

Description

MasterFiber MAC100, a macrosynthetic reinforcing fiber, is manufactured from a proprietary blend of polypropylene resins, in compliance with ASTM C 1116/C 1116M “Standard Specification for Fiber-Reinforced Concrete.” MasterFiber MAC100 is specifically engineered for use as shrinkage and temperature (secondary) reinforcement and provides excellent plastic shrinkage control and reduced settlement cracking. The MasterFiber MAC100 fiber provides increased flexural toughness and increases impact, shatter and abrasion resistance, improving the concrete’s long-term durability and integrity. MasterFiber MAC100 is a true replacement for welded-wire reinforcement, conventional light gauge steel reinforcement and steel fiber depending on the application.

Applications

Recommended for use in:

- Industrial and warehouse floors
- Commercial slab construction
- Concrete pavement
- White topping and overlays
- Thin wall precast
- Shotcrete

MasterFiber™ MAC100

Macrosynthetic Reinforcing Fiber

Features

The MasterFiber MAC100 is designed to offer maximum value to concrete. The design itself creates individual performing units (IPUs). When mixed in accordance with ASTM C 94/C 94M, tens of millions of IPUs disperse evenly and conform to the mixture, inhibiting the propagation of microcracks and imparting toughness throughout the hardened concrete.

- Excellent finishability
- Excellent post-first crack performance

Benefits

- Eliminates the need for welded-wire reinforcement (WWR) and conventional steel bars as secondary reinforcement, depending on the application
- Effective tight crack control
- Provides excellent plastic shrinkage crack reduction and settlement control
- Reduces production time and overall labor and material costs
- Improves green strengths – permits earlier stripping of forms with less rejection
- Reduces handling and transportation stresses

Performance Characteristics

Physical Properties

Configuration	Highly modified collated fibrillated
Specific Gravity	0.91
Melting Point	320 °F (160 °C)
Ignition Point	1094 °F (590 °C)
Water Absorption	Nil
Chemical Resistance	Excellent
Alkali Resistance	Excellent
Tensile Strength	90,000-100,000 psi (620-690 MPa)
Available Length	1.5 in. (38 mm)

Product Data: MasterFiber™ MAC100

Guidelines for Use

Dosage: The recommended dosage for MasterFiber MAC100 is 3 lb/yd³ (1.8 kg/m³). They can be used at dosage rates from 3 lb/yd³ (1.8 kg/m³) up to 13 lb/yd³ (7.8 kg/m³) or the equivalent dosage of 0.2% to 0.9% by volume, unless otherwise specified.

Mixing: MasterFiber MAC100 fibers are packaged in pre-weighed, ready-to-use, degradable bags which are designed to be introduced at any time before or during mixing of concrete produced in accordance with procedures specified in ASTM C 94/C 94M.

Packaging

MasterFiber MAC100 is packaged in pre-weighed degradable 3 lb (1.36 kg) and 5 lb (2.27 kg) bags that can be added directly to the mixing system.

Storage and Handling

Storage Temperature: MasterFiber MAC100 should be stored at temperatures below 140 °F (60 °C). Avoid storing near strong oxidizers and avoid sources of ignition. Use caution when stacking to avoid unstable conditions. Store in a sprinkled warehouse.

Engineering Specifications

MasterFiber MAC100, when used at an appropriate dosage, is an option for the replacement of WWR, as a safe and easy-to-use reinforcing system that is rust proof, alkali resistant, and compliant with Industry codes when mixed in accordance with ASTM C 94/C 94M.

MasterFiber MAC100 should be specified for use in concrete slabs:

- For enhanced residual strength, toughness & durability
- To reduce plastic shrinkage cracking
- To increase abrasion resistance
- To improve impact resistance
- To reduce permeability

BASF does not recommend the fiber for use in slabs as a replacement for any structural steel reinforcement.

Related Documents

Material Safety Data Sheets: MasterFiber MAC100

Additional Information

For additional information on MasterFiber MAC100, contact your local sales representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative admixtures for specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets throughout the North American region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

BASF Construction Chemicals
Admixture Systems

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