

03 30 00	Cast-in-Place Concrete
03 37 13	Shotcrete
03 40 00	Precast Concrete
03 70 00	Mass Concrete

MasterFiber® MAC 100

Macrosynthetic Fiber

Description

MasterFiber MAC 100 product, a macrosynthetic fiber, is manufactured from a proprietary blend of polypropylene resins, in compliance with ASTM D 7508/D 7508M, ASTM C 1116/C 1116M "Standard Specification for Fiber-Reinforced Concrete."

Applications

Recommended for use in:

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

Features

MasterFiber MAC 100 product is specifically engineered for use as shrinkage and temperature (secondary) reinforcement and provides excellent plastic shrinkage control and reduced settlement cracking.

MasterFiber MAC 100 has the following features:

- Uniform distribution throughout the concrete matrix
- 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
- Improves green strengths – permits earlier stripping of forms with less rejection
- Reduces construction time and overall labor and material costs
- Increases flexural toughness, impact and shatter resistance

Performance Characteristics

Physical Properties

Specific Gravity	0.91
Melting Point	320 °F (160 °C)
Ignition Point	1,094 °F (590 °C)
Absorption	Nil
Alkali Resistance	Excellent
Tensile Strength	60,000 psi (415 MPa)
Length	1.5 in. (38 mm)
Aspect Ratio	59
Chemical Resistance	Excellent

Guidelines for Use

Dosage: The recommended dosage for MasterFiber MAC 100 product is 3 lb/yd³ (1.8 kg/m³). It 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.

For composite metal deck applications, minimum dosage is 4 lb/yd³ (2.4 kg/m³) as recommended by the Steel Deck Institute.

Mixing: MasterFiber MAC 100 product is 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.

Engineering Specifications

MasterFiber MAC 100 product, 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 used in concrete mixed in accordance with ASTM C 94/C 94M.

MasterFiber MAC 100 product 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

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

Storage and Handling

Storage Temperature: MasterFiber MAC 100 product 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.

Packaging

MasterFiber MAC 100 product is packaged in pre-weighed degradable 3 lb (1.36 kg), 4 lb (1.81 kg) and 5 lb (2.27 kg) bags that can be added directly to the mixing system.

Related Documents

Safety Data Sheets: MasterFiber MAC 100 product

Additional Information

For additional information on MasterFiber MAC 100 product, contact your local sales representative.

Master Builders Solutions creates technologies for the construction industry inspiring people to build better. We are active in ~40 countries and operate 35 production sites with over 1,600 employees. We develop, produce, and market high-quality chemical admixtures, as well as adjacent core technologies, to master the challenges of today and support a decarbonized future. Our people are pivotal and pair leading technologies and a strong brand heritage to surpass our customers' expectations and drive continuous value creation.

Limited Warranty Notice

Master Builders Solutions Admixtures US, LLC ("Master Builders Solutions") warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. MASTER BUILDERS SOLUTIONS MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of Master Builders Solutions. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. MASTER BUILDERS SOLUTIONS WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

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MasterFiber MAC 100 fiber, as marketed by Master Builders Solutions, is classified by Underwriters Laboratories Inc. for use in the following fire rated assemblies: UL D700, D800 and D900 Series Designs. Fibers to be added to the concrete mix at a maximum rate of 6.0 lb of fiber for each cubic yard (3.6 kg/m³) of concrete.