TOPCEM PRONTO

Pre-blended mortar for screeds with high thermal conductivity, normal setting, controlled shrinkage and quick drying. Ideal for heated floors

BENEFITS AND FEATURES

- High thermal conductivity, ideal for heated screeds
- Ready to use
- Quick-drying
- High mechanical strength
- Negligible hygrometric shrinkage

CLASSIFICATION ACCORDING TO EN 13813

Screeds prepared with **Topcem Pronto** in accordance with the specifications described in this technical data sheet are classified as CT - C30 - F6 - $A1_{FL}$ in compliance with the European standard EN 13813.

WHERE TO USE

For forming floating and bonded heating screeds on new and existing slabs in interiors and exteriors prior to installing wood, PVC, linoleum, ceramic tile, natural stone, carpet or other floor coverings in areas where fast-drying screeds are required in order to install floorings in a short time.

Some application examples

- Forming high thermal conductivity heating screeds without the need for admixtures.
- Forming quick-drying (< 2% R.H. after 4 days) screeds that are set for foot traffic in 12 hours and completely dry in 4 days, ideal for installing flooring sensitive to moisture such as wood parquet and resilient flooring such as rubber, PVC, linoleum, etc.
- Forming screeds that are ready to receive ceramic tiles after 24 hours and natural stone flooring after 2 days.
- Repairing screeds in areas where it is required to lay floorings in a short time (e.g. supermarkets, shops, residences, offices, etc.).

TECHNICAL CHARACTERISTICS

Topcem Pronto is a pre-blended, quick-drying mortar with normal setting, controlled shrinkage and high mechanical strength based on a special hydraulic binder and graded aggregates.
Topcem Pronto is characterized by high thermal conductivity (λ = 2 W/mK), which makes it particularly suitable for laying heating screeds on which after only 4 days it is possible to carry out the first system start-up cycle according to the procedure indicated in EN 1264-4.
Topcem Pronto is extremely easy to use: just mix with water. This prevents mistakes from being made in adding the correct amount of binder and properly graded aggregate, which could compromise the final performance characteristics of the screed when cured.
Topcem Pronto is the ideal solution where good quality graded aggregate is hard to find or for job sites such as those in city centres where the logistics involved in mixing conventional binders can be difficult.
Topcem Pronto is workable for the same length of time as conventional cement based mortars, but cures much faster.
The environmental impact of **Topcem Pronto** 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-00910, certified and published by EPD International.

RECOMMENDATIONS

- Do not use **Topcem Pronto** on substrates subject to rising damp (place a vapour barrier in between).
- Do not mix **Topcem Pronto** with other binders (e.g. **Mapecem**, **Topcem**, cement, lime, gypsum, etc.) or aggregates.
- Mix **Topcem Pronto** with the correct amount of water.
- Do not add water to **Topcem Pronto** mix once it has begun to set.
- Do not wet the surface of **Topcem Pronto** screed.
- When there are waterproofing systems made from prefabricated flexible membranes present (such as a bitumen membrane), the insulating layer placed between the floor slab and the screed must be made from material permeable to water vapour (e.g. PP geotextile or low density non-woven fabric).

APPLICATION PROCEDURE

Preparing the substrate

Topcem Pronto can be used on any substrate as long as it is not subject to rising damp. If so, use a waterproof membrane.
For screeds from 10 to 35 mm thick, that require anchoring, the substrate must be dry, mechanically resistant, without cracks, free of dust and loose particles, varnish, wax, oil, and gypsum residues or any substance that might compromise adhesion.

Preparing the mix

Topcem Pronto can be mixed in:

- paddle mixers;
- normal job site mixers;
- screw mixers;
- automatic pressure pumps.

Mix one 25 kg bag of **Topcem Pronto** with 1.7 l of water for at least five minutes. Never vary the amount of water because this will weaken the mortar's final performance.
During the mixing phases, 22 g of **Mapefibre ST30** may be added per bag of **Topcem Pronto**. The use of **Mapefibre ST30** fibres makes it possible to replace the use of metal reinforcement mesh, improves flexural strength, load distribution and favours the dissipation of internal stresses in the screed generated by hygrometric shrinkage.
The mix should have a semi-dry consistency. Tamp and float the mix until a dense, smooth surface is obtained without bleeding.

