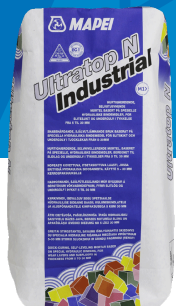


ULTRATOP N INDUSTRIAL

Quick-curing, self-levelling mortar based on special hydraulic binders, for wear layers and subfloors in thickness from 5 to 30 mm



PRODUCT DESCRIPTION

Levelling layers of **Ultratop N Industrial**, applied according to the specifications in this Technical Data Sheet are classified as CT-C40-F10-A9-A2_{FL}-s1 in compliance with EN 13813 standards. CT refers to a cementitious product, C40 and F10 refer respectively to compressive strength and flexural strength after 28 days, A9 is the Böhme coefficient for wear resistance, and A2_{FL}-s1 is the fire-class.

Ultratop N Industrial is a cementitious, pumpable, fast-curing, self-leveling product for industrial floors.

Ultratop N Industrial is ready to use, has high mechanical strength and resistance to abrasion, and does not normally need to be surface treated before exposed to traffic loads, but may need to be covered with a suitable surface treatment or resin coating due to exposure to chemical loads or for aesthetic reasons.

Ultratop N Industrial is delivered as a self-levelling product in powder form available in grey, made up of special quick-drying and quick-setting binders, specially graded sand, polymers and special additives developed in MAPEI's own R&D laboratories.

When mixed with water, **Ultratop N Industrial** becomes a self-leveling compound with good flow properties which is easy to apply, cures quickly and bonds perfectly to the substrate.

Ultratop N Industrial can be mixed and applied either by hand or pump, and spread across large surfaces in thicknesses from 5 to 30 mm. After setting, which takes place in only a few hours, **Ultratop N Industrial** has a high level of compressive- and flexural strength, resistance to abrasion and thanks to its special composition, any further finishing coat may be applied after a very short time.

Ultratop N Industrial complies with the principles defined in EN 13813 "Screed material and floor screeds – Screed material – Properties and requirements", which defines the requirements applied to materials for screeds used in the construction of internal floors.

WHERE TO USE

Ultratop N Industrial is used internally in industrial buildings, for levelling and smoothing new or existing concrete and screed substrates in thicknesses from 5 to 30 mm.

Ultratop N Industrial is a cementitious industrial compound intended for industrial floors with medium to high rolling loads and can be used inside warehouse industrial areas and garages, and surfaces where there are high demands on flatness and wear resistance.

Thanks to its versatility, **Ultratop N Industrial** is suitable for numerous applications in the building sector for industrial use.

Some application examples

- New floors in workshops, factories and production facilities, store rooms, technical rooms and warehouses.
- Industrial floors with extensive rolling loads where pallet jacks, forklifts and other rubber wheeled vehicles are in use.
- Durable floors on concrete and cementitious screed substrates.
- Industrial floors that must be protected with resin coatings in chemical and food processing plants, textile mills and tanneries.

Recommendations

- Do not add more water to the mix once **Ultratop N Industrial** starts to set.
- Do not add lime, cement, gypsum or other binders to the **Ultratop N Industrial** mix.
- Do not use **Ultratop N Industrial** on substrates which are subject to rising damp (consult the MAPEI Technical Services Department).
- Do not use **Ultratop N Industrial** for floating screeds. **Ultratop N Industrial** must always be fixed to a solid, compact substrate.
- Do not use **Ultratop N Industrial** on wet surfaces.
- Do not use **Ultratop N Industrial** on metallic surfaces, textiles and elastic coverings, or other deformable substrates, wooden substrates, etc.
- Do not use **Ultratop N Industrial** at temperatures lower than +10°C or higher than +35°C.

