



BISEAL[®] FIBER -MF

POLYOLEFIN MACRO-FIBERS FOR REINFORCEMENT OF CONCRETE

DESCRIPTION

BISEAL[®] FIBER -MF is a polyolefin macro-fiber designed specifically for reinforcement of concrete. It is added directly on concrete mixing, being distributed uniformly and increases the mechanical and ductility properties of the concrete, allowing even the load-carrying after cracking.

ADVANTAGES

Added on concrete structures for:

- Greater shrinkage control and cracking resistance.
- Greater impact resistance.
- Greater abrasion resistance.
- Greater load capacity.

APPLICATIONS

- Concrete slabs and pavements with very high performances.
- Sprayed concrete.
- Composite slabs.
- Pre-cast concrete elements.

APPLICATION INSTRUCTIONS

Mixing

BISEAL[®] FIBER -MF is added directly on concrete during its mixing at industrial plants or job-sites. For a uniform distribution of the fibers, **BISEAL[®] FIBER -MF** need an extra minute of mixing per each 5 kilograms of fiber used. For example, for 8 m³ of concrete and a dose of 4 kg/ m³, this represents 32 kg fiber and therefore an increase of 6 minutes in the mixing time. Excessive mixing time of the fiber is not harmful to the integrity of the fibers and their functionality.

CONSUMPTION

Check Table I *MIXING RATIO* for the consumption of **BISEAL[®] FIBER -MF** in concrete.

IMPORTANT INDICATIONS

- Generally a high dosage of synthetic fiber in concrete mixes slightly reduces the compressive force in the concrete during its setting- time. Using fewer the amounts of fine fillers (sand) and of water, and increasing the amount of coarse aggregates, provides a better mixing result.
- Do not add extra water to the mix. Fiber-reinforced concrete has lower consistency than without fibers. Fulfill the mix design and if necessary increase the amount of plasticizers.
- For further information or applications not included on this Technical Bulletin, consult our Technical Department.

PACKAGING

BISEAL[®] FIBER-MF is supplied in 4 kg boxes. It is available in fibers of 48 mm and 60 mm length.

STORAGE

BISEAL[®] FIBER-MF does not have expiration time, however it should be stored in its original unopened packaging, kept in a dry and covered place, protected from frost and direct sunlight, with temperatures above 5 °C.

HEALTH AND SAFETY

BISEAL[®] FIBER-MF is non-toxic and non-corrosive product.

Safety Data Sheet for **BISEAL[®] FIBER-MF** is available by request.

The final user must do disposal of the product and its empty containers according to official regulations.

Table I.- **BISEAL FIBER-MF** mixing ratio

Application field	Mix (kg/m ³)	Equivalent metal fiber (kg/m ³)
Industrial floors	Heavy load/ traffic	5 – 6
	Standard conditions	3 – 4
Pavements	Concrete pavements	4 – 5
	Slabs on ground	3 – 4
	Bridge deck	3 – 4
Gunning	Dry mix	4 – 5
	Wet mix	6 – 7
Pre-assembling elements	Architectural concrete	3 – 4
	Structural elements	3 – 4
Soil stabilization	Erosion control	3 – 4
Tunnel waterproofing	Membrane protection	3 – 4

TECHNICAL DATA

Product Characteristics		
Chemical composition	100 % polyolefin	
Density, (g/cm ³)	0,91	
Water absorption	None	
Colour	Dark grey-black	
Fiber thickness (denniers per strand)	3.500	
Equivalent diameter, (mm)	0,93	
Fiber length / Slenderness, (mm)	48 / 60	
Total length, (m/kg fiber)	2.250	
Fiber frequency, (ud/kg fiber)	32.895	
Transformation process	Extrusion	
System	Plane twist monofilament	
Tensile strength, ASTM D-638 (MPa)	>400	
Distortion Temperature, (°C)	10	
Decomposition Temperature, ASTM D-648 (°C)	280	
Elongation, ASTM D-638 (%)	7	
Elasticity modulus, ASTM D-790 (GPa)	>6	
Fluency, ASTM D-1238 (g/min)	1,8 a 3,2	
Adhesion	Optimum	
Chemical resistance	Good	
Mechanical performance <i>UNE-EN 14651</i>	Fiber consumption (kg/m ³)	Medium value R3 (MPa)
	3	1,87
	4	2,04
	5	2,35
Consumption		
Minimum consumption, (kg/m ³)	See Table I	

GUARANTEE

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. **DRIZORO®**, **S.A.U.** reserves the right to introduce changes without prior notice. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company's responsibility unless authorized by us. We shall not accept responsibility exceeding the value of the purchased product. The data shown on consumptions, measurement and yields are for guidance only and based on our experience. These data are subject to variation due to the specific atmospheric and jobsite conditions so reasonable variations from the data may be experienced. In order to know the real data, a test on the jobsite must be done, and it will be carried out under the client responsibility. We shall not accept responsibility exceeding the value of the purchased product. For any other doubt, consult our Technical Department. This version of bulletin replaces the previous one.



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