

# MAPEFIBRE ST 42

Structural polymer macro fibres for concrete



## DESCRIPTION OF PRODUCT

**Mapefibre ST 42** are structural polymer fibres, with a length of 42 mm, developed to improve the performance characteristics of conventional concrete, precast concrete and shotcrete.

**Mapefibre ST 42** represent a cost-effective alternative to traditional reinforcing techniques (such as metal mesh and/or steel fibres) when used to distribute loads, to limit crack phenomenon due to plastic shrinkage and to produce high-ductility concrete and normal-setting and accelerated-setting shotcrete (safety layers and/or final layer in tunnels and trenches and on rock-faces, walls of water channels, etc.).

The advantages of these products include ease of handling and loading into mixers and a low specific weight per cubic metre, which also makes this technology competitive from a logistics and site management point of view.

**Mapefibre ST 42** are also resistant to alkalis and do not corrode, both during the storage phase and once added to the concrete mix, even in aggressive environments.

**Mapefibre ST 42** are characterised by a special geometric shape which guarantees excellent grip to the cementitious paste and an even distribution within the concrete mix.

## TECHNICAL CHARACTERISTICS

The use of **Mapefibre ST 42** considerably increases the ductility and tensile strength of concrete, as well as its residual strength after formation of the first cracks.

## WHERE TO USE

**Mapefibre ST 42** are particularly suitable for the following:

- installation of industrial floors;
- production of precast panels and concrete pipes, concrete sections, etc.;
- production of shotcrete.

## HOW TO USE

Add **Mapefibre ST 42** in the cement mixer together with all the other ingredients (cement, aggregates, water and admixtures). Mix until a homogenous blend is obtained.

## COMPATIBILITY WITH OTHER PRODUCTS

**Mapefibre ST 42** are compatible with other admixtures used in the production of high-quality concrete, and especially with:

- super-plasticising agents from the **Dynamon** and **Chronos** ranges, for a correct mix design, consistency and maintenance of workability;
- **Mapecure E**, **Mapecure S** and **Mapecure CA** curing surface films, for correct curing of concrete;
- **Mapecrete System**, innovative technology used in the production of concrete with volumetric stability;

· form-release agents from the **Mapeform Eco** and **DMA** ranges, used for stripping concrete from moulds.

## DOSAGE

The quantity of **Mapefibre ST 42** added to the concrete ranges from 1 to 5 kg/m<sup>3</sup>, according to the performance characteristics required.

## PACKAGING

**Mapefibre ST 42** are supplied in 5 kg, 6 kg and 1.8 kg plastic bags, with watersoluble pucks.

## STORAGE

**Mapefibre ST 42** may be stored for up to 24 months if protected from wet weather.

## SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Mapefibre ST 42** is an article that, according to current European Regulations (Reg. (EC) 1906/2007 - REACH), does not require a Safety Data Sheet. When using this product we recommend wearing gloves and safety goggles and to adhere to the safety guidelines for the area in which work is carried out.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Length of fibres (mm):	42
Equivalent diameter of fibres (mm):	0.80
Density (g/cm <sup>3</sup> ):	0.91
Number of fibres per kg:	47,000
Melting point:	155-165°C
Water absorption (%):	< 0.01
Resistance to alkalis, acids and salts:	high
Tensile strength (N/mm <sup>2</sup> ):	450
Elastic modulus (N/mm <sup>2</sup> ):	3900



Fiber reinforced Concrete floor with Mapefibre ST 42



Mapefibre ST 42 packed in water soluble pucks



Fiber reinforced Concrete floor with Mapefibre ST 42

## 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](http://www.mapei.com)

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