IMPORTANT INFORMATION

- Avoid exposing the surface to draughts and direct sunlight before, during and 1 - 3 days after application.
- Avoid using dehumidifiers before, during and 3 days after application.
- Avoid using gas heating before, during and after application.
- The specified minimum layer thickness of 5 mm applies to local high points. When applying large areas with a mixer pump or pump truck, and where the substrate is relatively flat, a layer thickness of at least 8 - 10 mm is recommended to achieve a satisfactory result.
- The colour of floors made using **Ultratop N Industrial** are not always uniform, a typical feature of cementitious-based products. Apart from the inherent nature of this kind of product, colour variations may also be caused by the way the product is applied. Also, it must be cast continuously without long pauses, in order to guarantee perfect flatness.
- Please note that fine, barely visible hairline cracks may occur since **Ultratop N Industrial** is a cement-based material, but that such cracks do not affect the function of the floor.
- Please note that if the temperature is too low below +10°C or if the humidity is too high above 70 % during curing, light deposits may occur on the surface.
- Temperature and relative humidity should always be measured and recorded in the laying protocol before application.

APPLICATION PROCEDURE

Preparing of the substrate

Substrates must have sufficient load-bearing capacity, be dry, clean and free of dust, laitance, loose and detached parts, paint, wax, grease, oil, rust, plaster residues and all other pollutants that can reduce adhesion. Remains of old coverings and coatings, and other pollutants should be removed mechanically, if necessary, for example by shot blasting, milling or grinding.

Surface tensile strength of the substrate must be at least 1,5 N/mm² (MPa).

Apply a compressible band and carefully seal around the perimeter of the rooms to be laid and around any vertical elements which pass through the floor (such as pillars, columns, and drainages).

Cracks in the substrate must be repaired beforehand using **Maepoxy BI-IMP** or a suitable injection product and where required reinforced with **Rete 320**.

Priming

Concrete surfaces must be prepared by shot-blasting, milling, or grinding and primed with **Primer SN** and, where required, reinforced with **Rete 320** (glassfibre mesh) followed by a full broadcast of dry quartz sand

Sand 0.8 - 1.2 mm. After application, leave the **Primer SN** to dry for 12 - 24 hours, according to the surrounding temperature. Before casting the **Ultratop N Industrial**, remove excess quartz sand with a vacuum. Instead of **Primer SN**, absorbent concrete and screed substrates may be primed with 1 - 2 coats of **Primer LT** diluted with water at a ratio of 1:1 by weight. Let the primer dry (from 2 to 5 hours, depending on the temperature and the humidity of the environment), before applying **Ultratop N Industrial**.

Mixing

Pour the content of a 20 kg bag of **Ultratop N Industrial** into a container with 3.6 - 3.8 liters of clean water (18 - 19 %), and continue mixing with a low-speed electric mixer for min. 2 - 3 minutes until a homogenous, flowable, lump-free mix is formed. Let it stand for 2 - 3 minutes and before applying, remix the blend for a few minutes more. Only prepare the amount of **Ultratop N Industrial** which will be applied within 15 minutes at a temperature of approx. +23°C and 50% RH.

Ultratop N Industrial can also be mixed using a suitable automatic mixer pump or pump truck. Set the water content to 18 - 19 %. During mixing, check the water content by testing the flow ratio. If the water content is correct, the flow ratio should be 130 - 145 mm (acc. to EN 12706, flow ring 30 x 50 mm) or 145 - 160 mm (acc. to SS 923519, flow ring 50 x 22 mm) at 19 % water. While testing the flow ratio, also check that the blend is free of separation and completely homogenous before applying.

Smoothen the blend within approx. 20 minutes (at approx. +23°C and 50% RH). The pot life of the mix varies according to the temperature and reduces as the temperature increases.

Do not add more water than the amount required to achieve a good result. Too much water reduces the strength properties of the compound which again could lead to a weaker surface as well as higher shrinkage which increases the risk for cracks.

Application

Spread **Ultratop N Industrial** by hand or with a pump in a single layer of 5 to 30 mm, and whilst working smooth the surface with a wide flat or toothed trowel for a natural finish. Make sure that the material is cast in a regular, continuous flow without interruptions, to avoid defects in flatness and differences in colour. Thanks to its self-levelling properties, **Ultratop N Industrial** eliminates surface imperfections left by the smoother. Adapt the width of the spread to the capacity of the mixer pump and layer thickness, normally no more than 10 - 12 meters without dividers. If there are high demands for flatness of the surface, the width should be as narrow as possible.

After treatment

Ultratop N Industrial forms a finished industrial floor for medium to high industrial load or a finished subfloor for resin coatings.

