



FIBERTEK PMR

Polymeric twisted fibers



DESCRIPTION

FIBERTEK PMR is a hybrid synthetic fiber, consisting of a special blend of polyolefin polymers and a fibrillated polypropylene fiber, which can reduce plastic shrinkage. FIBERTEK PMR increases the ductility and fatigue strength of concrete. Unlike metallic fibers, FIBERTEK PMR does not corrode, is non-magnetic, and is 100 percent resistant to acids, bases and generally all aggressive agents, being chemically inert, which is why a concrete made with FIBERTEK PMR has a significantly higher durability than a concrete made with the same dosage (by volume) of metallic. FIBERTEK PMR counteracts plastic shrinkage of concrete, increases the residual tensile strength of concrete, thus the resistances to stresses caused by dynamic and static overloads.



FIELDS OF APPLICATION

FIBERTEK PMR fibers can be used in any type of concrete and for any class of exposure for which it is designed (in accordance with EN 206). Due to its chemical inertness, FIBERTEK PMR can be used advantageously in the making of concrete for highly aggressive environments such as the marine and chemical industry, where it is not recommended to the use of concretes with metal fibers because of known corrosion problems.

In particular, it is used in concretes for the following uses:

- Industrial and outdoor flooring
Parking areas, material storage, pavements subjected to heavy loads and/or high dynamic loads, jointless pavements, gas stations and workshops, cold storage, storage areas, port docks, airport runways. Foundation slab, floor slabs, slab reinforcement (wood and/or steel) with collaborating concrete.
- Prefabrication
Panels, prefabricated elements for tunnels, drinking water tanks, cable conduits (traditional, fiber optic, etc.), railroad sleepers, prefabricated plates for rails, roofing elements, new jersey barriers.

TECHNICAL FEATURES

Material	Fiber blend of a polyolefin copolymer and a fibrillated polypropylene fiber
Shape	monofilament
Specific weight	0,91 kg/dm ³
Melting point	230° C
Length	54 mm
Equivalent diameter	0,68 mm
Length-to-diameter ratio	80
Number of fibers per kg	220.000
Tensile strength	620 - 758 MPa
Young's elastic modulus	3500 MPa
Maximum elongation	greater than 10%
Resistance	to acids, bases and salts
Totale compliance	UNI EN 14889-2



Tolerance $\pm 10\%$

METHODS OF USE

Fibers should be added directly into the mixing apparatus at the precasting, concrete batching or truck mixer plant or on the conveyor belt at the same time as the aggregates and cement and never first. After the addition is finished, mix the whole mix for at least 5 minutes at maximum speed.

Dosage is generally between 1.0 and 2.5 kg/m³, depending on the project.

Our technical service is at your disposal to determine the optimal dosage depending on the final use of the work.

TIPS

It is important that the fiber is evenly distributed in the mix, with equipment suitable for loading the fiber.

TEKNA CHEM can suggest the most suitable fiber for your project, and calculate the most optimal dosage.

FIRE BEHAVIOR

Like all synthetic fibers, FIBERTEK PMR in the event of fire, having reached their melting temperature decompose without producing harmful gases, transforming the volume they previously occupied in the cement paste into a series of interconnected "channels."

The channels act as "escape routes" for the heat and steam generated, as a result of the sudden boiling of interstitial water. This property prevents fiber-reinforced concrete with FIBERTEK PMR from bursting violently, as happens in the case of steel fiber or non-fiber-reinforced concrete by lacking, in the latter, the self-generated porosity of the synthetic fibers.

PACKAGING

5kg nylon sacks

STORAGE

- It can be stored in uncovered outdoor areas as it is not subject to corrosion. This is only in the case of nylon packaging.
- Do not stack pallets on top of each other.

CERTIFICATIONS

The fiber is CE certified for structural applications in concrete and mortars in accordance with EN 14889-2

LEGAL NOTES

The information contained in this data sheet, while representing the most advanced stage of knowledge, does not exempt the user from performing accurate preliminary tests under his own conditions of use and operation. Any liability for improper use of the product is therefore disclaimed.



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