

MICROFIBER[®]

Polypropylene Fibers 12 mm

Product Description

MICROFIBER[®] is a high-performance, monofilament, polypropylene fibre developed as a crack controlling additive for cementitious materials. It is used to inhibit the formation of small cracks which can occur through plastic shrinkage, premature drying and early thermal changes, in order to provide utilisation of the intrinsic properties of the hardened cementitious material.

MICROFIBER is based on selected raw materials and manufactured under controlled conditions to give a consistent product. MICROFIBER complies with European Standard BS EN 14889- 2:2006 and ASTM Designation C 1116 Standard Specification for Fibre-Reinforced Concrete and Shotcrete, Type III Synthetic Fibre-Reinforced Concrete or Shotcrete.

Specially designed for crack control in cementitious materials covering areas such as ready mix concrete, precast concrete, screeds, conventional shotcrete, rendering mortars, etc. Principle uses of fibre concrete include: concrete slabs, pavements, driveways, imprinted concrete, curbs, pipes, grouts, shotcrete, overlays, patch repair, microsilica concrete, thin section walling, water retaining structures, marine concrete, heavy industrial floors, etc.

Product Advantages

- Inhibits intrinsic cracking in concrete
- Disperses uniformly throughout the mix
- Improves finishing characteristics
- Improves concrete durability
- Increases impact and abrasion resistance
- Rustproof
- Impervious to alkali attack
- Decreases construction time and labour
- Reduced risk of subsequent damage

Typical Properties

Appearance	silvery white fibre, bundles
Constituents	Polypropylene
Air Entrainment	Nil
Water absorption	Nil
Chloride Content	Nil
Alkali Resistance	100%

Fibre Length	12 mm
Fibre Thicknes	18 micron
Specific Surface Area	225 m2/kg
Elongation/strain at yield	55%
Tensile Strength	400MPa

Addition Rates

The performance of MICROFIBER is best assessed after preliminary trial mixtures both in the laboratory and on site, using the actual mix constituents under consideration to determine the effect on concrete properties. As a guide to trials, a dosage level of 0.6 kg MICROFIBER per m³ is recommended.

For advice and assistance with trials we recommend that you consult GCP Applied Technologies.

Method of Use

MICROFIBER® is supplied ready for use, in concrete dispersible bags, which contain measured quantities for addition to the concrete mix either at the batching plant or on site. Fibres should be added to the cementitious matrix and mixed for 5 minutes to ensure full dispersion. Under special circumstances it may be necessary to adjust the mode of addition and mixing cycle to suit specific applications.

The addition of MICROFIBER may produce a slight reduction in workability while increasing the cohesiveness of the mix. Serious overdosing of MICROFIBER will generally produce a reduction in workability and an increase in the cohesiveness of the mix.

Compatibility

With Cements:

MICROFIBER can be used with all types of cement, including Limestone cement. It is also effective in concrete containing pulverised fuel ash or ground granulated blast furnace slag. For use with special cements we recommend that you consult GCP.

With Other Admixtures:

MICROFIBER should not be pre-mixed with other admixtures. The performance of the material may be affected by the presence of other chemicals and we would recommend that GCP be consulted in such circumstances.

Dispensing

MICROFIBER is available in convenient concrete dispersible bags which are added, unopened, to the truck or central mixer

Health and Safety

For further information we recommend that you consult GCP.

Packaging

MICROFIBER is available in 0.6 kg concrete dispersible bags. All bags are supplied overpacked in cardboard boxes.

Storage

MICROFIBER requires no special storage facilities under normal winter conditions

References

American Concrete Institute (ACI):

ACI 544.1 R “State of the Art Report of Fibre-Reinforced Concrete” ACI 302 “Guide for Concrete Floor and Slab Construction”

American Society of Testing and Materials (ASTM):

ASTM C 1116 “Standard Specification for Fibre-Reinforced Concrete and Shotcrete” ASTM C 94 “Standard Specification for Ready-Mixed Concrete”

European Standard:

BS EN 14889-2:2006 Fibres for Concrete – Part 2: Polymer fibres – Definitions, specifications and conformity

Technical Service

The Technical Service department of GCP is available to assist you in the correct use of our products. Please contact:

gcpat.uk | United Kingdom customer service: +44 (0) 1480 478421

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