

Mapecifibre ST42

Structural polymer fibres for concrete

DESCRIPTION OF PRODUCT

Mapecifibre ST42 are structural polymer fibres, with a length of 42 mm respectively, developed to improve the performance characteristics of conventional concrete, pre-cast concrete and shotcrete.

Mapecifibre ST42 represent a valid alternative to traditional reinforcing techniques (such as electro-welded 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.

Mapecifibre ST42 are also resistant to alkalis and do not corrode, during both the storage phase and once added to the concrete mix, even in aggressive environments.

Mapecifibre ST42 are characterised by a special surface treatment which guarantees excellent grip to the cementitious paste and an even distribution within the concrete mix.

TECHNICAL CHARACTERISTICS

The use of **Mapecifibre ST42** considerably increases the ductility and tensile strength of concrete, and its residual strength after formation of the first cracks.

WHERE TO USE

Mapecifibre ST42 are particularly suitable for the following:

- installation of industrial floors;
- production of pre-cast concrete panels and pipes, concrete section's, etc.;
- production of shotcrete.

HOW TO USE

Add **Mapecifibre ST42** 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

Mapecifibre ST42 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 the concrete;
- **Mapecrete System**, innovative technology used in the production of concrete with volumetric stability;
- form-release agents from the **Mapecform Eco** and **DMA** ranges, used for stripping concrete from moulds.

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Length of fibres (mm):	42
Equivalent diameter of fibres (mm):	0.80
Density (g/cm ³):	1.00
Number of fibres per kg:	> 50,000
Melting point:	155-165°C
Water absorption (%):	< 0.01
Resistance to alkalis, acids and salts:	high
Tensile strength (N/mm ²):	450
Elastic modulus (N/mm ²):	3900

CONSUMPTION

The quantity of **Mapefibre ST42** added to the concrete ranges from 1 to 6 kg per m³, according to the performance characteristics required.

PACKAGING

Mapefibre ST42 are supplied in 6 kg plastic bags.

STORAGE

Mapefibre ST42 may be stored for up to 12 months if protected from wet weather.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapefibre ST42 is an article that, according to current European Regulations (Reg. (EC) 1906/2007 - REACH), does not require a Material 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.

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

All relevant references for the product are available upon request and from www.mapei.com



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