FIBERPLUS

POLYPROPYLENE FIBERS FOR SECONDARY REINFORCEMENT OF CONCRETE AND MORTARS

Properties

The synthetic fibers **FIBERPLUS** are high quality polypropylene fibers that have been created especially for mixing in concrete and mortars with cement base.

Applications

Fiber reinforcement is the ideal treatment for cracks resulting from dryness shrinkage and temperature fluctuations.
The addition of **FIBERPLUS** does not premise any alteration in the traditional method in preparation of concrete and mortars (cement quantity, aggregates, water etc)
Depending on the size of aggregates are being used **FIBERPLUS 12** with fiber length 12 mm (1/2'') or **FIBERPLUS 18** with fiber length 18 mm (3/4'') for concrete and **FIBERPLUS 6** with fiber length 6 mm (1/4'') for mortars of maximum aggregate diameter 10 mm.
The addition of **FIBERPLUS** in concrete creates a tri-axial reinforcement uniformly distributed in all the mass, which operates from the first moment of setting.

In the opposite case the common reinforcement operates at least 8 hours after the concrete buildup, where coherence tensions might appear between steel and concrete.
Therefore fiber reinforcement is resistant to cracks in the soft as well the hardened stage of concrete.
FIBERPLUS fibers also offer the following important attributes improvement to concrete.

- Increase by 70% of the initial strength during the first 24 hours
- Increase of impact strength
- Increase of abrasion strength
- Increase of elasticity and therefore fatigue strength

FIBERPLUS fibers use also offers two basic advantages as to the common reinforcement.

- Simple application
- Cost reduction

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***Point of Notice*: FIBERPLUS** does not replace concrete static reinforcement

How to use

1. PLASTERS & REPAIR MORTARS

FIBERPLUS fibers prevent the creation of cracks during the setting / desiccation phase and those resulting from temperature fluctuations (especially on thermal insulating plates), thus offering resistance to water pressure and frost.

2. REINFORCED CONCRETE STRUCTURES

FIBERPLUS fibers replace the **secondary** constructive reinforcement, which is situated for the confinement of cracks due to concrete setting, temperature fluctuations and creep. Fiber reinforcement is resistant to cracks due to its dense tri-axial reinforcement, where the construction mesh simply reduces the width of cracks without being in a position to completely obstruct their creation.

In general, **FIBERPLUS** fibers, when added as aggregate in concrete, offer uniformity in the mass with additional improvements.

- Improved pumping
- Reduction of absorbency and permeability
- Cavities free and no Joint ablation on the surfaces

3. PRODUCTION OF PREFABRICATED CONCRETE ELEMENTS AND CEMENT PRODUCTS

In this case **FIBERPLUS** fibers offer additional security on transportation and assembly since they can withstand extreme pressures.

4. INDUSTRIAL FLOORING PLATES

FIBERPLUS fibers allow the creation of high quality industrial flooring because they receive concrete thickening stress immediately, from the surface and the entire concrete body. In the opposite case the construction mesh is situated in a pre assigned level and can only receive similar tensile stress after cracking has already taken place on the surface.

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5. BURST CONCRETE (GUNITE)

FIBERPLUS fibers ensure grip improvement to the sub layer and thus decrease the demand for rapid thickening additives. Additionally larger wideness layers can be achieved with a 30% decrease of product loss. In some cases is possible to fully replace the reinforcement grid.

APPLICATION – MEASUREMENT - PACKAGING

The recommended dosage of **FIBERPLUS** fibers is 1l or 0.9 kg/m^3 concrete or mortar.
For this reason the **FIBERPLUS 6 -12 -18** are packed in plastic bags of 0.9 kg.
In case where **FIBERPLUS** fibers are added during concrete or mortar preparation, then they should be mixed with dry ingredients prior to water addition. But in case of ready concrete **FIBERPLUS** fibers are added in the mixing barrel, where they should adequately mixed in the entire body for minimum 1 minute at high mixing speed.
The recommended dosage (1 bag 0.9kg/m^3) can be doubled as a maximum for special cases.
Always the correct dosage should be determined after testing.

TECHNICAL CHARACTERISTICS

Material	Synthetic Polypropylene Fibers (PP)
Color	White
Fiber Shape	Oval
Fiber Diameter	Max 40 mm
Fiber Cut Length	6mm, 12mm, 18mm
Specific Weight	0.91 g/ml
Fiber Laboratory Endurance	0,45 N
Laboratory Impact Elongation	22%
Units (fibers) per g	6 mm : 240.000 12 mm : 120.000 18 mm : 80.000
Fluid Swelling	0%
Melting Point	160 ^{0} C
Flash Point	550 ^{0} C
Light Behavior, aging	Good
Resistance to acid, alkali, solvent	High
Heat Conduction	Low
Electrical Conductivity	Low

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Storing

The product should be stored in shady environment with no humidity: 5 years

Health Hazards: The product is harmless. Non Toxic

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