



FIBERTEK PP 6-12-18 mm

Microfiber in virgin polypropylene monofilament formortars and concretes



DESCRIPTION

Mono-filament virgin polypropylene fibers for the control of cracks in cementitious conglomerates in the plastic phase and as a secondary reinforcement of concrete.

Made of polypropylene with high tenacity and high dimensional stability, this fiber is specifically designed for use in concrete and mortars, as it is resistant to alkalis, absolutely non-corrodable, resistant to abrasion, atmospheric and chemical agents, mold, microorganisms and high temperatures.

FIBERTEK PP 6-12-18mm are intended to be incorporated into the cement matrix (concrete, mortar, etc.) in order to constitute a homogeneous material able to counteract plastic shrinkage. They allow concrete to develop, with the same degree of ripeness, a greater tensile strength than that of the corresponding fiber-free concrete and therefore, greater resources to cope with the stresses induced by the withdrawal. In the hardened state, that is, after maturation, the presence of FIBERTEK PP fibers helps to improve the properties of concrete; in particular, they increase its toughness, i.e. the residual post-crack resistance, an important resource to counteract the propagation of cracks, especially in dynamic conditions. This contribution, however, does not allow a structural recovery in terms of increase in apparent ductility, since due to the low elastic modulus of polypropylene, this contribution develops in the face of extensive deformations.

FIBERTEK PP fibers, on the other hand, provide an important contribution also in the structural field if combined with metal fibers (Fig. 1). In fact, they enhance the performance of steel fibers in the immediate post-cracking and increase the residual absorption of energy for large deformations, or increase the overall ductility of the composite.

COMPORTAMENTO ALLA FLESSIONE SU SOLLECITAZIONE

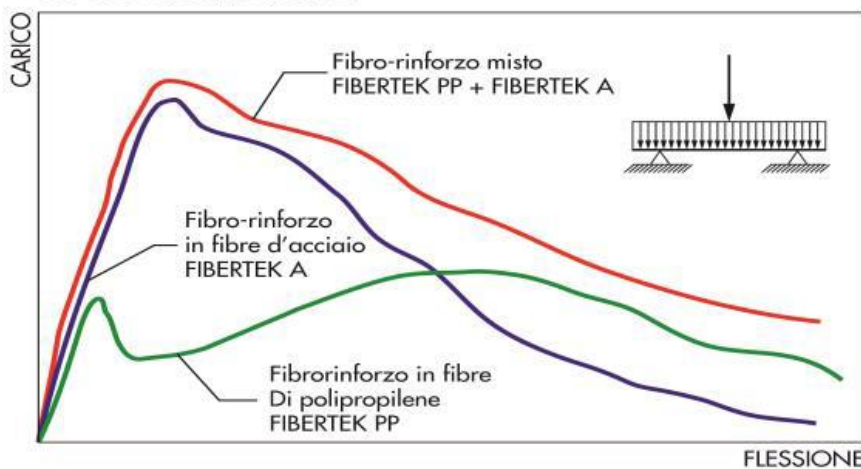


FIG. 1

FIBERTEK PP 6-12-18 mm



PROPERTY

FIBERTEK PP 6-12-18mm, being mono-filament, easily disperses in the matrix in all directions in such a way as to have a homogeneous distribution of the fiber in the dough and a reinforced matrix that allows to control the plastic shrinkage, to increase the compactness and counteract the microcracking.

FIBERTEK PP is for concrete passive fire protection element.

FIBERTEK PP 6-12-18mm:

- eliminates the formation of macro-cracks and reduces microcracking;
- reduces the plastic and hydraulic shrinkage of concrete during gripping;
- improves elasticity and tensile strength;
- increases resistance to impact and abrasion;
- resists acid and basic agents;
- does not deteriorate;
- excellent dispersion qualities;
- high efficiency and cost-effectiveness (approximate dosage 0.9/1 Kg per cubic meter of concrete)

SPECIFICATIONS

Material Very polypropylene

Color Bianco natural

Nominal length 6/12/18 mm

Ircular Section C

Thickness 16-32 microns

Specific gravity 0,91 g/cm³

Melting point > 160°C

Ignition point 590 °C

Tensile strength 400 Nmm² for 6 mm

450 Nmm² for the 12/18 mm

Allung.to at break > 20% for the 6 mm.

> 40% for the 12/18 mm

Young 3700 MPa Module

Nominal thickness 18 µm for 6 mm

32 µm for 12/18 mm

High alkali resistance

High acid resistance

Resistance to Salielevata

Water absorption no one

Thermal conductivity coeff. 0,12 Wm⁻¹ k⁻¹

Electrical conductivity coeff. 10-18 Ω-4 cm

FIELDS OF APPLICATION

Shrinkage crack control for concretes and mortars.

FIBERTEK PP 6-12-18mm is suitable for:

- Flooring on surveyed
- Industrial and civil flooring
- Car parks, airport runways, roads and sidewalks
- Prefabricated elements with rapid disarming: wells, pipes, manholes, vases, etc.
- Prefabricated panels, infill panels, fences, road barriers
- Pumped or poured concrete works
- Plasters, building restorations

REFERENCE LEGISLATION

- UNI EN 14845-2- Fiber test methods for concrete - part 2: Effects on concrete

SHEET



TEKNA CHEM S.p.A.

Factory: Renate (MB) - Via Sirtori, z.i. 20838 - Phone +39 0362.91.83.11

Web: www.teknachemgroup.com - E-mail: info@teknachemgroup.com - Fax: +39 0362.91.93.96

FIBERTEK PP 6-12-18 mm



- EN 14889-2- Fibre test methods for concrete - Part 2: Polymer fibres - definitions, specifications and conformity
- CNR – DT 204 – Instructions for the design, execution and control of fiber-reinforced concrete structures.
- ISO 834 - Fire resistance tests - Elements of building construction (FIBERTEK PP 6mm)

DOSAGE

Excellent results can be obtained using a dosage between 0.9 and 1.0 kg/m³ of concrete, also considering the fact that 1 kg of FIBERTEK PP contains more than 100 million microfilaments. FIBERTEK PP are perfectly compatible with all concrete additives produced by TEKNA CHEM.

PROCEDURE FOR MIXING

The fibers are inserted directly into the concrete mixer together with the aggregates and other components: they need an additional mixing of a few minutes until their complete distribution.

PACKAGING

FIBERTEK PP 6mm

20 biodegradable bags of 1 kg per box on pallets of 30 boxes.
3 big bags of 180 kg on pallet

FIBERTEK PP 12-18mm

16 biodegradable bags of 900 g per box on pallets of 55 boxes.
30 biodegradable bags of 600 g per box on pallets of 30 boxes.

STORAGE

They can be stored for a long time, sheltered from rain.

WARNINGS

FIBERTEK PP fibers are produced with mono-filament virgin polypropylene resins and are classified as inert, harmless and not damaged by most chemical agents. They are also not dangerous or harmful from an environmental point of view.

LEGAL

The information contained in this technical sheet, although representing the most advanced stage of knowledge, does not exempt the user from performing accurate preliminary tests in their conditions of use and operation. We therefore decline any responsibility for the improper use of the product.

