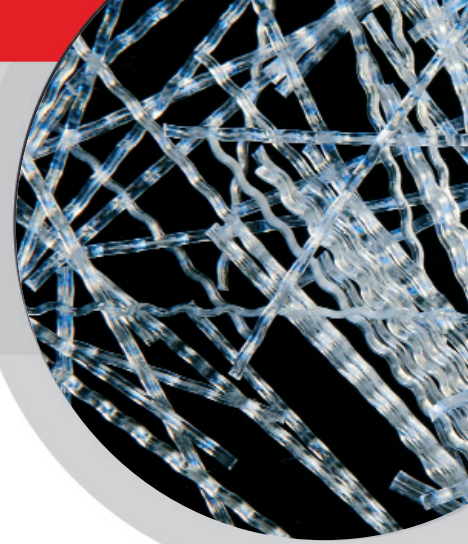


# ENDURO® HPP45

## PRODUCT DATA SHEET



### ENDURO® HPP45 MACRO-SYNTHETIC FIBRE

ENDURO® HPP45 is a macro-synthetic fibre designed specifically for the reinforcement of concrete and other cementitious mixes. ENDURO® HPP45 fibres have an engineered contoured profile, which serves to effectively anchor the fibres 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.

ENDURO® HPP45 fibres are non-corrosive and can be considered, in many applications, as an alternative to both steel fabric and steel fibres.

### 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 fibres

### PRIMARY APPLICATIONS

- Ground supported slabs
- External pavements
- Roads
- Precast
- Sea defence
- Overlays & toppings
- Airport pavements

### COMPLIANCE

Complies with ASTM C III6 Type III 4.1.3

### CHEMICAL & PHYSICAL PROPERTIES

Fibre Length	45mm	Acid & Salt Resistance	High
Type/Shape	Macro / Monofilament	Melt Point	164°C (328°F)
Absorption	Nil	Ignition Point	>550°C (1022°F)
Specific Gravity	0.91	Thermal Conductivity	Low
Electrical Conductivity	Low	Alkali Resistance	Alkali Proof

# ENDURO® HPP45

## PRODUCT USE

**MIXING DESIGNS AND PROCEDURES:** The specified dosage per cubic metre should be added to the mixer after batching the other concrete materials. After the addition of the fibres, the concrete should be mixed for sufficient time (minimum 5 minutes) to ensure uniform distribution of the fibres throughout the concrete mix.

**PLACING:** ENDURO® HPP45 micro-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 ENDURO® HPP45 fibre concrete.

**DOSAGE RATE:** The dosage rate for ENDURO® HPP45 macro-synthetic fibres will vary depending on the application, mix design and the toughness requirements of each particular project. Typically, ENDURO® HPP45 macro-synthetic fibres dosage will be in the range of 4.5kg to 9kg per cubic meter of concrete. When used in conjunction with Fibermesh® 150 fibres the dosage rate and the performance of the sprayed concrete can be optimized economically.

Propex Concrete Systems technical staff can offer advice on dosage requirements once performance requirements have been established by the project designer/engineer.

## COMPATIBILITY

ENDURO® HPP45 macro-synthetic fibres are compatible with all curing compounds, superplasticizers, water reducers, hardeners and coatings.

## SAFETY

No special handling is required with ENDURO® HPP45 macro-synthetic fibres. Full Material Safety Data Sheets are available on request.

## PACKAGING

ENDURO® HPP45 macro-synthetic fibres are collated in bundles or pucks with degradable wrapping to aid rapid dispersion and mixing. The fibre bundles are packaged in 10kg cartons. Store materials in a cool dry place. Do not store in direct sunlight.

## TECHNICAL SERVICES

Propex Concrete Systems is backed by our team of reinforced concrete specialists who can carefully analyze each project and provide fibre reinforced concrete design solutions to ensure maximum project performance and cost efficiency.

## REFERENCES

- ASTM C1116 Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
- ASTM C1018 Standard Test Method for Flexural Toughness and First Crack Strength of Fiber-Reinforced Concrete.
- JCI-SF4 Method of Test for Flexural Strength and Flexural Toughness of Fiber Reinforced Concrete.
- Concrete Society (UK) Technical Report 34 *Concrete Industrial Floors*

## SPECIFICATION CLAUSE

Fibres for concrete shall be ENDURO® HPP45 polyolefin high performance macro-monofilament fibre and manufactured specifically for the reinforcement of concrete.

ENDURO® HPP45 macro-synthetic fibres shall be mixed at the batch plant, at the recommended rate of .....kg per cubic metre, and mixed for sufficient time (minimum 5 minutes) to ensure uniform distribution of the fibres throughout the concrete mix. Fibrous concrete reinforcement shall be manufactured by:

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[www.fibermesh.com](http://www.fibermesh.com)

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