.

Preparation of the mix

Pour a 25 kg bag of **Novoplan Maxi** into a container with 4.0-4.5 litres of clean water and mix with an electric mixer at low speed to form a smooth, lump-free, self-levelling paste.

Prepare larger quantities of **Novoplan Maxi** in a mortar mixer (cement mixer or vertical shaft mixer). For application on medium to large surface areas, the **Novoplan Maxi** mix may be pumped with special equipment for free-flowing mortar (contact MAPEI Technical Services for further information) or continuous-mix equipment (such as a rendering machine).

Leave to stand for 2 to 3 minutes and then mix again for a short time. The product is now ready for use.

The amount of **Novoplan Maxi** mixed in each batch must be applied within 30-40 minutes at $+23^{\circ}\text{C}$.

Spreading the mix

Spread **Novoplan Maxi** over the surface in a single layer from 3 to 40 mm thick with a large metal trowel, a rake or a levelling bar. The layer of **Novoplan Maxi** applied over compact underfloor heating systems installed directly on existing rigid substrates must cover the ribs and dimples in the plastic or gypsum fibre panels by at least 3 mm. If the heating system is installed on insulating material, the layer of **Novoplan Maxi** must be between 30 and 40 mm thick. The latter solution is suitable for residential environments only.

Thanks to its free-flowing properties, **Novoplan Maxi** is self-levelling and any signs left by the equipment or tools used to spread it soon disappear.

The use of **Novoplan Maxi** for under-floor heating/cooling systems allows the system to be started up for the first time after just 4 days. Please refer to current norms and standards (EN 1264-4) and the usual industry practices when starting up and testing the system. In the case of particularly large areas, divide them into smaller areas by creating separation joints approximately every 20-25 m^2 (for systems applied over insulating panels only).

Cleaning

Use water to remove residues of **Novoplan Maxi** while still wet from tools and hands.

CONSUMPTION

The consumption rate of **Novoplan Maxi** is 1.8 kg/m^2 per mm of thickness.

PACKAGING

Novoplan Maxi is available in 25 kg bags.

STORAGE

Novoplan Maxi remains stable for at least 12 months if stored in a dry place. If stored for longer periods it may take longer to set, although its final characteristics will not be modified.

TECHNICAL DATA (typical values)

Complies with the following standards:

– euronorm EN 13813 CT-C20-F4-A1_{FL}**PRODUCT IDENTITY**

Consistency:	fine powder
Colour:	grey-light brown
Bulk density (kg/m³):	1,300
Dry solids content (%):	100
EMICODE:	EC1 R Plus - very low emission
Thermal conductivity (according to EN 12664):	1.727 W/mK ⁽¹⁾

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

Mixing ratio:	16-18 parts of water per 100 parts in weight of Novoplan Maxi
Applied thickness per layer (mm):	from 3 to 40
Self-levelling:	yes
Density of mix (kg/m³):	2,100
pH of mix:	approx. 12
Application temperature:	from +5°C to +30°C
Workability time:	30-40 mins.
Setting time:	50-70 mins.
Set to foot traffic:	3 h
Waiting time before installing flooring:	ceramic and natural stone flooring not sensitive to damp 12-24 h; flooring sensitive to damp 2 days per cm of thickness applied. Start-up of heating system after 4 days

FINAL PERFORMANCE

Compressive strength (N/mm²): – after 1 day: – after 7 days: – after 28 days:	14.0 17.0 22.0
Flexural strength (N/mm²): – after 1 day: – after 7 days: – after 28 days:	2.5 3.5 4.5
Resistance to abrasion with a Taber abrasion meter (H22 disk - 550 g - 200 revs) expressed as loss in weight (g): – after 28 days:	3.5
Brinell hardness (N/mm²): – after 1 day: – after 3 days: – after 7 days: – after 28 days:	70 80 90 100

⁽¹⁾ Certified by the Tecno Piemonte S.p.A. test laboratory, test report No. 05548/88/91 (26/3/2014)

Novoplan Maxi

This product complies with the prescriptions of Reg. (EC) N. 1907/2006 (REACH) - Annex XVII, article 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Novoplan Maxi is irritant; it contains cement which, in contact with perspiration or other bodily fluids, produces an irritating alkaline reaction and, in those subjects sensitive to such products, an allergic rash.

During use, wear protective gloves and goggles and take the usual precautions when handling chemicals.

If the product comes into contact with the eyes or skin, wash immediately with plenty of clean water and seek medical attention.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

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.com

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.com.

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



This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.

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

Any reproduction of texts, photos and illustrations published here is prohibited and subject to prosecution

4023-9-2018 (GB)



BUILDING THE FUTURE