



Durafiber 18 is a monofilament polypropylene fibre with optimal mechanical, physical and chemical properties for use in concrete and mortar.

### QUALITIES

- Large surface area per amount of fibre
- High adhesion level
- Not visible on surface
- No healthy risk
- Chemically inert and durable
- Easy to mix
- Easy to pump, without abrasion to pipes and hoses
- 100 % alkali resistant
- Resistant to acids and solvents

### INCREASED FIRE RESISTANCE

During a fire, concrete structures can collapse due to water pressure arising from the evaporation of water entrapped in concrete while temperature rapidly increases rapidly. In this case the water vapour cannot escape from the concrete fast enough and the concrete can spall off pieces and cracks may occur.

The lost water from hydrated cement can also cause rapid decrease in concrete strength. When Durafiber 18 is added to concrete, the polypropylene material in the fibres will melt at 160°C and create many micro canals in the concretes heat affected zone. This will allow most of the water vapour to escape and the spalling and cracking effect will be significantly reduced.

### CONCRETE WITH DURAFIBER 18

- Forms micro canals and not damaging cracks during fire – the increased water pressure is allowed to escape through the micro canals
- Reduced risk of spalling
- Reduced concrete damage to an average depth of 2 cm
- During fire, the reinforcement will be protected inside the concrete
- Reduced costs from repair of concrete after fire
- Reduced amount of micro cracks from plastic shrinkage forces
- Reduced risk of separation/bleeding
- Increased concrete density
- Increased concrete durability regarding temperature changes
- Increased resistance towards physical damage, reduces the damage of corners and edges
- Decreased damage during de-moulding and during transport of elements
- Faster and better construction, by increased cohesion in concrete

### ADDITION OF DURAFIBER 18

- Durafiber 18 can be added to dry materials or to the fresh concrete in a concrete mixer. It can also be added in concrete trucks.



- Concrete with durafiber 18 can be pumped and sprayed
- Concrete with durafiber 18 will have a reduction in slump. Therefore it's recommended to combine the Durafiber 18 with use of superplasticizers

### DOSAGE

Normal dosage:

- 1 paper bag (900 g) for each m<sup>3</sup>
- Durafiber 18 is packed in water soluble paper bags.

### TECHNICAL DATA

Composition	Virgin polypropylene
Geometric Shape	Macro fiber with converging wave shape to a sharp corner
Available Lengths	39-54 mm (minimum tolerance $\pm 2\%$ )
Equivalent diameter	0.70-0.73 mm (minimum tolerance $\pm 5\%$ )
Aspect Ratio	55@39mm / 77@54mm
Color	White
Specific weight	0.91 grams / cm <sup>3</sup>
Elastic module	Approx. 2750 MPa
Tensile Strength	325 MPa
Water absorption	N/A
Resistance to acids	Alkali Resistance
Melting point	165°C
Ignition point	> 360°C
Packaging	White PET bags 900 g each
Standard	EN 14889-2 Class II – Macro fiber