

Product Data Sheet

CasTech PP Fiber

Nov-2025, Ver. 01.01



Polypropylene Micro Fibre for Concrete Reinforcement

DESCRIPTION

CasTech PP Fiber (polypropylene fibre) is a synthetic fibre made from a thermoplastic polymer, used as a reinforcing material in concrete due to its high tensile strength and flexibility. Added during mixing, the fibres distribute uniformly throughout the concrete matrix, enhancing strength, toughness and durability, and improving resistance to cracking, spalling and impact.

CasTech PP Fiber can reduce the amount of steel reinforcement needed, improves workability and pumpability, reduces the risk of plastic shrinkage cracking and helps control cracks caused by thermal and drying shrinkage.

This data sheet covers **CasTech PP Fiber** micro fibres – fine bunchy monofilament fibres typically used at small dosages (usually less than 0.5% by volume) to improve toughness, durability and crack resistance.

USES

- Industrial floors – warehouses, factories and distribution centres
- Parking garages – durability and crack resistance
- Bridge decks – crack resistance and resistance to freeze-thaw and heavy traffic
- Residential concrete – driveways, patios and sidewalks
- Shotcrete – toughness, crack resistance and reduced risk of delamination

ADVANTAGES

Key advantages:

- Crack control: distributes stresses evenly, preventing random cracks
- Durability: increased resistance to freeze-thaw cycles, abrasion and erosion
- Toughness: greater ability to absorb energy before cracking
- Impact resistance: more resistant to damage from heavy machinery or vehicles
- Shrinkage control: reduces the risk of plastic and drying shrinkage cracking

TYPICAL PROPERTIES

Material	Polypropylene
Type	Bunchy Monofilament
Colour	White
Density (g/cm ³)	0.91 – 0.93
Modulus of Elasticity (MPa)	≥ 3500
Elongation at Break (%)	≥ 15
Equivalent Diameter (µm)	35 ± 3 / 20 ± 2
Length (mm)	6, 12, 18
Tensile Strength (MPa)	≥ 500
Melting Point (°C)	160 – 180
Specific Surface Area	≈ 135 m ² /kg

CasTech PP Fiber 6 mm, 12 mm and 18 mm are PVA coated, which improves workability and rheology and reduces bleeding and segregation by avoiding fibre agglomeration. Manufactured and distributed under ISO 9001:2015.

INSTRUCTIONS FOR USE

CasTech PP Fiber should be added directly to the dry materials and mixed for one minute before adding water. After use, all equipment and tools should be cleaned immediately.

DOSAGE

The recommended dosage is typically between 0.6 and 1.5 kg per m³ of concrete. Fibre type and dosage depend on the specific application and design requirements.

STORAGE

- Store in cool conditions, away from direct sunlight
- Keep containers sealed when not in use
- Recommended storage temperature 15 to 30°C
- Shelf life is two years from the date of manufacture

PACKAGING

Delivered in polyethylene bags resistant to moisture and physical damage: 0.6 / 0.9 / 1.0 kg per bag, 18 kg per carton, 6.48 MT per container.

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TECHNICAL SUPPORT

CasTech offers a full technical support package to

specifiers, contractors and end users, as well as technical assistance on site and after-sales consultations.

CasTech MIDDLE EAST FZE

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