

HTM® Emb Blend

Synthetic Macro and Micro Fiber blend for concrete

Product Description

PIONEER®HTM®Emb Blend is a blended synthetic fiber complying with ASTM C1116/C1116M Type III, it consists of a combination of 3 lbs. HTM® Emb macrofibers and 1 lb. HPM®PP microfibers. PIONEER®HTM®Emb Blend synthetic fiber mix is specifically designed to deliver improved performance in both plastic and hardened concrete. It disperses exceptionally well within the concrete matrix, reducing both plastic and hardened concrete shrinkage cracking, while enhancing fatigue resistance and toughness. It can be used in ready-mixed concrete for different applications such as slab-on-ground flooring, topping slabs and bridge decks.

Uses

PIONEER®HTM® Emb Blend offers a safe and straightforward alternative to wire mesh and rebar for various ready-mix and precast projects. It is recommended for use in the following concrete structures:

- All types of slab-on-ground
- Extending joints
- Pavements
- Composite metal deck
- Mass concrete
- Bridge decks
- Sidewalks
- Overlays

- Precast
- Prefabricated septic tanks
- Sewage holding tanks

Product Advantages

As a structural reinforcement material for concrete and shotcrete, PIONEER®HTM® Emb Blend can replace welded wire reinforcement, steel fibers, and lightweight rebar. It is easier to use and safer, with the following key features:

- Easy to mix and fast to disperse
- Cost-effective, three-dimensional reinforcement alternative to secondary wire mesh or rebar, and steel fibers.
- Can be utilized to reduce rebar or wire mesh.
- Increased safety on job site; remove lifting of reinforcement, bending to tie, and tripping hazard.
- Cuts construction time by eliminating the need for cutting, placing, tying, and securing, and removes concerns about proper placement.
- Increases safety by removing the handling of steel fibers, welded wire, and rebar.
- Improves concrete's ductility, flexural toughness, and durability.
- Inhibits plastic shrinkage and settlement cracking. Provides superior crack control
- Enhances impact resistance, crack resistance, and wear performance of concrete.
- Provides superior crack control due to the geometry and elastic modulus, corrosion resistant properties (non-ferric).
- Barely visible on the surface obtaining highly aesthetic concrete.
- Ease of pumping, passes easily through pump grates. Reduced wear on pumps and hoses.
- Reduces rebound in shotcrete and improves cohesion.
- Reducing embodied carbon through the replacement of convention steel reinforcement with synthetic structural fibers.

- Increased durability due to high chemical resistance and corrosion free.

Compliance and Certification

- ASTM C1116 / C1116M, Fiber-Reinforced Concrete Standards, Type III Synthetic Fiber Reinforced Concrete
- ASTM D7508 / D7508M, Standard Specification for Polyolefin Cut Fiber for Concrete
- ANSI/SDI C-2017, Composite Steel Floor Deck Slabs (Section 2.4.B.15. a.3)
- UL and ULC Classified: CBXQ.R13667 and CBXQ7.R13667
- CSA B66-16, Design, materials and manufacturing requirements for prefabricated septic tanks and sewage holding tanks

Physical Properties

- Material: A blend of HTM®Emb and HPM®PP
- Ratio: HTM®Emb to HPM® PP = 3:1
- Absorption: None
- Melting point: 320°F (160°C)
- Ignition point: 1,050°F (570°C)
- Modulus of elasticity: 700-1000 ksi (5-7 GPa) & > 650 ksi (> 4.5 GPa)
- Tensile strength: 65-96 ksi (450-660 MPa) & 58ksi (400 MPa)
- Alkali, acid & salt resistance: High
- Electrical and Thermal Conductivity: Low
- Nominal Length: 1.89in. (48mm) and 0.75in. (19mm)

Addition Rates

The dosage of PIONEER®HTM®Emb Blend varies depending on the application type and performance requirements of your project. The standard recommended dosage is 5–15 lbs./yd³ (3–8kg/m³) of concrete. For precise dosage based on your specific application and project needs, please contact your PIONEER® representative for technical support.

Length

PIONEER®HTM® Emb Blend is a synthetic fiber mix with predetermined lengths for both macro and micro fibers. We also offer custom sizes for PIONEER®HTM® Emb Blend fibers based on your specific requirements. Contact a PIONEER® fiber expert for professional advice tailored to your project needs.

Packaging

PIONEER® HTM® Emb Blend are available in a variety of packaging options, For custom packaging, please reach out to a PIONEER® sales representative.

Design and conversion services

PIONEER®HTM®Emb Blend meets international design methods and standards from organizations such as DBV, RILEM, CNR, ACI, ITAtech, and the UK Concrete Society. PIONEER® fiber experts can guide you through the design process, help you easily calculate the dosage rates for PIONEER®HTM®Emb Blend as a replacement for rebar in terms of temperature and shrinkage, and provide technical support for on-site applications.

PIONEER® fiber experts will assist you through every step of the process. By completing the form below, you'll receive a detailed report to help you with project design and fiber selection. We guarantee that all your information will be kept confidential.