

Structural Synthetic Macrofiber for concrete

DURAFORT® MCI

DURAFORT MCI is a structural fiber for concrete gotten by the extrusion of polypropylen synthetic copolymers, 100% premium, transformed into a continuous sinusoidal filament. The synthetic fibers **DURAFORT MCI** were carefully designed in order to replace conventional materials according to standards **Brazilian 16940/2021 - JSCE SF4/ 1984 Japan and ASTM C-1609/2006**.

Besides the efficiency in preventing plastic retraction, it provides a three-dimensional barrier in the concrete matrix, augmenting resistance to impact, protection to the concrete from tensions of traction, inhibiting opening of fissures and cracks.

DURAFORT MCI is highly resistant to concrete alkali, being an efficient material and with a great advantage in its application.

SEGMENTS OF USE

Concrete industrial floors, Highway pavements, Overlays
Radier, Capstone, Steel deck, Tunnel, Mortar.

APPLICATION

DURAFORT MCI can be added directly to the cement truck or concrete plant. The mixing time in the truck, for better homogenization, is 1 minute for each m³ of concrete, making it ready for use on site.

DOSAGE

DURAFORT MCI 3.5 to 6.0 kg/m³ can be used depending on the required floor load.

PACKAGE

Available in plastic bags from 5 kg.
Paper packages from 15 to 25 kg

ADVANTAGES

- Ease of transport and handling;
- Replaces metal welded mesh;
- Meets Standard ABNT NBR 16940/2021;
- Meets Standard ASTM C-1609/2006;
- In contrast to steel fibers, does not produce outcrops;
- Three-dimensional reinforcement;
- Resistant to alkaline in the concrete;
- Augments impact resistance;
- Augments fatigue resistance;
- Augments tensile strength;
- Augments flexural resistance;
- Augments compressive strength;
- Does not conduct electricity;
- Does not suffer corrosion;
- Excellent anchorage in concrete;
- Is compatible with all types of Portland cement.

PHYSICAL PROPERTIES

CHARACTERISTICS	RESULT
Aspect	Polypropylen
Density (g/cm ³)	0,91
Modulus of elasticity Gpa	5
Traction resistance per filament	580 to 620 Mpa
Absorption of water	without effect
Resistance to UV rays	Excellent
Resistance to alkalis	Excellent
Anchorage of concrete	Excellent
Mixture in the concrete	Excellent

PRESENTATION

DURAFORT	MCI 40	MCI 52	MCI 60
Length	40 mm	52 mm	60 mm
Thickness	0,30 á 0,35	0,30 á 0,35	0,30 á 0,35

NUMBER OF FILAMENTS / kg

DURAFORT MCI 40 = 105.500 thousand

DURAFORT MCI 52 = 81.200 thousand

DURAFORT MCI 60 = 70.300 thousand

STANDARDIZATION

DURAFORT MCI is standardized and certified according to the Brazilian standard 16940/2021 - 16942/2021.

DURAFORT MCI exceeded the residual means (FR,1 and FR,4) in addition to the flexural attraction strength of (LOP) being within the range (4.3± 0.3) Mpa of concrete.

STANDARDIZATION-Re3

DURAFORT MCI is normalized in accordance with the standards **JSCE SF4 / 1984 and ASTM C-1609/2006**, in which the tests were performed in **Brazil USP University of São Paulo**, which the given values **R e3**, can be used as a structural element for concrete floor.

STANDARDIZATION - TEST OF ALKALINITY

DURAFORT MCI was subjected to testing in alkaline solution of sodium hydroxide (NaOH) 1 molar pH 12,93 and calcium hydroxide Ca (OH) 2 to pH 11 to 13 in the real situation of the concrete at a temperature from 60C° for 72 hours. It was observed that after completion of the test the fiber had no significant weight loss, keeping their original characteristics.

WARRANTY: DURAFORT MCI is manufactured with high quality raw materials. Tests were carried out in accordance with the Brazilian standard ABNT NBR 16940/2021, reaching all parameters, being compliant for use in different types of projects; This way we guarantee the total quality of the product, regardless of any requirements.

STORAGE

It must be stored in a covered and dry place, at a temperature below 86F (28°C).

VALIDITY: indefinite, as long as it is in the packaging original sealed.