



*Making Good Concrete Better<sup>®</sup>*

# Harbourite<sup>®</sup> Product Bulletin

## Description:

Harbourite<sup>®</sup> micro-reinforcement system for concrete – 100 percent virgin homopolymer polypropylene fibers containing no reprocessed olefin materials and specifically engineered and manufactured in an ISO 9002 certified facility for use as concrete reinforcement at a minimum of 0.1% by volume. UL Classified. Complies with National Building Codes and ASTM C-1116 Type III 4.1.3., ASTM C-1116 Performance Level I and Residual Strength.

## Function:

- Alternate construction system to traditional reinforcement commonly used for secondary (crack control) reinforcing in concrete.
- Inhibits and controls the formation of intrinsic cracking in concrete
- Reinforces against impact forces
- Reinforces against the effect of shattering forces
- Reinforces against material loss from abrading forces
- Reinforces against water migration
- Imparts toughness to hardened concrete
- Reduces plastic shrinkage and settlement cracking
- Provides residual strength

## Advantages:

Accepted by National Codes as an alternate method of secondary reinforcing to traditional reinforcement – Non-magnetic – Rustproof – Alkali proof – Requires no minimum amount of concrete cover – is always positioned in compliance with codes – Safe and easy to use – Reduces construction time.

## Uses:

Applicable to all types of concrete which demonstrate a need for toughness, resistance to intrinsic cracking and improved water tightness.

## Examples:

Slab on Grade	Curbs	Tilt-Up Panels	Slope Paving
Sidewalks	Pre-cast	Mortar	Walls
Driveways	Water Tanks	Composite Decks	Thin Sections
Stucco	Overlays/Toppings	Maintenance Jobs	Shotcrete

## Chemical and Physical Properties:

Absorption	Nil	Modulus (Young's)	0.5 (3.5 kN/mm <sup>2</sup> )
Specific Gravity	0.91	Melt Point	324° F
Fiber Length	¼ " - 2"	Ignition Point	1,100° F
Electrical Conductivity	Low	Thermal Conductivity	Low
Acid & Salt Resistance	High	Alkali Resistance	Alkali Proof

## Technical Services:

Trained Fibermesh fibrous concrete specialists are available worldwide to assist and advise in specifications and field service. Fibermesh representatives do not engage in the practice of engineering or supervision of projects and are available solely for service and support of Fibermesh customers.



**Application Rate:**

The standard application rate for Harbourite fibers is 0.1% by volume. For specialty performance see your local Fibermesh representative for recommendations regarding increased application rates.

**Mix Designs:**

Harbourite micro reinforcing is a mechanical, not chemical, process. The addition of Harbourite fiber does not require any additional water nor other mix design changes at normal rates.

**Mixing Procedures:**

Harbourite fiber is added to the mixer before, during or after batching the other concrete materials. Mixing time and speed are specified in ASTM C-94.

**Finishability:**

Harbourite micro-reinforced concrete can be finished by any finishing technique. Exposed aggregate, broomed and tined surfaces are no problem.

**Compatibility:**

Harbourite fibers are compatible with all concrete admixtures and performance enhancing chemicals, but requires no admixtures to work.

**Guidelines:**

Harbourite fibers should not be used to replace structural, load bearing reinforcement. Harbourite fibers should not be used as a means of using thinner concrete sections than original design. Harbourite fibers should not be used to increase joint spacing past those dimensions suggested by PCA and ACI industry standard guidelines.

**Packaging:**

Harbourite fibers are available in a variety of packaging options. Special packaging is available for full truckload addition. Bags are packed into cartons, shrink wrapped and palletized for protection during shipping.

**Mini-Specification:**

Use only 100 percent virgin polypropylene Harbourite fibers containing no reprocessed olefin materials and specifically manufactured for use as concrete secondary reinforcement. Application rate per cubic yard shall equal a minimum of 0.1% by volume. Harbourite fibers are for the control of cracking due to drying shrinkage and thermal expansion/contraction, lowered permeability, increased impact capacity, shatter resistance, abrasion resistance and residual strength. Fiber manufacturer must document evidence of 10 year satisfactory performance history, ISO 9002 certification of manufacturing facility, compliance with applicable building codes and ASTM C-1116 Type III, 4.1.3, ASTM C-1116 (Ref: ASTM C-1018) Performance Level 1, I5 outlined in Section 21, Note 17 and an average minimum Residual Strength of 50 psi, of 4 beams from a single batch. Fibrous concrete reinforcement shall be manufactured by Synthetic Industries, Fiber Reinforced Concrete Division, 4019 Industry Drive, Chattanooga, Tennessee, USA, 37416. Phone: (423) 892-8080 • Fax: (423) 892-0157 • e-mail: [fibermesh@sind.com](mailto:fibermesh@sind.com) • web site <http://www.fibermesh.com>

*SI<sup>®</sup> Fiber Reinforced Concrete*

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