MAPECUBE 1

Mechanical strength enhancer for low CO_2 emission concrete

CE
EN 934-2
T7

DESCRIPTION

Mapecube 1 is a strength-enhancer for concrete materials, developed in MAPEI Research Laboratories. Its special chloride-free formulation is capable of optimizing the hydration of cements to achieve maximum performance from any concrete.

WHERE TO USE

Mapecube 1 is an admixture that can be used in every concrete mix.
Mapecube 1 is particularly suitable for heavy prefabrication and on sites with specific requirements, such as:

- High mechanical strength at early ages.
- Reduction or elimination of steam curing.
- Environment temperature lower than +10°C.
- Optimization of production cycles.
- More rapid and efficient demoulding.

TECHNICAL CHARACTERISTICS

Mapecube 1 is an admixture made of nanoparticles in aqueous suspension, obtained through a process to enhance low clinker cement performances.
Mapecube 1 contains nanoparticles which will influence and increase the hydration of cement. These nanoparticles ensure more complete hydration of cement materials and obtain highest possible early and final strength.

APPLICATION PROCEDURE

To reach the best performances, it is recommended to add **Mapecube 1** to concrete after the addition of superplasticizer and then stir until a completely homogeneous mix is obtained. If possible, it is recommended to use 80 % of mixing water initially and dose the remaining 20 % of water after addition of admixtures. In case of use in cold weather, it is advisable to take the following precautions:

- Take the components of the mix to a temperature higher than +5°C.
- Carry out concrete pouring operation, making sure to take advantage of the temperature rise during the day.
- When using concrete at very cold conditions, lower than -10°C, make sure to make extra effort to prevent concrete from freezing before hydration.
- Keep water/cement ratio as low as possible.

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- Protect concrete pouring from the dispersion of heat generated by concrete hydration.
- For longer periods (2 days or more) where it is known that **Mapecube 1** will not be dosed, it is recommended to empty the dosage system and flush pipes with water.

CONSUMPTION

Dosage in volume

The recommended dosage ranges from 2 to 5 litres per 100 kg of cement.
The amount of **Mapecube 1** will depend on site conditions, temperature, materials used, acceleration rate and strength development desired.
Different dosages from those suggested must be pre-tested through concrete trials, in addition to consulting MAPEI Technical Services Department.

PACKAGING

Mapecube 1 is available in bulk, 1000 l IBC, and 25 kg jerrycan.

STORAGE

Mapecube 1 can be stored for a maximum of 6 months in sealed containers, protected from freezing weather. Recirculating or agitating devices should be installed on the **Mapecube 1** storage tanks to ensure a consistent and homogeneous material.
If exposed to direct sunlight, the colour of the product may vary, without affecting its performance characteristics.

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 IDENTITY	
Consistency:	liquid
Colour:	deep blue/violet
Material density according to ISO 758:	1.13 ± 0.03 g/cm^3
Main action:	mechanical strength enhancer
Classification according to EN 934-2:	hardening accelerator admixture (table 7)
pH according to ISO 4316:	11 ± 1
Water-soluble chloride content according to EN 480-10:	< 0.1 % (absent according to EN 934-2)
Alkali content according to EN 480-12:	< 3.8 %
Dry material content:	23 ± 1.2 %

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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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 effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.no

ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.

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