MAPEFIBRE STEEL 85/50

Steel structural fibres for concrete



WHERE TO USE

Mapefibre Steel 85/50 is composed of steel structural fibres and is used particularly for making strengthened industrial floors.

Mapefibre Steel 85/50 is a valid alternative to the use of conventional steel reinforcement for strengthening structures. Mapefibre Steel 85/50 is used in a number of sectors in the civil and industrial field, and is most commonly used to make industrial flooring, flooring in airports, in prefabrication work and when making cementitious conglomerates.

Some application examples

- · Strengthening industrial flooring.
- · Concrete for foundations, support beds and floors in residential environments.
- \cdot Parking areas for aeroplanes.
- \cdot Quays and wharfs in dockyards.
- · Precast concrete panels, reinforced concrete pipes and high-strength concrete elements.
- \cdot Constructing dams and for coating tunnel walls (shotcrete).

TECHNICAL CHARACTERISTICS

Mapefibre Steel 85/50 is made from 50 mm-long steel structural fibres with an omega-shaped profile, designed to improve the performance characteristics of conventional and precast concrete and shotcrete.

The fibres contained in **Mapefibre Steel 85/50** are a valid alternative to conventional reinforcement (using electro-welded mesh), to produce concrete with high ductility and to limit cracking phenomena.

Mapefibre Steel 85/50 are easy to handle and load in concrete mixers, making it a competitive product from both a logistics and site-organisational point of view.

ADVANTAGES

The use of Mapefibre Steel 85/50 offers a number of advantages:

- · structural strengthening;
- · better mechanical characteristics of the material during the post-cracking phase;
- \cdot considerable increase in the ductility of concrete;
- · improved impact resistance;
- \cdot easier and quicker application;
- \cdot more even distribution of the reinforcement throughout the cementitious mix.

RECOMMENDATIONS

Do not use high doses of **Mapefibre Steel 85/50**; they could form lumps in the conglomerate and cause problems during pumping.

Do not use Mapefibre Steel 85/50 as the first ingredient in cement mixers; add after the sand and the aggregates.

HOW TO USE

Adding the fibres in concrete-mixing plants



When used in concrete mixing plants, add the **Mapefibre Steel 85/50** directly into the mixing drum or using special dosing units. Add the fibres while adding the sand and the aggregates.

Adding the fibres in concrete-mixing trucks

Add **Mapefibre Steel 85/50** into the mixing drum using special equipment with a shaker/separation unit for the fibres. Make sure the mix is thoroughly blended before pouring.

To form a better blend, add the Mapefibre Steel 85/50 with the aggregates before adding the mixing water and the binder.

CONSUMPTION

Add 20-40 kg of **Mapefibre Steel 85/50** per cubic metre of concrete, according to the mix design and final performance characteristics required.

PACKAGING

Mapefibre Steel 85/50 is supplied in 20 kg boxes.

STORAGE

Mapefibre Steel 85/50 may be stored for 24 months in areas protected from rain. PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Type of product:	shaped steel fibres for concrete: size 0.85 mm x 50 mm
Reference standard:	UNI EN 14889-1
Diameter of wire (d):	0.85 mm
Length (L):	50 mm
L/d ratio:	58.8
Shape:	hooked fibre
Tensile failure strength (N/mm²):	> 1100
Elongation (%):	< 2
Chemical composition:	C < 0.20%; Mn < 0.60%; Si < 0.30%; S max 0.045%; P max 0.045%
How to use:	distribute the product evenly in the concrete mix at a rate of at least 20 kg/m 3

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



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