



# MACROMIX-SYNTHETIC FIBER



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Macromix is a macro-synthetic fiber designed specifically for the reinforcement of concrete and other cementitious mixes. Macromix Fibers are ASTM C1116/1116M compliant and have an engineered contoured profile, which serves to effectively anchor the fibers into the concrete thus resisting matrix pull-out and enhancing the concrete's performance even after it has developed stress cracks.

Another important feature of this design is that it allows much higher dosage levels resulting in performance levels which extend beyond those achieved with traditional secondary reinforcement.

**Macromix Fibers are non-corrosive and can be considered, in many applications, as an alternative to both steel fabric and steel fibers.**

## COMPLIANCE

Complies with ASTM C1116/C 1116 M Type III Fiber Reinforced Concrete

## FEATURES & BENEFITS

- Geometrically engineered to resist matrix pull-out
- Increases flexural toughness
- Increases cohesion and reduces segregation
- Increases impact and shatter resistance
- Non-magnetic
- Rustproof
- Chemically inert and alkali proof
- Reduced wear on concrete pumps and hoses
- Safe and easy to handle
- Simplified logistics
- Economical alternative to steel wire mesh and / or steel fibers

## PRIMARY APPLICATIONS

- Ground Supported Slabs
- External Pavements
- Roads
- Precast
- Sprayed Concrete
- Tunnel Linings
- Mining
- Sea Defense
- Overlays & Toppings
- Airport Pavements

## CHEMICAL & PHYSICAL PROPERTIES

Fiber Length	35, 45, 50, 55 mm
Tensile Strength	500-600 mpa
Absorption	Nil
Specific Gravity	0.91
Electrical Conductivity	Low
Acid & Salt Resistance	High
Melt Point	164°C (328°F)
Ignition Point	>550°C (1022°F)
Thermal Conductivity	Low
Alkali Resistance	Alkali Proof



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## PRODUCT USE

### MIXING DESIGNS AND PROCEDURES:

The specified dosage per cubic meter should be added to the mixer after batching the other concrete materials. After the addition of the fibers, the concrete should be mixed for sufficient time (minimum 5 minutes) to ensure uniform distribution of the fibers throughout the concrete mix.

## PLACING

**Macromix** Fiber reinforced concrete can be pumped, sprayed or placed using conventional equipment as with other fibrous concrete.

## FINISHING

Conventional techniques and equipment can be used when finishing **Macromix** Fiber concrete.

## DOSAGE RATE:

The dosage rate for **Macromix** Fibers will vary depending on the application, mix design and the toughness requirements of each particular project. Typically, **Macromix** Fiber dosage will be in the range of 3.0 kg to 9.0 kg per cubic meter of concrete.

**Purushottam Steel Wool Industries** technical staff can advise on dosage requirements once performance requirements have been established by the project designer/engineer.

## COMPATIBILITY

**Macromix** Fibers are compatible with all curing compounds, super plasticizers, water reducers, hardeners and coatings.

## SAFETY

No special handling is required with **Macromix** Fibers. Full Material Safety Data Sheets are available on request.

## PACKAGING

**Macromix** Fibers are packaged in 5 kg and 10 kg Bags. Store materials in a cool dry place. Do not store in direct sunlight.

## TECHNICAL SERVICES

**Purushottam Steel Wool Pvt. Ltd.** is backed by our team of reinforced concrete specialists who can carefully analyze each project and provide fiber reinforced concrete design solutions to ensure maximum project performance and cost efficiency.

## REFERENCES

- ASTM C 111 6/C1116M Standard Specification for Fiber-Reinforced Concrete.
- ASTM C1550 Standard Test Method for Flexural Toughness of Fiber
- Reinforced Concrete (Using centrally loaded\ round panel).
- ASTM C1436 Standard Specification for Materials for Shotcrete
- Concrete Society (UK) Technical Report 65 Guidance on the use of Macromix-Synthetic Fibre Reinforced Concrete
- Concrete Society (UK) Technical Report 66 External In-situ Concrete Paving