Ultratop N Industrial can be grinded and ready for surface treatment or resin coatings after 48 - 72 hours at approx. +23°C and 50% RH (drying times vary according to the ambient temperatures and moisture level). Finished floors using **Ultratop N Industrial** should be protected and then made non-absorbent using a MAPEI finishing system. In order to reduce the absorption of dirt and spills, and other liquids and contaminants, as well as simplifying cleaning and maintenance, choose the most suitable finishing system, as for example **Concrete Sealer** or **Mapecrete Stain Protection**, according to the finish or level of wear-resistance required. The surface treatment should be applied after 24 hours at the earliest depending on the drying conditions. Please refer to MAPEI Technical Services department for information.

When applying the product, respect the expansion joints in the substrate and form distribution joints at least every 50 m². With heated floors, the bay size must be no more than 25 - 30 m².

Seal joints with **Mapeflex PU 40**, a single component, quick-hardening thixotropic polyurethane sealant and adhesive with a high modulus of elasticity for sealing expansion and distribution joints. Insert **Mapefoam** closed-cell polyethylene foam cord in the joint beforehand to obtain the required depth and avoid the sealant sticking to the bottom of the joint.

CLEANING

Whilst still fresh, tools and machines may be cleaned with plenty of water. If the material has hardened, tools and machines can only be cleaned mechanically.

CONSUMPTION

1.7 kg/m² per mm layer thickness.

PACKAGING

Ultratop N Industrial is available in 20 kg bag, 1000 kg big-bag and in bulk.

STORAGE

Ultratop N Industrial remains stable for 6 months if stored in its original packaging in a cool, dry place. It is recommended to use the product in big-bags immediately and avoid storage for longer periods.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.no

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

PRODUCT INFORMATION	CT – C40 – F10 – A9 – A2 _{FL} -s1
Consistency:	powder
Colour:	grey
Bulk density:	1300 kg/m ³
Dry solids content:	100
Emissions classification:	M1 and EC1 Plus – very low emission
Grain size (D _{max}):	1 mm

APPLICATION DATA (at +23°C and 50 % R.F.)	
Layer thickness:	from 5 - 30 mm
Recommended water amount:	3.6 - 3.8 liters per 20 kg bag (18 - 19 %)
Density of the mix:	2050 - 2150 kg/m ³
Application temperature range:	from +10°C to +35°C
Pot life:	approx. 15 minutes
pH-value of the mix:	approx. 12
Set to light foot traffic:	approx. 3 - 4 hours
Ready for covering:	earliest after 48 hours
Curing time before full traffic load:	approx. 1 week

FINAL PERFORMANCES (at +23°C and 50% R.H.)

Essential characteristics	Test method	Requirements in accordance with NS-EN 13813 for cementitious screeds	Typical values	
Compressive strength:	EN 13892-2	$5 < N/mm^2 < 80$ (28 days)	24 h 7 days 28 days	18 N/mm ² 32 N/mm ² 42 N/mm ²
Flexural strength:	EN 13892-2	$1 < N/mm^2 < 50$ (28 days)	24 h 7 days 28 days	4 N/mm ² 9 N/mm ² 11 N/mm ²
Surface tensile strength (pull-off):	EN 13454-2	acc. to GBR-trade standard	28 days	≥ 3 N/mm ²
Shrinkage:	EN 13872	< 10 mm	28 days	< 0.5 ‰ (mm/m)
Adhesion to concrete:	EN 13892-8	> 1.5 N/mm ²	7 days 28 days	> 2.0 N/mm ² > 2.5 N/mm ²
Abrasion resistance Taber-abrasion test (H22 wheel, 500 g, 200 rev./min.):	NS-EN ISO 5470-1		7 days 28 days	0.7 0.6
Abrasion resistance Böhme- abrasion test:	EN 13892-3	$1.5 < cm^3/50\ cm^2 < 22$	28 days	9
Reaction to fire:	EN 13501-1	value declared by producer	A2 _{FL} -s1	
pH-value for hardened material:			≤ 10	
Flow ratio at 19 % water:	EN 12706	flow ring 30 x 50 mm	130 - 145 mm	
Flow ratio at 19 % water:	SS 923519	flow ring 50 x 22 mm	145 - 160 mm	

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 web site www.mapei.no

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8957-9-2023-gbxno

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