MasterFiber 252 SPA

High performance structural synthetic fibre for reinforcement in cast and sprayed concrete applications as an alternative and/or supplement to existing concrete reinforcement products

Material Description

MasterFiber 252 SPA is engineered for use as secondary reinforcement to control shrinkage, temperature, and settlement cracking.

MasterFiber 252 SPA 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 252 SPA conforms to the requirements of EN 14889.2 Class II.

Areas of Application

MasterFiber 252 SPA applications include, but are not limited to:

- Slabs on ground: footpaths, shared user paths, industrial floors, hardstands, and mine haul roads
- Precast: Pits, troughs, tanks, and panels
- Shotcrete: Ground support for tunnels, mines, and civil slope stabilisation

Characteristics & Benefits

- Allows for full or partial substitution of steel mesh reinforcement
- Reduces labour, construction, transport, and storage costs compared to a solution with conventional reinforcement
- Bridges cracks and transfers tensile stresses in cementitious applications
- Improves concrete ductility and high energy absorption
- 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
- 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	Irregular
Longitudinal shape	Embossed
Length	55 mm
Equivalent diameter	0.8 mm
Aspect ratio	69
Ultimate tensile strength	550 MPa
Secant modulus	6.5 GPa
Young's modulus	11 GPa
Density	910 kg/m^3
Melting point	Approx. 170°c
Acid/alkali resistance	High

Dosing & Batching

The typical dose rate of MasterFiber 252 SPA is 3.0 – 7.0 kg/m^3. MasterFiber 252 SPA is packed in degradable paper bags 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 252 SPA to the mix, it is recommended to mix for a minimum of 90 – 120 seconds. High fibre dosages may require a longer mixing time in order to achieve sufficient dispersion.

The mechanical performance of MasterFiber 252 SPA is influenced by the mix design and cementitious materials used. Preliminary tests under practical conditions with regards to mixing and placing are advised for a proper assessment.

Packaging

MasterFiber 252 SPA comes in 1.0 kg and 5.0 kg degradable paper bags to ensure optimum dosing and distribution.

MasterFiber 252 SPA is wrapped in water-soluble PVA to form bundles to aid in concrete mix dispersion.

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Storage & Shelf Life

MasterFiber 252 SPA should be stored undercover in a clean, dry area, protected from the weather. Use caution when stacking to avoid unstable conditions.

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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