



**Fast hardening
self-levelling
smoothing compound**

CLASSIFICATION ACCORDING TO EN 13813

The material properties of **Novoplan 21** comply with the norms referred to in this technical data sheet and are classified as CT-C25-F6-A2_{fl} according to EN 13813.

WHERE TO USE

Novoplan 21 is used for levelling and smoothing new or existing substrates in preparation for the final floorcovering eg. carpet, vinyl, ceramic tiles, floating timber and direct stick engineered timber flooring - where resistance to heavy loads and traffic is required. The **Novoplan 21** self-levelling properties and ease of pumpability allow for increased daily productivity and considerable reduction in the cost of the substrate preparation.

Novoplan 21 must only be used in interior conditions in thicknesses from 1 to 10 mm.

Some application examples

- Smoothing of concrete slabs and cement-based screeds.
- Smoothing of anyhrite screeds. The screed must be completely dry i.e. less than 0.5% moisture content, lightly abraded to provide a key, all dust and residue removed by vacuum and the screed primed completely using

Eco Prim T Plus, diluted 1:2 with water.

- Smoothing and levelling compound for under-floor heating and/or sand and cement screed installations.
- Smoothing existing ceramic tile, terrazzo and natural stone floors.

TECHNICAL CHARACTERISTICS

Novoplan 21 is a grey powder comprising of special fast-setting and hydrating cements, specially graded silica sand, special resins and additives prepared and developed in the MAPEI research laboratories.

When mixed with water, **Novoplan 21** becomes a very fluid, easily workable mix with excellent self-levelling properties and cures rapidly.

Novoplan 21 can also be applied with an appropriate pump.

Novoplan 21 is strong enough to withstand wheeled traffic.

Novoplan 21 can be applied in thicknesses up to 10 mm per single coat without significant shrinkage that might cause cracks or crazing.

Once completely dry **Novoplan 21** has good compressive and flexural strength as well as resistance to impact and abrasion.



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Applying the Novoplan 21 paste on the substrate



Applying Novoplan 21 with a metal trowel on a cementitious screed primed with Primer G



Using a spiked roller over a fresh coat of Novoplan 21

Flooring can be installed after approx. 24-48 hours once the **Novoplan 21** has completely dried. The drying time will depend on the thickness, temperature and moisture of the environment.

RECOMMENDATIONS

- Do not add more water to the mix once it has begun to set.
- Do not add lime, cement or gypsum to the mix.
- Do not use for smoothing in exteriors or for substrates subject to rising damp.
- DO NOT apply over timber or particleboard substrates (instead use **Ultraplan Renovation**)
- DO NOT apply another coat of **Novoplan 21** once the previous one has completely dried without first applying diluted **Eco Prim T Plus** (1 part **Eco Prim T Plus** diluted with 2 parts water).
- Do not use **Novoplan 21** at temperatures below +5°C or above +35°C.
- Not suitable for installing direct stick solid timber flooring or solid parquet flooring.
- Do not apply **Novoplan 21** in thicknesses less than 1 mm.

APPLICATION PROCEDURE

Preparing the substrate

Substrates must be dry, solid and free of dirt, loose materials, paint, wax, oils, rust, traces of gypsum, curing and sealing compounds and all other materials which may interfere with bonding. All curing and sealing compounds, irrespective of the type (including dissipating curing compounds) must be completely mechanically removed. A minimum concrete surface profile (CSP) of CSP #3 is required.

If a moisture vapour barrier is required, please contact MAPEI Technical Assistance Department for further details.

Cement based substrates which are not sufficiently solid must be removed or wherever possible consolidated with **Prosfas**, **Primer EP** or **Primer MF**.

Cracks or crazing in cement substrates must be repaired with **Eporip**.

Porous substrates and anhydrite screeds must be treated with a primer such as **Eco Prim T Plus** (diluted 1 part primer mixed with 2 parts water) to prevent potential debonding and to make the substrate uniformly absorbent.

Non-porous substrates (such as ceramic tiles and natural stone) must be carefully cleaned to eliminate traces of wax and then treated with a primer such as **Eco Prim T Plus** (undiluted) or **Eco Prim Grip**.

Magnesite substrates must be primed with **Mapeprim SP**.

For all other forms of substrates and for further Surface Preparation information, please refer to **MAPEI's Surface Preparation Requirements brochure – Floor Covering Installation System** available on our website www.mapei.com.au or alternatively email technical-au@mapei.com.au and request a copy.

Preparing the mix

While mixing with a low speed electric mixer, pour a 20 kg bag of **Novoplan 21** into a bucket containing 4.4 to 4.8 litres of clean water and mix until a uniform lump-free paste is obtained. MAPEI recommend the use of warm water (+18°C to +29°C) as opposed to cold water for mixing - particularly during the colder months. Successful installations often also require the levelling compound to be acclimatised to help offset the effects of a cooler substrate and jobsite ambient temperature conditions. Larger quantities of **Novoplan 21** can be prepared in suitable mortar mixers.

Let the mix stand for 2-3 minutes before remixing. The mix is then ready to be applied.

The amount of mixed **Novoplan 21** must be used within 30 minutes (at a temperature of +23°C).

Applying the mix

Apply **Novoplan 21** in a single coat from 1 to 10 mm thick with a large metal trowel or a squeegee, keeping the trowel slightly inclined to obtain the desired thickness.

Novoplan 21 can be also applied with a suitable pump.

When a second coat is required, it is recommended to apply it as soon as the previous coat is set to light foot traffic (approx. 3 hours at +23°C).

Installing the flooring

Once **Novoplan 21** dries, resilient, textile and ceramic flooring can be installed.

All of the MAPEI adhesive products are designed to be applied over **Novoplan 21**.

TECHNICAL DATA (typical values)EN 13813 - CT - C25 - F6 - A2_{fl}**PRODUCT IDENTITY****Consistency:** fine powder**Colour:** grey**Bulk density (kg/m³):** 1,200**Dry solids content (%):** 100**Green Star™:** meets and exceeds - very low VOC content g/l - contributes valuable points towards Green Star™ credits**APPLICATION DATA (at +23°C - 50% R.H.)****Mixing ratio:** 4.4-4.8 litres of clean water per 20 kg bag of **Novoplan 21****Thickness per coat:** from 1 to 10 mm**Self-levelling:** good**Density of mix with water (kg/m³):** 2,000**pH of mix:** approx. 12**Application temperature range:** from +5°C to +35°C**Pot life:** approx. 20-30 minutes**Setting time:** approx. 50-70 minutes**Set to light foot traffic:** 3-4 hours**Waiting time before bonding:** 24 hours**FINAL PERFORMANCE DATA****Compressive strength (N/mm²):**
– after 28 days: 28.0**Flexural strength (N/mm²):**
– after 28 days: 6.0**Resistance to abrasion-weight loss**
(with Taber abrasion meter, H22 disk, weight
550 g after 200 rev.):
– after 28 days curing: 3.5 g

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Waiting time before installation can vary according to the humidity and ambient temperature, and the thickness and type of flooring to be installed (from 24 to 48 hours).

Cleaning

While it is still fresh, **Novoplan 21** can be removed from tools with water.

CONSUMPTION

1.6 kg/m² per mm of thickness.

PACKAGING

Novoplan 21 is available in 20 kg bags.

STORAGE

12 months in a dry, elevated area in original unopened packaging.

SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

Novoplan 21 contains cement that when in contact with sweat or other body fluids causes irritant alkaline reactions and allergic reactions to those predisposed. It can cause damage to eyes.

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

If the product comes in contact with the eyes or skin, wash immediately with plenty of 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 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.au

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.au.

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.com.au**

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