

## PLEXUS™ 44F – Specifically Engineered for SLABS-ON-GROUND & PRECAST

### FABPRO POLYMERS'

### PLEXUS™

### Synthetic Macrofiber

#### DESCRIPTION

PLEXUS™ 44F Synthetic Macrofibers are high tensile fibers manufactured from a blend of 100% virgin polyolefin resins. FABPRO's PLEXUS™ Macrofibers meet the requirements of ASTM C1116/C1116M "Standard Specification for Fiber-Reinforced Concrete".

#### APPLICATIONS

Recommended for use in:

- Precast concrete
- Thin-wall precast
- Composite metal decks
- Industrial and warehouse floors
- Pavements
- Residential and commercial slabs-on-ground
- Wall systems
- White-topping/overlays
- Shotcrete
- Tunnel linings

#### FEATURES

PLEXUS™ Synthetic Macrofibers are uniquely engineered for slab-on-ground and precast applications with higher tensile strength to provide better "Built-In Reinforcement" as a replacement for steel fibers, welded-wire fabric (WWF) and conventional reinforcing bars in a variety of secondary reinforcement applications. In addition, PLEXUS™ Fibers help to minimize temperature shrinkage cracking, plastic settlement and plastic shrinkage cracking. PLEXUS™ Fibers distribute uniformly throughout the concrete matrix and deliver excellent finish-ability.

***FABPRO's proprietary parallel packaging system aligns all of the fibers in the bag to ensure outstanding fiber distribution in the concrete mix and creates a compact package that results in the lowest possible product freight and storage costs.***

#### BENEFITS

- Eliminates the need for WWF and rebar used as secondary reinforcement in most applications.
- Delivers tight crack control.
- Improves green strengths and 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

	PLEXUS™ 44F
Specific Gravity	0.91
Melting Point	320°F (160°C)
Ignition Point	1,094°F (590°C)
Absorption	Nil
Alkali Resistance	Excellent
Tensile Strength	78,000 psi (538 MPa)
Modulus of Elasticity	1,200 ksi (8.27 GPa)
Fiber Length	1.73" (44 mm)
Aspect Ratio	64
Fiber Count	31,000 fibers/lb (0.45 kg)
Chemical Resistance	Excellent







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### GUIDELINES FOR USE

**Dosage:** The minimum dosage rate for PLEXUS™ Synthetic Macrofibers is 3 lb/yd<sup>3</sup> (1.8 kg/m<sup>3</sup>). PLEXUS™ Fibers can be used at dosage rates from 3 lb/yd<sup>3</sup> (1.8 kg/m<sup>3</sup>) up to 13 lb/yd<sup>3</sup> (7.7 kg/m<sup>3</sup>) 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/yd<sup>3</sup> (2.4 kg/m<sup>3</sup>) as recommended by the Steel Deck Institute (SDI C-1.0) design code provisions.

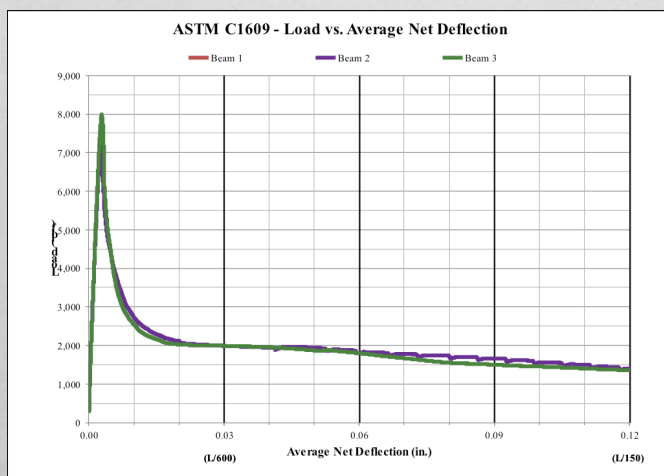
**Mixing:** PLEXUS™ Fibers are packaged in pre-weighed, ready-to-use, degradable bags which are designed to be introduced at any time before or during mixing of concrete produced in accordance with procedures specified in ASTM C94/C94M.

### ENGINEERING SPECIFICATIONS

PLEXUS™ Synthetic Macrofibers, when used at an appropriate dosage, are an excellent option for the replacement of WWF and rebar as a safe and easy-to-use reinforcing system. The fiber is rust proof, alkali resistant, and compliant with industry codes when used in concrete mixed in accordance with ASTM C94/C94M.

**NOTE:** The below ASTM C1609 test was run with a dosage rate of 5 lbs/yd<sup>3</sup> (3.0 kg/m<sup>3</sup>) of the PLEXUS™ 44F Fibers, and resulted in an average  $R_{e,3}$  of **25.9%** over the 3 panels.

### PLEXUS™ 44F: Load Deflection Curve



### PACKAGING

PLEXUS™ Fibers are packaged in compact, pre-weighed degradable 3 lb (1.4 kg), 4 lb (1.8 kg) and 5 lb (2.3 kg) bags that can be added directly to the mixing system.

### STORAGE AND HANDLING

**Storage Temperature:** PLEXUS™ Synthetic Macrofiber 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.

### RELATED DOCUMENTS

**Safety Data Sheets:** PLEXUS™ 44F Synthetic Macrofibers

### ADDITIONAL INFORMATION

For additional information on FABPRO's PLEXUS™ Synthetic Macrofibers, contact your local sales representative or Customer Service at (800) 821-4391.

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