

Description

MasterFiber F70, a Micro Synthetic Fiber, is a fibrillated polypropylene fiber manufactured from 100% virgin homopolymer polypropylene resins. MasterFiber F70 meets the requirements of ASTM C1116, Section 4.1.3 and Note 3, and the requirements of ICC ES AC32 Sections 3.1.1 (plastic shrinkage reinforcement) and 3.1.2 (temperature-shrinkage reinforcement).

MasterFiber F70 is designed to distribute quickly throughout the concrete mix. The fibrillation pattern is designed to optimize the mechanical bond between the mortar matrix and the fiber. MasterFiber F70 is an excellent secondary reinforcement option when used at 1.5 lb/yd³ (0.9 kg/m³).

Applications

Recommended for use in:

- Residential and commercial slabs-on-ground
- Ultra thin whitetopping
- Bonded overlays
- Architectural precast products and ornamental elements
- Slope stabilization
- Water treatment plants
- Irrigation ditches/channels

MasterFiber F70

Fibrillated Micro Synthetic Fiber

Features

- Excellent distribution
- Excellent temperature-shrinkage reinforcement

Benefits

- Modifies macro-cracking and micro-cracking mechanism
- Reduces plastic settlement
- Extends service life with reduced maintenance
- Enhances fatigue strength
- Enhances impact, pullout and surface abrasion resistance
- Reduces permeability

Performance Characteristics

Physical Properties

Specific Gravity	0.91
Melt Point	320 °F (160 °C)
Ignition Point	1094 °F (590 °C)
Water Absorption	Nil
Acid and Alkali Resistance	Excellent
Modulus of Elasticity	800 ksi (5.52 GPa)
Tenacity	4.5 g/den
Percent Elongation	13.1%
Available Length	0.75 in. (19 mm)

Product Data: MasterFiber F70

Engineering properties:

ICC ES AC32

Test Criteria	Control	MasterFiber F70	% of Control	AC32
Compressive Strength	5,290 psi (36.5 MPa)	5,790 psi (39.9 MPa)	109.5%	≥ Control
Flexural Strength	680 psi (4.7 MPa)	690 psi (4.8 MPa)	101.5%	≥ Control
Freeze/Thaw Durability Factor	94.3	95.3	100.9%	≥ Control
Bond Strength	16,950 lb (7,700 kg)	20,020 lb (9,100 kg)	118.1%	≥ Control
Plastic Shrinkage Reduction			64.1% Reduction	Min. 40% Reduction

Data extracted from Stork-TCT Project No: 307043.3P [11 July 2007].

Product tested was 0.75-in. (19-mm) long. Data is for 1.0 lb/yd³ (0.6 kg/m³) not 1.5 lb/yd³ (0.9 kg/m³).

Guidelines for Use

Dosage: The recommended dosage of MasterFiber F70 is 1.5 lb/yd³ (0.9 kg/m³).

Mixing: The bags can be introduced at any time during the mixing cycle, except at the same time as the cement. Three to five minutes will be required to disperse the fibers depending on when the product is added to the mixer.

Packaging

MasterFiber F70 is packaged in pre-weighed degradable 1.5 lb (0.7 kg) bags that can be added directly to the mixing system.

Engineering Specifications

MasterFiber M70, at 1.5 lb/yd³ (0.9 kg/m³), is an option to conventional secondary reinforcement in plain structural concrete. MasterFiber F70 outperforms other Micro Synthetic Fibers in providing an optimum three-dimensional temperature-shrinkage reinforcement system in concrete.

MasterFiber F70 meets the requirements of ASTM C 1116, Section 4.1.3 and Note 3, and ICC ES AC32, Sections 3.1.1 and 3.1.2. (Source is PGI/701 E. Avenue A, Kingman, KS 67068.)

Related Documents

Material Safety Data Sheets: MasterFiber F70

Additional Information

For additional information on MasterFiber F70, 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 mix, 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.

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