

Technical Data Sheet (TDS)

PP-PE Monofilament Macro Fiber (HTM® Mono)

Product Description

■ PIONEER® HTM® Mono is a high-performance monofilament macro synthetic fiber made from virgin polypropylene and polyethylene. It is designed to replace welded wire mesh and improve crack resistance in fiber-reinforced concrete (FRC) and shotcrete applications. The fibers form a durable, non-corrosive 3D reinforcement network inside concrete, enhancing toughness and structural durability.

Technical Specifications

Property	Value
Material	Virgin polypropylene & polyethylene
Fiber Type	Monofilament macro synthetic fiber
Specific Gravity	0.91 g/cm³
Diameter	0.30–0.69 mm
Available Lengths	32 mm, 40 mm, 50 mm
Tensile Strength	530–650 MPa
Modulus of Elasticity	9.5 GPa
Melt Point	Approx. 160°C
Chemical Resistance	Excellent resistance to alkali and acid
Color	White

Standards Compliance

- ASTM C1116 – Standard Specification for Fiber-Reinforced Concrete
- ASTM D7508 – Standard Specification for Macro Synthetic Fibers for Concrete

Key Benefits

- Effective alternative to welded wire mesh
- Controls plastic shrinkage and thermal cracking
- Enhances toughness, impact resistance, and structural durability
- Invisible after finishing – smooth surface appearance
- Non-corrosive, lightweight, easy to use
- Resistant to chemical and environmental attack

Recommended Dosage

- Standard dosage: 3.0 kg/m³
- Range: 1.8–4.5 kg/m³ depending on project requirements

Mixing & Application

- Add fibers during batching with aggregates or after cement is added.
- Extend mixing time to ensure uniform fiber dispersion.
- Do not use as a substitute for structural steel reinforcement.

Applications

- Industrial floors and slabs
- Precast concrete tanks, pipes, panels
- Shotcrete for tunnels and slopes
- Composite metal deck concrete
- Bridge decks, airport runways
- UHPC and high-performance concrete

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Packaging Options

- Bulk ton bags for large-scale production
- Small plastic or water-soluble bags for accurate site dosing
- Custom lengths and blends available

Contact Information

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