Fibrillated Polypropylene Fibre for Concrete Applications

**DESCRIPTION**

**Masterfibre** is a fibrillated polypropylene fibre designed for crack control and improved durability in concrete or shotcrete applications. **Masterfibre** significantly reduces the formation of plastic shrinkage cracks by increasing the tensile capacity of plastic concrete. Reducing the formation of microcracks prevents them developing into larger cracks during subsequent drying and shrinking phases. **Masterfibre** can be used as an alternative secondary reinforcement system to welded wire mesh in slab on-grade applications. **Masterfibre** is compatible with all BASF Construction Chemicals admixtures. The action of Masterfibre in concrete is purely mechanical and will not affect the hydration process.

Note: Masterfibre does not replace structural reinforcement and hence cannot be used to increase shrinkage control joint spacings, or decrease slab thicknesses.

**FIELDS OF APPLICATION**

**Masterfibre** is the ideal secondary reinforcement for:

- All concrete slabwork where crack control is a major requirement.
- Thin layer concrete overlays.
- Shotcrete applications.
- Kerbing or slipforming operations.
- Alternative secondary reinforcement to welded wire mesh for slab on-grade applications.
- Shatterproof or impact resistant concrete.
- Precast concrete.

**FEATURES AND BENEFITS**

- Controls plastic shrinkage cracking
- Reduces concrete permeability
- Improved shatter impact resistance
- Thoroughly disperses through concrete
- Fibres are inert and non-corrosive
- Safe and easy to use
- Improves concrete cohesion for inclined and slip formed placements.

**PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Melting Point</td>
<td>160 – 170°C</td>
</tr>
<tr>
<td>Ignition Temperature</td>
<td>Above 350°C</td>
</tr>
<tr>
<td>Density</td>
<td>0.905 g/ml</td>
</tr>
<tr>
<td>Absorption</td>
<td>Nil</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>Low</td>
</tr>
<tr>
<td>Electrical Conductivity</td>
<td>Low</td>
</tr>
<tr>
<td>Acid &amp; Salt Resistance</td>
<td>High</td>
</tr>
<tr>
<td>Modulus (Youngs)</td>
<td>3.5 kN/mm²</td>
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<tr>
<td>Specific Gravity</td>
<td>0.9</td>
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<tr>
<td>Product Length</td>
<td>19 mm</td>
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</tbody>
</table>

**APPLICATION**

**Masterfibre** is added to the concrete mix either at:

i) the concrete batching plant at any time during the mixing process

ii) on site into the concrete truck drum

Allow a minimum of five minutes mixing at the recommended drum mixing speed to ensure thorough distribution through the concrete mix.

**Concrete Finishing**

Concrete with **Masterfibre** is placed and handled exactly as for plain concrete.

Proper timing of the finishing operation is critical to minimise the ‘hairy concrete’ effect. Concrete with fibres tends to appear stiffer than it actually is due to the increased internal cohesion, and therefore the effect of the fibres on timing must be recognised.

When power floating is used the machine should begin operation when the surface is dull, without bleedwater, and can be depressed approximately 3 mm. At this time the powerfloat blades should be flat. During successive trowelling the angle of the blades should be slightly increased but the raised edges should never be more than 25 mm above the surface. Finishing with a power float at the correct timing (i.e. not too early) will ensure a surface as smooth and dense as that for plain concrete without fibres.

Concrete with **Masterfibre** is compatible with all concrete surface treatments

- power floated
- hand trowelled
- exposed aggregate
- coloured concrete
# MASTERFIBRE

- dry shake surface hardener
- liquid hardeners
- concrete sealers
- stamped/stencilled concrete.

## DOSAGE

**Masterfibre** is dosed at 0.9 kg per cubic metre. Higher dose rates may be specified by consulting engineers.

## PACKAGING

**Masterfibre** is supplied in 0.9 kg degradable bags. Bags can be ordered separately or in cartons consisting of 12 bags.

## SHELF LIFE

**Masterfibre** can be kept for more than 12 months time if stored in original packaging, in a cool dry place and protected against physical damage.

## PRECAUTIONS

For detailed Health, Safety and Environmental recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

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**STATEMENT OF RESPONSIBILITY**

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