

MasterFiber[®] 249

Alkali-Resistant Monofilament Polypropylene Fibre Intended for the Structural Reinforcement of Concrete and Cement-Based Products

Material Description

MasterFiber[®] 249 is a 100% transparent polypropylene fibre with high performance characteristics due to its excellent tensile strength and high adherence to the concrete matrix, especially designed for use in concrete and precast concrete. It is added in the manufacture of concrete and mortar to improve its performance.

Areas of Application

MasterFiber[®] 249 is applied where an improvement in the ductility of concrete and mortar is required, as well as an effective control of shrinkage cracking.

It is used for:

- Precast concrete: as a replacement for the conventional mesh – shrinkage cracking control – fire protection.
- Shotcrete as a replacement for the reinforcing mesh.
- Pavements: as a replacement for the distribution mesh – to control shrinkage cracking.

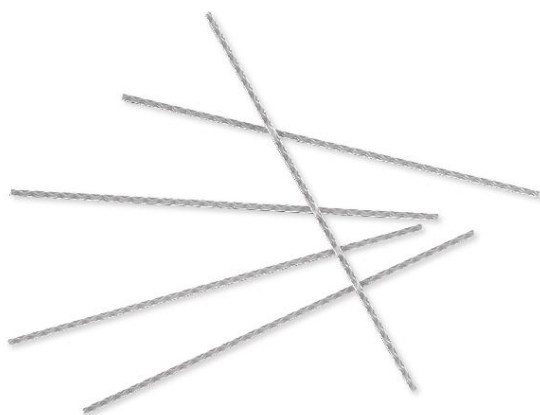
MasterFiber[®] 249 can also be used in reinforced concrete, since it has no incompatibilities with steel nor does it reduce the adhesion between the framework and concrete. Ask the Technical Department about other applications not found on this list.

Technical Properties	
Structure of the Material	Transparent Polypropylene
Shape	Grooved monofilament
Equivalent Diameter	0.85 mm
Fibre Frequency (unit/kg)	41200
Fibre Length	48 mm
Slenderness	56.5
Tensile Strength	> 400 MPa. According to the UNE-EN ISO 6892-1:2009 method
Specific Gravity	0.91 g/cm ³
Modulus of Elasticity	> 6.0 GPa. According to the UNE-EN ISO 6892-1:2009 method
Secant Modulus	> 4.7 GPa. According to the UNE-EN ISO 14889-2:2006 method
Melting Point	160 – 170 °C
Decomposition Temperature	310 °C
Flammability	Not applicable
Acid/alkali Resistance	Excellent

The technical data included herein is the result of statistics and are not minimums guaranteed. If control data is desired, the "Sale Specifications" for the product can be requested from our Technical Department.

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Characteristics and Benefits

- It reduces the formation of shrinkage micro-cracks.
- It reduces the formation of cracks.
- It increases ductility.
- Impact reinforcement.
- Disintegration reinforcement.
- It reduces permeability.
- It protects against oxidation.
- Corrosion resistant.
- Safe and easy to use.

Dosage

For shrinkage cracking control in pavements and precast elements, typical dosages range from 2 to 5 kg/m³.

Dosages between 3 and 10 kg/m³ are feasible, although prior testing is recommended to verify adequate rheological behaviour and fibre dispersion in the concrete mortar.

Method of use

MasterFiber[®] 249 can be dosed both at the concrete plant and upon arrival of the truck on site, ensuring sufficient mixing

time to distribute the fibre throughout the concrete (minimum 5 minutes).

Add the product dose to the mixer as an additional component of the concrete, at any point during mixing or at the end of the process, but never directly to the water before adding the other components.

The product does not require any special handling precautions.

Packaging

MasterFiber[®] 249 is supplied in 4kg, 6kg, 4kg SPA, 6kg SPA, 120kg, 150kg and 150kg SPA bags.

Shelf Life and Storage

MasterFiber[®] 249 is a completely inert material, so it does not degrade over time if properly stored in its original, hermetically sealed packaging, free from dirt and avoiding high temperatures.

Recommendations for use

- To optimise the performance of MasterFiber[®] 249 structural fibres, the use of fluid concrete is recommended.

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This consistency must be achieved by using a MasterGlenium[®] SKY superplasticizer and avoiding the addition of water and therefore, the increase in the water-cement ratio, in order to prevent fibre flotation.

- An adjustment of the aggregate dosage is recommended to ensure the fibre is covered by the concrete paste.

To be taken into account

- Testing is recommended before using the product.
- Do not use dosages which are either above or below those recommended without previously consulting our Technical Department.
- Due to the specific surface characteristics of the fibres, using MasterFiber[®] 249 involves a slight loss of consistency of the concrete.

Health and Safety

For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapor until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Spillage

Chemical products can cause damage; clean spillage immediately.

Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş. is only responsible for the quality of the product MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş. is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

Contact

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