TECHNICAL INFORMATION

REIS E REIS
Chemistry for Construction

Structural Synthetic Macrofiber for Concrete

DURA FORT- MCI

PRODUTO
Dura Fort - MCI is a structural fiber for concrete gotten bay the extrusion of polypropylene synthetic copolymers, 100% premium, transformed into a continuous sinusoidal filament. The synthetic fibers **Dura Fort-MCI** were carefully projected, in order to substitute conventional materials in accord with standard **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. **Dura Fort - 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, capstone, steel deck, among others.

APPLICATIONS
The amounts should be specified by designers or engineers. Its application can be done directly in the cement truck or in the concrete factory. The time of its mixture in the truck, for better homogenization, is 1 minute for every m^3 of concrete, being ready for use at the worksite.

PACKAGE
Available in plastic bags from 5 kg.

COMPARISON
3 to 4,5 kg per m^3 of **Dura Fort - MCI** corresponds to 16 /18 kg of steel fiber or to Q138 and Q196 screen, depending on the floor load required.

ADVANTAGES
- Ease of transport and handling;
- In contrast to steel fibers, does not produce outcrops;
- Resistant to alkaline in the concrete;
- Does not rust;
- Does not conduct electricity;
- Does not suffer corrosion;
- Augments resistance to fatigue, traction, flexion and compression;
- Excellent anchorage in concrete;
- Is compatible with all types of Portland cement.

PHYSICAL PROPERTIES

CHARACTERISTCS	RESULTS
Product	Polypropylene VG
Density (g/cm³)	0,91
Modulus of elasticity	5
Traction resistance per filament	580 to 620 Mpa
Absorption of water	without effect - zero
Resistance to UV rays	Excellent
Resistance to alkalis $Ca(OH)^2$	Excellent
Anchorage of concrete	Excellent
Mixture in the concrete	Excellent

MODEL

MODEL	MCI 40	MCI 54	MCI 60
Length	40 mm	54 mm	60 mm
Thickness	0,60 to 0,65	0,60 to 0,65	0,60 to 0,65

NUMBER OF FILAMENTS / kg
Dura Fort MCI 40 = 66 thousand
Dura Fort MCI 54 = 44 thousand
Dura Fort MCI 60 = 41 thousand

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 Sao Paulo, which the given values Re3, can be used as a structural element for floor concrete.

STANDARDIZATION - TEST OF ALKALINITY
DURAFORT MCI was subjected to testing in alkaline solution of calcium hydroxide Ca $(OH)_2$ to pH 11 to 13 in the real situation of the concrete at a temperature from 60°C for 72 hours. It was observed that after completion of the test the fiber had no significant weight loss, keeping their original characteristics.

STORAGE
Should be stored in a dry and ventilated location at a temperature below 77°F (25°C).

EXPIRATION
Indefinite in unopened package.

Reis e Reis Indústria e Comércio Ltda
Rua Wilton Reis Costa, 220
Eldorado Centro Industrial e Empresarial
São José dos Campos / SP CEP 12238-574
Phone/Fax: +55 12 3966 9977
e-mail: vendas@reisereis.com.br
www.reisereis.com.br

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