



Axim Italcementi Group

FIBRASOL IIP Monofilament Polypropylene Micro Fiber for Concrete

Product Description

FIBRASOL IIP (2P) is a synthetically extruded monofilament polypropylene fiber, compared to conventional polypropylene fibers which are produced in sheet form and manufactured in fibrillated bundles. This results in improved finishability and a more uniform dispersion of the FIBRASOL IIP polypropylene fibers throughout the concrete than is normally obtained with conventional polypropylene fibers. The increase in tensile strength with FIBRASOL IIP fibers is sufficient to resist the tensile stresses which are a function of early shrinkage. As a result micro-shrinkage cracks are prevented from developing into larger unsightly and detrimental cracks. For optimum performance, use FIBRASOL IIP fibers in the 1.5 inch (38 mm) length.

Benefits

- Controls plastic shrinkage cracks and restrains crack growth.
- Provides multidimensional reinforcement.
- Reduces bleeding and concrete permeability.
- Improves freeze-thaw durability.
- Enhances abrasion and impact resistance.
- Reduces long-term maintenance costs.
- Reduces chloride ion/salt migration.
- Resists balling which inhibits finishing.
- Improves the finishability of fibrous concrete.

Dosage

Dosage range for FIBRASOL IIP is 0.75 to 1.5 lbs. per cubic yard (.44 to .89 kg/m³) of concrete. The resistance of the concrete to plastic

Recommendations

The addition of FIBRASOL IIP fibers eliminates the need for welded wire mesh (WWM) as a secondary reinforcement.

In most installations FIBRASOL IIP costs less than WWM, not to mention the easily identifiable labor savings such as measurement, cutting, handling and placement.

Also, in most concrete containing wire mesh, the wire mesh is improperly placed and as a result does not meet its primary function of secondary reinforcement. This frequently results in unsightly cracks which are a source of customer dissatisfaction, and time consuming and potentially expensive complaints. With FIBRASOL IIP fibers, the concrete achieves uniform, multidimensional reinforcement. FIBRASOL IIP concrete is more desirable technically and economically for the contractor.

Fiber Addition

FIBRASOL IIP fibers can be added to the mixture at any time prior to placement of concrete. It is recommended to add any fiber material at the ready-mix concrete plant during batching.

Fibers must be mixed with concrete for a minimum of five minutes at maximum mixing speed to ensure complete dispersion and uniformity.

Applicable Standards

FIBRASOL IIP meets or exceeds the requirements of ASTM C 1116, Type III.

Directions For Use

Refer to ACI 544.3R for detailed mixing and placing instructions. Make sure the bleed water is gone and concrete is sufficiently set before trowelling. Since concrete with fibers appears stiffer, finishers must exercise care to avoid trowelling concrete too soon. Proper finishing procedures will reduce exposed fibers on finished concrete surfaces. FIBRASOL IIP increases the cohesiveness of concrete, which produces greater workability at the same slump. As a result of the increased cohesiveness, the concrete may appear stiffer than it is actually.

Consequently, check workability before adding water. In most instances, the addition of water is not recommended. If additional workability is required, an Axim water-reducer or superplasticizer is recommended instead of extra mixing water.

FIBRASOL IIP concrete should be cured using the same methods as for conventional concrete. FIBRASOL IIP fibers are recommended only as a secondary reinforcement. Spacing of control or other joints should not be changed when using FIBRASOL IIP fibers.

Do not use FIBRASOL IIP fibers for:

- Primary reinforcement or as a replacement for structural steel.
- The control of cracking as a result of structural or external forces.
- Higher compressive or flexural strength (Even though tests have shown modest strength increases).
- Control of curling or creep.
- Total elimination of control joints.

Technical Information

Material: monofilament polypropylene
Color: white
Specific Gravity: 0.91
Length: 0.75 inch (19 mm) standard.
1.5 inch (38 mm) special order available.
Typical dosage rate: 1.0 lbs./yd³ (0.6 kg/m³)
Tensile Strength: 93 ksi (640 MPa)
Modulus of Elasticity: 500 ksi (3448 MPa)
Melt Point: 312°F (155°C)
Fiber Count: Approx. 14 million per lb. (0.45 kg)
Denier: 15.0
Diameter: 50 microns
Water Absorbability: Negligible
Acid Resistance: High
Alkali Resistance: High
Thermal Conductivity: Low
Electrical Conductivity: Low

Packaging

FIBRASOL IIP fibers are packaged in 1.0 lb. (0.45 kg), 1.5 lb. (0.68 kg) and 5.0 lb. (2.25 kg) water-soluble bags.

Health and Safety

Refer to the MSDS for additional health and safety information.

Technical Service

A trained Axim representative is available to assist in the preparation of specifications, and the resolution of concrete problems in the field.

Warranty

Axim warrants its products to be free of manufacturing defects and that they will meet Axim's current published physical properties when applied in accordance with Axim's directions and tested in accordance with ASTM and Axim standards. Axim makes no warranty or guarantee, express or implied, including warranties of fitness for a particular purpose or merchantability, respecting its products, and Axim shall have no other liability with respect thereto.

Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith.



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