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

MasterFiber[®] M 100

Monofilament Microsynthetic Fiber

Description

MasterFiber M 100 product is a high-tensile strength, high modulus of elasticity, ultra-thin monofilament homopolymer polypropylene fiber designed to quickly distribute uniformly throughout the concrete matrix. At the engineered dosage level of 0.50 lb/yd³ (0.3 kg/m³) MasterFiber M 100 product outperforms all other plastic shrinkage fiber reinforcements at their typical dosage of 1.0 lb/yd³ (0.6 kg/m³).

Applications

Recommended for use in:

- Residential slabs-on-ground
- Commercial slabs-on-ground
- Stucco
- Dry-packaged cement based products
- Precast products
- Pools and pool decks
- Water tanks
- Shotcrete

Features

- 225 million 0.75 in. (19 mm) fibers in one pound (0.45 kg) of product
- Uniform distribution throughout the concrete matrix
- Excellent finishability

Benefits

- Excellent reduction in plastic shrinkage cracking
- Transforms macro-cracks into micro-cracks
- Measurably reduces plastic settlement
- Measurably reduces the concrete permeability, thus increasing the durability and service life of the concrete
- Performs as an excellent companion in blends with macrosynthetic fibers and steel fibers

Performance Characteristics

Physical Properties

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| Specific Gravity | 0.91 |
| Melting Point | 320 °F (160 °C) |
| Ignition Point | 1,094 °F (590 °C) |
| Absorption | Nil |
| Alkali Resistance | Excellent |
| Tensile Strength | 70 ksi (480 MPa) |
| Modulus of Elasticity | 1,230 ksi (8.48 GPa) |
| Available Lengths | 0.5 in. (13 mm) and 0.75 in. (19 mm) |
| Equivalent Diameter | 0.00047 in. (12 microns) |
| Denier | 1 dpf |



Guidelines for Use

Dosage: The recommended dosage of MasterFiber M 100 product is 0.50 lb/yd³ (0.3 kg/m³).

Mixing: Typically no modifications to the mixture proportions are required when the product is used at the engineered dosage of 0.50 lb/yd³ (0.3 kg/m³). MasterFiber M 100 product fibers can be introduced into the mixing system at any time except when the cement is being introduced. Mixing time will vary based on when the fibers are introduced to the mixer. The normal range is 3-5 minutes of mixing with the higher number preferred when the fibers are added after all of the standard ingredients have been introduced and mixed.

Engineering Specifications

MasterFiber M 100 product is a uniquely developed fiber to minimize plastic shrinkage cracking in concrete. With 112.5 million fibers in the engineered dosage of 0.50 lb/yd³ (0.3 kg/m³), MasterFiber M 100 product is capable of reducing plastic shrinkage cracking by approximately 85%. Conventional monofilament polypropylene fibers at 1.0 lb/yd³ (0.6 kg/m³) typically do not achieve 70% reduction in plastic shrinkage cracking.

MasterFiber M 100 product meets the requirements of ASTM D 7508/D 7508M, ASTM C 1116/C 1116M, Section 4.1.3, Type III and Note 2 as well as ICC ES AC32, Section 3.1.1 when used at the engineered dosage of 0.50 lb/yd³ (0.3 kg/m³).

Product Notes

MasterFiber M 100 product is not a replacement for structural steel reinforcement and therefore, should not be used to replace any of the load-carrying steel reinforcement in a concrete element.

Packaging

MasterFiber M 100 product is packaged in pre-weighed 0.50 lb (0.23 kg) and 2.5 lb (1.13 kg) degradable bags to ensure optimum dosing and homogeneous distribution of the product.

Related Documents

Safety Data Sheets: MasterFiber M 100 product

Additional Information

For additional information on MasterFiber M 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 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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