

REC FIBER PP 333

HIGH-PERFORMANCE POLYMER-BASED MONOFILAMENT SYNTHETIC FIBER

DESCRIPTION

REC FIBER PP 333 is a high-performance polymer-based mono filament synthetic fiber reinforcement that can be utilized in concrete by directly replacing steel mesh or steel wire applications in infrastructure projects requiring high structural concrete strength.

Produced locally according to EN 14889-2 Class 2 and ASTM C-1116 standards with RECKON engineering from 100% virgin polypropylene, **REC FIBER PP 333** increases the toughness of concrete against structural design loads and provides effective crack control with its 3-dimensional homogeneous distribution property in concrete.

PRIMARY APPLICATION

- Slab-on-ground Applications
- Railway Systems and Slab Track Concretes
- Tunnel Linings and Shotcrete Applications
- Mining Applications
- Prefabricated Structural Concrete Elements
- Dams and Hydroelectric Power Plants
- Concrete Roads, Highway Pavements and Bridges.

FEATURES/BENEFITS

- Fully homogeneous mixture in concrete with its special surface design
- Effective crack control at every point of concrete
- 3-dimensional concrete reinforcement
- Easy mixing and fast application
- Easy handling compared to steel reinforcement
- Less labor and equipment costs
- High concrete toughness and impact resistance
- Increased load bearing capacity
- High durability against corrosive, alkaline and acidic environments
- Does not affect magnetic fields with its polymer structure
- Lower carbon footprint compared to steel reinforcements
- Easy to store, advantageous logistic costs
- Increased concrete resistance and long-term durability against freeze-thaw
- No damage to machinery and equipment in shotcrete applications compared to steel fibers
- Reducing general project costs by minimizing rebound up to 40% in shotcrete applications.

TECHNICAL INFORMATION

PROPERTY	UNIT	VALUE	TECHNICAL SPECIFICATION
Density	g/cm ³	0.91	
Length	mm (inch)	54 (2.13)	EN 14889-2
Filament Diameter	mm (inch)	0.72 (0.03)	
Aspect Ratio	-	75	
Tensile Strength	MPa (ksi)	550 (80)	
Elastic Modulus	GPa (ksi)	8.5 (1233)	
Acid and Alkaline	High		

Resistance		
Melting Point	°C (°F)	160 (320)
Num. of Fibers	~# / kg (#/lb)	50000 (23000)
Raw Material	Virgin Polypropylene	
Electrical Conductivity	NA	
Water Absorption	NA	
Fiber Surface	Embossed	
CE Certificate	2055-CPR-169	
ISO9001-2015		

DIRECTIONS FOR USE

DOSAGE

REC FIBER PP 333 has varying dosages between 2.00-8.00 kg/m³ (3.00-13.50 lb./yd³) in different types of applications.

MIXING

REC FIBER PP 333 is produced in special water-soluble packages. It provides speed and convenience by mixing with concrete together with its pack during plant and on-site mixing. **REC FIBER PP 333** are compatible with all types of concrete additives and classes.

REC FIBER PP 333 is specially produced to provide maximum homogeneity during plant mixing. The mixing is done by adding the packed fibers on to the conveyor belt during concrete production.

CONFORMITY / COMPLIANCE

REC FIBER PP 333 In line with the project needs, EN 14651 – ASTM C-1609 - EN 14488-5 tests can be done and reported in accredited test and university laboratories and / or RECKON Technology Center with samples taken from the project jobsites.

GRAPHS AND TABLES

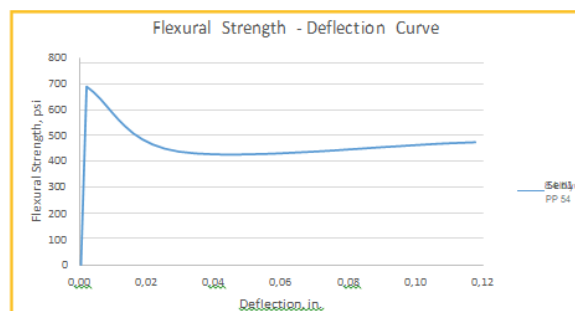
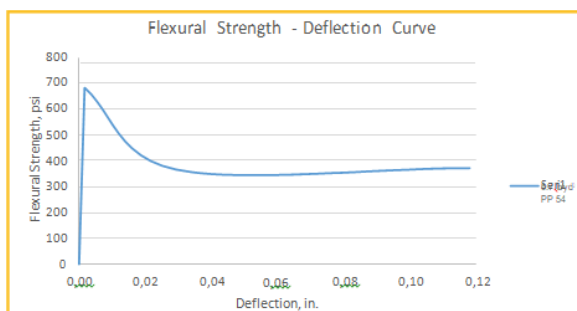
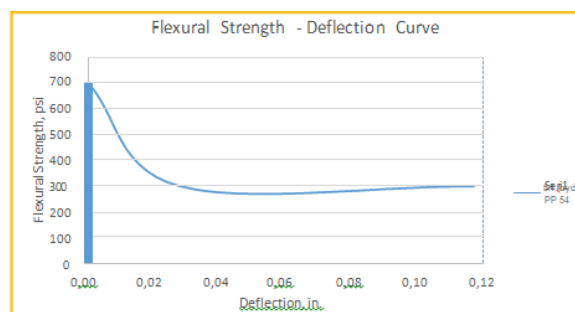
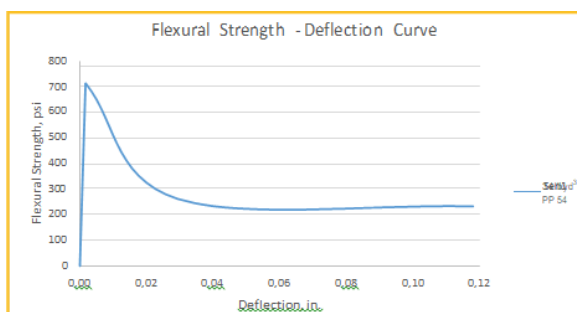
1) EN 14488-5: Determination of Energy Absorption Capacity of Fiber Reinforced Concrete Plate Samples / EFNARC		
	Joule	Classification
3 kg/m ³ (5.1 lb/yd ³)	500-700	a
4 kg/m ³ (6.7 lb/yd ³)	700-1000	b
5 kg/m ³ (8.4 lb/yd ³)	1000 +	c

600 x 600 x 100 mm (24 x 24 x 4 inches) slab samples are used on the above concrete samples according to EN 14488-5/EFNARC standards. Test results may vary according to concrete mix design.

2) ASTM C-1609: Third-Point Loading Beam Test					
				f150 (MPa) / (psi)	Re3 (%)
2	kg/m ³	(3.4	lb/yd ³)	1.6 / 230	38
3	kg/m ³	(5.1	lb/yd ³)	2.1 / 305	45
4	kg/m ³	(6.7	lb/yd ³)	2.6 / 380	56
5	kg/m ³	(8.4	lb/yd ³)	3.3 / 480	67

*Re3= Equivalent Flexural Strength Ratio

ASTM C-1609 tests were performed with 150 x 150 x 500 mm (6 x 6 x 20 inches) beam samples.



PACKAGING

REC FIBER PP 333 is sold in 25, 400 Kg Bag.

STORAGE & SHELF LIFE

The suitable shelf life for unopened packages is 2 years. It is recommended to store the product in its original packaging in a closed environment, protected from moisture, water and direct sunlight.

HEALTH & SAFETY

REC FIBER PP 333 does not fall into the hazard classifications of current regulations. However, it should not be swallowed.

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