

# FORTA-FERRO 54mm fibre

## Synthetic 'Macro' Fibre

### DESCRIPTION

**Forta-Ferro** is an easy to finish, colour-blended macro synthetic fibre made of 100% virgin copolymer/polypropylene. Its twisted-bundle monofilament and fibrillated fibres yield a high-performance concrete reinforcement. This heavy-duty macro synthetic fibre offers maximum long-term durability, structural enhancements, and effective temperature/shrinkage crack control. **Forta-Ferro** is non-corrosive, non-magnetic, and 100% acid and alkali proof.

### OBJECTIVE

**Forta-Ferro** is used to inhibit plastic and settlement shrinkage cracking prior to the initial set, and to reduce hardened concrete shrinkage cracking, improve impact resistance, and enhance concrete toughness and durability as an alternate temperature/shrinkage reinforcement.

### APPLICATIONS

**Forta-Ferro** is mainly used in concrete applications such as slabs-on-ground, composite steel decks, overlays, pavements, bridge decks, shotcrete, and precast products – anywhere that steel reinforcement reduction or replacement is the objective. Contact Oscrete for design assistance and dosage recommendations.

### BENEFITS

- Enhanced durability.
- Reduced plastic shrinkage cracking.
- Reduced crack width opening.
- Improved flexural toughness & fatigue resistance.
- Increased impact and shear resistance.
- Increased post-cracking residual strength\*.

\* Residual strength is the strength which the specimen retains following the cracking of the concrete.

### PROPERTIES

Nature:	Synthetic fibre
Appearance:	Grey
Specific Gravity:	0.91 g/cm <sup>3</sup>
Fibre Length:	54mm
Absorption:	Nil
Acid & Salt Resistance:	Excellent
Tensile Strength:	570-660 MPa
Melting Point:	160°C

### ADDITION RATES

Dosage rates vary depending on the mix, aggregate type, loadings and desired properties. As a guide the typical dosage range should be between 2.0—7.0 kg/m<sup>3</sup>.

### STANDARDS

**Forta-Ferro 54mm fibre** complies with BSEN 14889 pt2 'Fibres for Concrete' and the requirements of ASTM C 1116.



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### COMPATIBILITY

**Forta-Ferro** is compatible with all types of EN 197 cement systems.

### STORAGE

**Forta-Ferro** should be stored in a dry environment, moisture ingress will cause the water soluble bags to degrade.

### HANDLING

Please refer to the **Forta-Ferro** material safety data sheet but in line with normal handling procedures, personal protective equipment should be worn.

### PACKAGING

**Forta-Ferro** is packed in 1kg mixer ready bags, 16 bags per box, 12 boxes per pallet.

### RECOMMENDATIONS

**Addition:** **Forta-Ferro** is packaged in mixer-ready bags that can be added directly into the concrete mixing system.

**Mixing:** When possible, add fibres to a rotating drum. Once all fibres have been added to the batch, mix four to five minutes at standard mixing speed. Road-revolution speed should not be counted as part of the required fibre mixing time.

**Slump:** Fibres will reduce the visual slump measured by the slump-cone test, but has a lesser effect on flowability and workability. To regain any loss of workability or slump, the use of appropriate admixtures is recommended – avoid the addition of water.

**Pumping:** If the fibre reinforced concrete is to be pumped, it is HIGHLY recommended that the grate on the hopper of the pump truck be a round-bar grate. The use of a vibrator attached directly to the grate is also recommended to aid in movement of the concrete through the grate.

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#### Disclaimer

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