FIBRE-tec® PPE

POLYPROPYLENE FIBRE FOR BUILDING INDUSTRY

Description FIBRE-tec® PPE fibres in mortars and concrete increase the thixotropic behaviour and reduce the shrinkage. FIBRE-tec® PPE fibres are produced in continues extrusion process from polypropylene granulates. The extruded fibres are heated, smoothened to increase tenacity, greased and cut in fibre strands of 12 or 18 mm.

Fields of use
- Industrial or public pavements
- Pavements for silo's or pools
- Prefabricated concrete elements
- Concrete repair mortars
- Roads
- Light weight concrete

Storage Store in a protected, dry and clean area.

Packaging Length 12 mm : paper bags of 0,9 Kg/each in boxes of 15 Kg
Length 18 mm : plastic bags of 1 Kg/each in boxes of 15 Kg

Technical characteristics (typical values)

• Material	Propylene in fibres
• Density	910 g/l
• Diameter	34 / 48µ
• Colour	White
• Modulus of elasticity	3500 – 3900 N/mm^2
• Chemical resistance	Optimal, specially against alkali
• Fusion point	160 – 170 °C
• Ignition temperature	> 560 °C

a) Workability of the mixes
Tests demonstrate that FIBRE-tec® PPE fibres increase the apparent cohesion and reduce slightly the consistency of the concrete. The consistency test can be used as general indicator for the flow of the concrete containing FIBRE-tec® PPE.

b) Waterabsorption
The use of FIBRE- tec® PPE, limiting the cracks in the plastic state, reduces the absorption of water in the concrete, increasing resistance to penetration of aggressive substances contained in the water, such as de-icing salts. FIBRE-tec PPE increases the resistance to freeze / thaw cycling due to better homogeneity of the mixture.

d) Abrasion
FIBRE-tec® PPE increases the resistance against mechanical and abrasion stresses.

e) Impact
Concrete with FIBRE-tec® PPE fibres, has the considerable higher resilience.

f) Chemical resistance
The polypropylene FIBRE-tec® PPE fibres are alkali resistant and will resist many aggressive chemicals.

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g) Fire

With FIBRE-tec® PPE the concrete will show an improved structural integrity. The fire will melt the fibres at the surface and will increase the porosity allowing the entrapped humidity to escape without exploding ruptures of the concrete skin.

h) Superficial appearance and hardness

FIBRE-tec PPE enhances the aesthetics while maintaining the surface hardness.

i) Behaviour to chemical aggression

Versus ***ACIDS***	*20°C*	*60°C*
Hydrochloric acid	+	+
Nitric acid 25 %	+	+
Acetic acid 50 %	+	+
Lactic acid 90 %	+	+
Fluor hydrogen 40 %	+	+
Phosphoric acid	+	+
Sulphuric acid	+	+
Versus ***ALCALINE SOLUTIONS***		
Potassium hydroxide 50 %	+	+
Sodium hydroxide 50 %	+	+
versus ***SALTS*** *(saturated solutions)*		
Sodium carbonate	+	+
Ammonium sulphate	+	+
Sodium chloride	+	+
Sodium sulphate	+	+
Salts of zinc	+	+
Salts of copper	+	+
Sodium phosphate	+	+
Iron salts	+	+
Versus ***OTHER SUBSTANCES***		
Sea water	+	+
Oil (table oil)	+	0
Mineral oil (without aromatic ingredients)	+	0
Carbon tetrachloride	0	+

+ = strong 0 = limited resistance - = weak

Safety indications Read carefully the indications on the packaging or ask for the specific Material Safety Datasheet of this product.

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