

MasterFiber 141

Polypropylene fibre for reinforcement in sprayed and cast concrete applications as an alternative and/or supplement to existing concrete reinforcement products

Material Description

MasterFiber 141 is engineered for use as secondary reinforcement to increase energy absorption of the concrete matrix.

MasterFiber 141 is an option for the replacement or supplementation of steel mesh reinforcement and is an easy-to-use secondary reinforcement system that is rust proof and alkali resistant.

MasterFiber 141 conforms to the requirements of EN 14889.2 Class II.

Areas of Application

MasterFiber 141 applications include, but are not limited to:

- Shotcrete: Ground support for tunnels, mines, and slope stabilization
- Slabs on ground: Mine haul roads and industrial flooring at mine sites

Characteristics and Benefits

- Allows for full or partial substitution of steel mesh reinforcement
- Improves concrete ductility and energy absorption
- Reduces labour, construction, transport, and storage costs compared to a solution with conventional reinforcement
- Provides increased flexural toughness to the concrete and decreases crack occurrence due to constrained deformation and impact
- Enables carbon reduction within the concrete element
- Provides a rust free reinforcing solution
- Decreases shotcrete rebound
- Excellent resistance in alkaline and acidic environments
- Easy to dose either at the batch plant or on site concrete mixer truck prior to application
- Safe to handle and no negative impacts on machinery wear

Properties

Polymer type	Virgin polypropylene
Sectional shape	Rectangular
Longitudinal shape	Embossed
Length	65 mm
Equivalent diameter	0.95 mm
Aspect ratio	68
Ultimate tensile strength	550 MPa
Young's modulus	10 GPa
Density	0.91 g/cm ³
Melting point	Approx. 170°C
Acid/alkali resistance	High

Dosing & Batching

The typical dose rate of **MasterFiber 141** is 4.0 – 7.0 kg/m³. **MasterFiber 141** is packed in mulchable boxes that can be added directly to the concrete mixer. It is recommended to add fibre into a zone of sufficient shear to aid in fast fibre distribution through the mix.

After the addition of **MasterFiber 141** to the mix, it is recommended to mix for a minimum of 120 – 180 seconds. High fibre dosages may require a higher mixing time in order to achieve sufficient dispersion.

The mechanical performance of **MasterFiber 141** is influenced by the mix design and cementitious materials used. Preliminary tests under practical conditions with regards to mixing and spraying are advised for a proper assessment.

Packaging

1 pallet of **MasterFiber 141** is made up of 114 x 5.0 kg mulchable boxes (570 kg per pallet). Each pallet is covered by a waterproof cover.

MasterFiber 141 is wrapped in water-soluble PVA to form bundles to aid in concrete mix dispersion.

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Storage & Shelf Life

MasterFiber 141 is to be stored undercover and protected from the weather.

Note

Field service support, where provided in no way constitutes supervisory responsibility. For additional information please contact your local Master Builders Solutions representative. MB Solutions reserves the right to have the true cause of any technical challenge determined by accepted test method.

Disclaimer

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NOTE

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