

HPM® PP Mesh

Fibrillated Micro Synthetic Fiber

Product Description

PIONEER®HPM®PP Mesh is a 100% polypropylene mesh fiber. When mixed into concrete, the mesh tears into individual fibers under the impact of cement and aggregates, forming a three-dimensional support system within the concrete. This effectively controls early plastic shrinkage and settlement cracking, while enhancing the concrete's resistance to permeability, cracking, impact, and improving its toughness and abrasion resistance.

Uses

PIONEER®HPM®PP Mesh is suitable for various concrete applications to control plastic shrinkage and settlement cracking and can be used as an alternative to light-gauge welded-wire reinforcement (6x6 W1.4xW1.4). Typical applications include:

- Slabs on ground
- Residential applications: sidewalks, driveways, decks, curbs
- Stamped / Stained / Polished finishes
- Precast elements
- Overlays / Toppings
- Stucco
- Shotcrete
- Roads / Pavements / Bridge decks
- Self compacting concrete

Product Advantages

PIONEER®HPM®PP Mesh offers an effective early-stage crack control solution for concrete, providing reinforcement when concrete tensile strength is at its lowest, thereby enhancing the overall performance and producing more durable concrete.

- Easy to mix and quickly disperses
- Reduces plastic shrinkage and settlement cracking.
- Replacement for typical light gauge wire mesh - 6x6 W1.4/W1.4 (152x152 MW9.1/ MW9.1)
- Improves impact, shatter and abrasion resistance
- Enhances durability
- Promotes uniform bleed and reduces bleed water
- Inhibits and controls the formation of intrinsic cracking in the concrete
- Reinforces against abrasion
- Helps reduce cracking due to freeze / thaw
- Increases cohesion and reduces segregation
- Provides overall higher quality of concrete.

Compliance and Certification

- Complies with ASTM C1116/C1116M, Type III fiber reinforced concrete and therefore ASTM D7508.
- Complies with European Standard EN 14889-2:2006 Fibres for Concrete Part 2: Class Ia and carries the CE marking.
- UL/ULc Classification: For use as an alternate or in addition to the welded wire fabric used in floor-Ceiling D700, D800, D900, G229, G243, G256, & G514 Series Designs.

Physical Properties

- Specific Gravity: 0.91
- Material: 100% virgin homopolymer polypropylene
- Fiber Type: fibrillated micro synthetic fiber
- Diameter: 0.0012 in. (0.03 mm)
- Nominal Length: 0.5, 0.75, 1.5 in. (12,19,38 mm)
- Tensile Strength: 58ksi (400 MPa)
- Modulus of Elasticity: > 650 ksi (> 4.5 GPa)
- Melt Point: 324 oF (162 oC)
- Alkali, Acid, and Salt Resistance: High

Addition Rates

The standard addition rate for PIONEER® HPM® PP Mesh is 1.5 to 3.0 lb/ycd³ (900 to 1800 g/m³) of concrete.

Length

The standard lengths for Pioneer® HPM® PP Mesh are: 0.5, 0.75, 1.5 inches (12, 19, 38 mm) , Custom lengths can be selected based on project requirements—please contact a PIONEER® sales representative for custom length options.

Packaging

PIONEER® HPM® PP Mesh are available in a variety of packaging options, For custom packaging, please reach out to a PIONEER® sales representative.