#32-500 Anti-Crak™ Concrete Fibers

DESCRIPTION AND USE

Anti-Crak™ is an engineered AR glass fiber designed for use in concrete and mortars where uniform dispersion of the reinforcement is needed. Anti-Crak™ fiber is available as a pre-chopped strand in mono dose bags.

Anti-Crak™ is typically used at a low level of addition to prevent cracking and improve the performance of concrete, screeds or renders.

Anti-Crak™ fibers are produced with a "water-dispersible" size on the fibers, allowing full dispersion into individual filaments when mixed in an aqueous mortar. A small dose of fiber provides a very large number of distributed reinforcing filaments, minimizing the distance between filaments, and resisting the formation of cracks.

Once distributed in the mix, the fibers are almost invisible. They will not protrude through the surface of the product, and require no further finishing.

ANTI-CRAK™ CAN BE ADDED

- with dry materials, and pre-blended to produce a dry-bagged mortar
- to the wet concrete mix at an RMC batching plan
- to a RMC truck on site, then mixed for 3-5 minutes prior to pouring
- to a wet concrete or mortar and mixed on-site

TYPICAL PROPERTIES OF AR GLASS

Density:	2.68t/m3
Tensile Strength	
Virgin Filament:	3,500 MPa
Strand:	1,700 MPa
Elastic Modulus:	7 GPa
Elongation at Break:	4.5%
Moisture Content:	<0.3%
Effect of Temperature:	Non-Combustible, Softening Point 860°C

IDENTIFICATION (ISO)

Example:	2.68t/m3
AR:	Alkali Resistant
C:	Continuous Filament
14:	Filament Diameter in Microns
320:	Strand Tex (g/km)
HD:	Product Code

Technical Considerations (Nominal Values)

Filament Diameter (µm)	Moisture Content (%)	(L.O.I) (%)
14	ISO 3344 : 1977	ISO 1887 : 1980
	<0.3	1.0

Characteristics and Performance

›› Density similar to concrete/Elastic Modulus greater than concrete/Tensile Strength greater than steel.

›› Anti-Crak™ HD fibers provide micro-reinforcement, and therefore improved mechanical performance, unlike synthetic fibers which give micro-defects due to their low modulus and strength.

›› Fiber to matrix bond is optimum: mineral to mineral.

›› Very high dispersibility: 63 - 197 million reinforcing monofilaments per lb. of fibers. Non-corroding reinforcement, resistant to acid and alkalis.

Elastic Modulus:

Unlike synthetic fibers, Anti-Crak™ HD fibers have an Elastic Modulus greater than that of hardened concrete,and can therefore effectively reinforce both fresh and hardened concrete and mortars.

Material	Modulus of Elasticity GPa
Anti-Crak™ Fibers	72
Polypropylene	3.5
High Mod. Polypropylene	7
PVA	29
Polyester	17
Concrete	35

Tensile Strength

Material	Tensile Strength MPa
Anti-Crak™ Fibers	1,700
Polypropylene	350
High Mod. Polypropylene	550
PVA	910
Polyester	1,000
Steel	1100

Specific Gravity

The Specific Gravity of Anti-Crak™ AR glass fibers is similar to that of concrete, therefore the fibers will neither float not sink in the mix when under vibration.

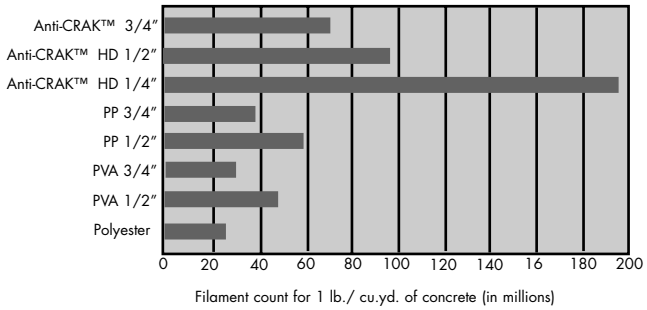
Material	Specific Gravity
Anti-Crak™ Fibers	2.68
Polypropylene	0.91
High Mod. Polypropylene	0.91
PVA	1.30
Polyester	1.34
Concrete	2.40

Chopped Strands

Anti-Crak™ HD chopped strands are packed in cartons within an inner polythene bag which contains 1 lb. single-dose degradable bags. An individual label identifies each carton. Anti-Crak™ HD chopped strands are white but a blue color is used for identification on labels.

	Product Length (in.)	Individual Packaging		Carton Weight (lb.)
		Packaging Color Code	Packaging Type	
Anti-Crak™ HD	¼″, ½″, ¾″	Blue	Carton	40
			1lb. Bag	30

COMPARATIVE FILAMENT COUNT



Filament count for 1 lb./ cu.yd. of concrete (in millions)

Related Product Literature

#32-500 MSDS

#32-500 Engineering Report

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