

FABPRO POLYMERS'
FUSION™
Synthetic Macro Fiber Blend

DESCRIPTION

FUSION™ Synthetic Macro Blended Fibers are manufactured from a blend of 100% virgin polyolefin resins. FUSION™ Fibers meet the requirements of ASTM C1116/C1116M “Standard Specification for Fiber-Reinforced Concrete”, ASTM D7508/D7508M “Standard Specification for Polyolefin Chopped Strands for use in Concrete”, and the requirements of ICC ES AC32 Section 3.1.1 for plastic shrinkage reinforcement and 3.1.2 for shrinkage and temperature reinforcement.

APPLICATIONS

Recommended for use in:

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

FEATURES

FUSION™ Synthetic Macro Fiber Blend is specifically engineered to replace steel fibers, welded-wire fabric (WWF), and conventional reinforcing bars when used as secondary reinforcement in slab-on-ground, thin wall and other precast applications.

FUSION™ is a blend of FABPRO'S two “Best-In-Class”, next-generation performance fibers — PERFORMAX™ and SPECTER™ HP — creating a synergy of reinforcement unequaled in our industry. FABPRO has captured plastic shrinkage and settlement reinforcement, secondary reinforcement, and post first-crack reinforcement – all in a single bag.

PERFORMAX™ is an excellent stand-alone macro fiber, possessing superior mechanical bonding properties, and compares favorably against other macro fibers when measured by ASTM C1399/C1399M. Merging with SPECTER™ HP's ultra-thin cross section, and engineered to provide the best plastic shrinkage crack reduction and highest monofilament polypropylene fiber count on the market, the unrivaled result is FUSION™.

BENEFITS

- Eliminates the need for WWF and conventional steel bars as a secondary form of reinforcement. Does not replace primary/structural reinforcement.
- Delivers tight crack control.
- Provides greater than 85% 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 abrasion resistance.

PERFORMANCE CHARACTERISTICS

	PERFORMAX™	SPECTER™ HP
Specific Gravity	0.91	0.91
Melting Point	320°F (160°C)	320°F (160°C)
Ignition Point	1,094°F (590°C)	1,094°F (590°C)
Absorption	Nil	Nil
Alkali Resistance	Excellent	Excellent
Tensile Strength	65,000 psi (448 MPa)	70,000 psi (480 MPa)
Fiber Length	1.5" (38 mm)	0.75" (19 mm)
Aspect Ratio	59	1595
Chemical Resistance	Excellent	Excellent



GUIDELINES FOR USE

Dosage: The recommended dosage for FUSION™ Fibers is 4.5 lb/yd³ (2.7 kg/m³). This 4.5 lb/yd³ (2.7 kg/m³) dosage rate is approved for use in composite metal deck applications by the Steel Deck Institute under specification SDI C1.0 “Standard for Composite Steel Floor Deck”. Different dosage rates may be appropriate depending on the application.

Mixing: FUSION™ 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 C94/C94M.

ENGINEERING SPECIFICATIONS

FUSION™ Synthetic Macro Fiber Blend, when used at an appropriate dosage, is an option for the replacement of WWF and rebar 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 C94/C94M. FUSION™ Fiber also meets ASTM C1399/C1399M ARS target values.

FUSION™ Synthetic Macro Fiber Blend should be specified for use in precast concrete, slabs-on-ground, and composite metal decks:

- To enhance post-cure residual strength, toughness and durability
- To enhance post-first crack performance
- To replace rebar and welded wire for secondary reinforcement
- To reduce handling and transportation stresses
- To reduce plastic shrinkage cracking
- To increase impact and abrasion resistance

FABPRO POLYMERS does not recommend this fiber for use in precast or slab-on-ground applications as a substitute for primary/structural reinforcement.

STORAGE AND HANDLING

Storage Temperature: FUSION™ Synthetic Macro Fiber Blend 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

FUSION™ Fibers are available in a variety of packaging options. Standard bag size is 4.5 lb (2.0 kg). Bags are packaged in ultra-durable boxes with corner boards, palletized, and stretch-wrapped to prevent damage from shipping and handling.

RELATED DOCUMENTS

Safety Data Sheets: FUSION™ Synthetic Macro Fiber Blend

ADDITIONAL INFORMATION

For additional information on FUSION™ Synthetic Macro Fiber Blend, contact your local sales representative or Customer Service at (800) 821-4391.

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