MasterFiber® 141

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

MATERIAL DESCRIPTION

MasterFiber 141 is a fibre extruded from polyolefine polymers and formed into a embossed fibre that can be used in concrete mixes for both spray and cast in-situ applications. The inclusion of fibres in a concrete mix will contribute to improving the durability of concrete by increased crack propagation resistance and by its energy absorption characteristics. The fibres will disperse uniformly throughout the concrete mix and effectively act as an anchoring mechanism within the cement matrix thereby improving the toughness and ductility of the material.

MasterFiber 141 can maximize concrete service life by providing superior resistance to attack from damaging environmental elements such as water, chlorides and corrosive environments such as sewerage conduits and/or saline water.

AREAS OF APPLICATION

- Wet shotcrete applications in tunnelling or mining applications
- Any subsurface construction
- Any structure where impact toughness shall be increased

CHARACTERISTICS AND BENEFITS

- Easy to dose either at the batch plant or on site concrete mixer truck prior to application
- Only minor impact on flow & slump properties of fresh concrete
- High resistance to acid/alkalis attack suitable for use in wet underground conditions and subsurface constructions exposed to damp conditions
- Reduces construction time compared to a solution with conventional reinforcement

PROPERTIES

Polymer type	100% virgin polypro-pylene
Colour	Colourless
Shape (Cross section)	Rectangular
Shape (Longitudinal)	Straight
Surface	Embossed
Thickness (approx.)	0.60mm ± 10%
Width (approx.)	1.20mm ± 10%
Length	65mm ± 10%
Tensile strength (EN14889-2)	500-540MPa
Modulus of Elasticity (EN14889-2)	4200 – 5500GPa
Density	0.90g/cm^3
Melting point (°C)	Approx. 170°
Acid/alkali resistance	High
No. of fibre per kg	27000

DOSING & BATCHING

Add fibres to the concrete mixer after water and admixtures. After addition of the fibres mix for at least 2-3 minutes to ensure even distribution of fibres within the concrete mix. Note that in the event that a slight slump loss is experienced after the addition of the fibres – the mix design should be reviewed such to allow for fibre inclusion and avoidance of addition of extra water.

Site trials with the intended concrete mix design must be conducted to verify and determine the performance of the fibre with the proposed sprayed concrete mix.

It is recommended that where automated fibre dosing systems are utilised, that they be checked for suitability and calibrated accordingly.

PACKAGING

1 pallet of **MasterFiber 141** is made up of 475kg (95 x 5kg boxes). **MasterFiber 141** is wrapped in water-soluble PVA to form bundles.

STORAGE

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

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DISCLAIMER

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MB Solutions Australia Pty Ltd ABN 69 634 934 419 11 Stanton Road Seven Hills NSW 2147 **Freecall: 1300 227 300** www.master-builders-solutions.com/en-au	**MB Solutions New Zealand Ltd** 45C William Pickering Drive Albany, Auckland New Zealand **Freecall: 0800 334 877**	**Emergency Advice:** 1300 954 583 within Australia (24hr) 0800 001 607 within New Zealand