

## Concrete Reinforcement

We offer Meraflex® short cut fibres for sustainable fibre-reinforced concrete (FRC). Reinforcement by polypropylene (PP) fibres minimizes cracking, improves resistance, avoids spallation and therefore prolongs the service lifetime of concrete, cement and mortar constructions substantially. The material is light, safer and quicker to integrate and offers a lower ecological footprint.

### Excellent cohesion to cement mixtures

- High performing, easy to use, improve the workability of the matrix
- Uniform distribution of stress from plastic and hydraulic shrinkage, reduce cracking
- Improve impact and abrasion resistance
- Improve superficial appearance
- Improve mechanical characteristics of compressive, tensile and flexural strength
- Excellent resistance to chemical and atmospheric agents, Alkali resistant

The introduction of Meraflex® short cut fibres into concrete, at adequate concentrations, can completely eliminates the risk of shrinkage cracking in casted products and avoids the spalling phenomena in case of a fire. During fire, the fibre melts at 160°C and creates porosity by which the generated steam can be evacuated. This will decrease the pressure in the construction and avoid spalling problems.

Several studies have shown that the use of Meraflex® short cut fibres, at adequate concentrations in the mortar:

- eliminates the formation of cracks due to plastic shrinkage on the unshuttered surfaces of cement mortar that are not correctly cured by damping;
- makes cement mortars of relatively low porosity (w/c 0.55) resistant to attack from carbon dioxide. A low w/c ratio, in fact, is not sufficient to prevent reinforcement corrosion caused by plastic shrinkage cracks resulting from the inadequate or inexistent curing of the unshuttered mortar surfaces;
- makes air-entrained cement mortars resistant to freeze-thaw cycles.

### Declaration of Performance (DoP)

Meraflex® is a CE labelled product and complies with the conformity procedures stipulated in the European Directives. The DoP is the key concept in the Construction Products Regulation (CPR). Each CE marked product has its proper DoP certificate and product label, indicating all of the product's essential characteristics.

## Technical



Specifications	PP fibres
Fibre diameter	17,5 μ - 19,8 μ (+/-3%) (equivalent to 2,2 - 2,8 dtex)
Cut length (mm)	4 - 6 - 12 - 18 - 24
Specific gravity	0,91 g/cm <sup>3</sup>
Tensile strenght	35 - 45 cN/Tex (350 - 450 Mpa)
Elastic modulus	5 - 7 Gpa
Finishing	hydrophilic
Packaging	small paper bags: 0,6 to 1 kg big paper bags: 8 to 25 kg customized packaging available
Compliance	Standard EN 14889-2 : 2006 for polymer fibres

### Dosage and use

Meraflex® can be easily added into the mixer together with aggregates without significant increase in mixing time.

- 0,6 kg/m<sup>3</sup> of Meraflex® short cut is normally added under standard environment.
- 0,9 kg/m<sup>3</sup> is added under harsh environment.

Higher quantities of fibres, to be defined for each application, can be used when a greater reinforcement is required above the usual requisite of microcracks reduction, as for instance in thin sheets and lightures.

## About Beaulieu Fibres International

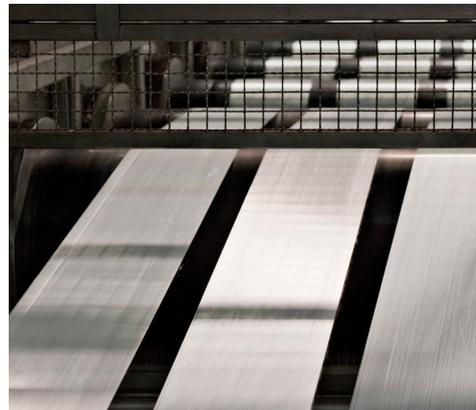
As largest European producer of polyolefin fibres, our company is part of the Engineered Products Business Unit of Beaulieu International Group, with headquarters in Belgium.

With three production sites in Europe - two in Belgium and one in Italy, we supply Mono/BICO fibres with round and trilobal cross section with linear densities of 1.0 to 500 dtex to customers in industries such as Automotive, Hygiene, Geotextiles, Flooring, Filtration and Upholstery. Our broad portfolio includes coloured fibres, bonding fibres, high tenacity fibres, ultrasoft fibres with different cross-sections, including trilobal, suitable for a wide range of processing technologies.

## Member of Beaulieu International Group

Beaulieu International Group is a well-respected industrial group with headquarters in Belgium. It holds an important market position both in the production of raw materials and intermediate goods, and the supply of perfectly finished floorcoverings. Beaulieu International Group has more than 5,000 employees in 27 plants, 16 representative offices and distribution centres spread across 16 countries. In 2018, the turnover was close to €2 billion.

Beaulieu International Group is composed of three business units. 'Flooring Solutions', is a worldwide leader in wall-to-wall floorcoverings (carpet, needle felt, artificial grass, cushion vinyl, vinyl planks, laminate, parquet, wall panels and mats). A second business Unit, 'Polymers', produces polypropylene granules for numerous applications. The third business unit 'Engineered Products', houses the activities related to 'Fibres', 'Yarns', 'Technical Textiles' and 'Technical Sheets'. The Beaulieu International Group's entrepreneurial spirit and innovative ambitions make it the model of diversity and evolution within the sector. They allow it to create added value sustainably for customers, employees, suppliers, shareholders and for the society in which it operates.



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