UNBONDED SCREEDS

(from 35 to 80 mm thick)

Topcem Pronto mix must be installed on an insulating layer, made up of a polyethylene sheet barrier, or similar, to allow for movement between the screed and the existing substrate. In case of rising damp, use a waterproof membrane to form a vapour barrier underneath the screed.
Areas of **Topcem Pronto** screeds covering pipes must be reinforced with light steel reinforcement (such as a hexagonal mesh) above the through-elements by providing a thickness above them of at least 2 cm, or alternatively reinforce with **Mapefibre ST30**.
Spread the **Topcem Pronto** mix just like any other cement based screed mix: use screed guides, then spread the mix and tamp thoroughly before floating to obtain a better surface finish.
Place isolating material (such as cardboard, polystyrene foam, cork, etc.) approx. 5 mm thick around the sides of the area and around columns before casting.
If work is interrupted, cut the screed perpendicularly to the substrate and insert a series of 3-6 mm diameter, 20-30 cm-long steel rods in the screed at a pitch of 20-30 cm. This operation will guarantee a good weld between the construction joints, and avoid cracking and uneven joints.
The use of special structural fibres such as **Mapefibre ST30** (2 kg/m^2 to be added to the **Topcem Pronto** mix) or the positioning of an electro-welded reinforcement mesh halfway along the thickness is recommended to improve flexural strength, the distribution of loads and to help dissipate internal tension in the screed generated by hygrometric shrinkage.
The Topcem Pronto mix is usually workable for a greater length of time than a conventional screed mix. Ambient temperatures may influence the setting and drying times.

BONDED SCREEDS

(from 10 to 80 mm thick)

Thin screeds must be laid directly in contact with the substrate, which may be cementitious material or made up of an old ceramic or stone floor.
For other substrates, consult the MAPEI Technical Services Department.
Once the substrate has been prepared sufficiently, and immediately before spreading on the **Topcem Pronto** mix, prepare bonding slurry with **Planicrete** according to the ratio in the table below. Apply a continuous, even 2-3 mm layer using a large flat brush, a scrubbing brush or a trowel.
To get perfect adhesion, spread **Topcem Pronto** on the slurry while it is still fresh (fresh on fresh technique).
If the floor is subjected to high mechanical stresses, the construction joint must be made by replacing the **Planicrete** cementitious bonding slurry with **Eporip**.
Spread **Topcem Pronto** using the same method described above.
Mixing ratio for Planicrete cementitious slurry

Planicrete:	1 part by weight
Water:	1 part by weight
Topcem:	3 parts by weight

MEASURING MOISTURE CONTENT

Normal electric hygrometers give values that are not reliable for **Topcem Pronto** screeds.
It is therefore absolutely necessary that a carbide hygrometer is used to measure the level of residual moisture; this instrument shows the absolute value of moisture by weight.

CONSUMPTION

18-20 kg/m^2 per cm of thickness, depending on compaction.

CLEANING

Clean tools with water.

PACKAGING

Topcem Pronto is available in 25 kg bags.

STORAGE

Topcem Pronto is stable for at least 12 months when stored in a dry place.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

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.com.
PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)

In compliance with: – European EN 13813 CT-C30-F6-$A1_{FL}$

PRODUCT IDENTITY	
Consistency:	powder
Colour:	grey
Bulk density:	1,500 kg/m³
Dry solids content:	100%
Maximum size of the aggregate:	2.8 mm
EMICODE:	EC1 Plus - very low emission

APPLICATION DATA (at +23°C - 50% R.H.)	
Mix ratio:	1.7 l of water per 25 kg of **Topcem Pronto**
Density of the mix:	2,100 kg/m³ depending on compaction
Mixing time:	5 to 10 mins
Workability of the mix:	60 mins
Application temperature range:	from +5°C to +35°C
Set to light foot traffic:	after 12 hours
Waiting time before application of levelling compounds:	from 1 to 4 days, depending on the type of flooring to be laid
First start-up cycle of the heating system in compliance with EN 1264-4:	after at least 4 days of curing
Waiting time before bonding:	- 24 hours for ceramics - 2 days for natural stones - 4 days for parquet and resilient flooring

FINAL PERFORMANCE	
Thermal conductivity in compliance with EN 12664:	λ = 2.008 W/mK
Resistance to moisture:	excellent
Resistance to ageing:	excellent
Resistance to solvents and oils:	excellent
Resistance to acids and alkalis:	poor
Resistance to temperature:	from -30°C to +90°C
Flexibility:	no

Compressive and flexural strength, and resistance to residual moisture	Compressive strength	Flexural strength	Residual moisture
– after 1 day:	> 8 N/mm²	> 3 N/mm²	< 3.5%
– after 4 days:	> 15 N/mm²	> 4 N/mm²	< 2.0%
– after 7 days:	> 22 N/mm²	> 5 N/mm²	–
– after 28 days:	> 30 N/mm²	> 6 N/mm²	–

Notes: the samples used for the strength tests are prepared according to EN 13892-1 standards by following a manual procedure so that the mortar becomes as compact as possible.
Drying times refer to screeds up to 5 cm thick; for thicker screeds, drying times may increase by approximately 7 to 10 days for each additional cm of thickness.

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

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