KraTos Macro PP 48

Technical Data Sheet

DESCRIPTION

KraTos Macro PP 48 is a high-performance polymer-based monofilament synthetic fiber reinforcement that can be utilized in concrete by directly replacing steel mesh or steel wire applications in projects requiring high structural concrete strength.

KraTos Macro PP 48 is specially developed for industrial floor and ground concrete applications that require high structural durability.

Produced locally according to EN 14889-2 Class 2 and ASTM C-1116 standards with Kordsa engineering from 100% virgin polypropylene, KraTos Macro PP 48 increases the toughness of concrete against structural design loads and provides effective crack control with its 3-dimensional homogeneous distribution property in concrete.

APPLICATION AREAS

- Industrial Floor Applications
  - » Intelligent Warehouse Floors
  - » Food Facilities Industrial Floors
  - » Cold Storage Depots
  - » Research Centers and Laboratories
  - » Industrial Zones, Industrial Sites and Industrial Workplaces
- Light Rail Transit Systems
- Ground Concretes
  - » Truck Parks
  - » Cargo and Storage Areas
  - » Parking Lots and Screed Concretes
  - » Leveling Concrete
- Concrete Roads and Highway Pavements
- Coastal and Harbor Structures
- Precast Concrete Elements
- Airports

FEATURES & BENEFITS

- Fully homogeneous mixture in concrete with its special surface design
- Effective crack control at every point of concrete
- Easy mixing and fast application
- 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 against freeze-thaw

PHYSICAL PROPERTIES

Property	Unit	Value	Technical Specification
Specific Gravity/Density	g/cm³ (lb/ft³)	0.91 (56.81)	
Length	mm (inch)	48 (1.89)	EN 14889-2
Filament Diameter	mm (inch)	0.72 (0.03)	
Aspect Ratio	-	67	
Tensile Strength	MPa (ksi)	550 (80)	
Elastic Modulus	GPa (ksi)	8.5 (1233)	
Acid and Alkaline Resistance	High		
Melting Point	°C (°F)	160 (320)	
Num. of Fibers	~# / kg (#/lb)	55000 (25000)	
Raw Material	Virgin Polypropylene		
Electrical Conductivity	NA		
Water Absorbtion	NA		
Fiber Surface	Embossed		
CE Certificate	2055-CPR-169		
ISO9001-2015			

SHELF LIFE AND STORAGE

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.

DOSAGE

KraTos Macro PP 48 has varying dosages between 2.00-6.00 kg/m³ (3.00-10.00 lb/yd³) in different types of applications.

PACKAGING

KraTos Macro PP 48 is produced in special water-soluble packages. The standard package amount is 3.0 kgs (5.0 lb) (±1.5%). 330 kgs (725 lb) of product is shipped in one palette.

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DIRECTIONS FOR USE / MIXING

KraTos Macro PP 48 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. KraTos Macro fibers are compatible with all types of concrete additives and classes.

KraTos Macro PP 48 is specially produced for both concrete plant mixing and on-site mixing. When mixing in concrete plant, the process is carried out by feeding the fibers on the aggregate band in packed form. When mixing on-site; packs are fed into concrete mixer truck according to already determined fiber dosage and following the addition of the last package, mixing process is carried out at high speed revolution for at least between 8 to 10 minutes.

CONFORMITY / COMPLIANCE

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 Kordsa Technology Center with samples taken from the project jobsites.

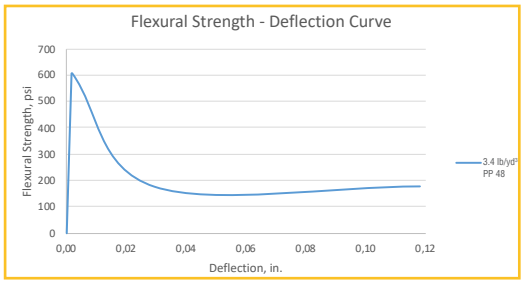
GRAPHS AND TABLES

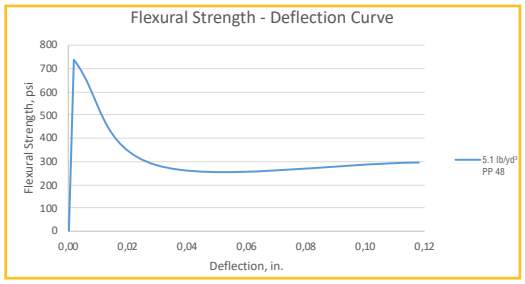
1) ASTM C-1609: Third-Point Loading Beam Test

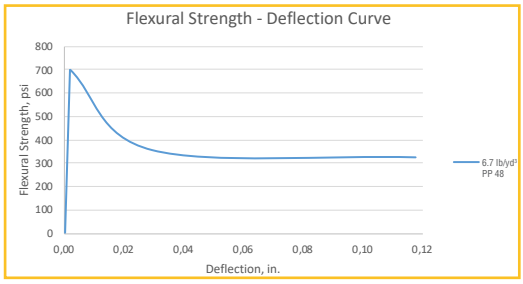
	f150 (MPa) / (psi)	Re3 (%)
2 kg/m³ (3.4 lb/yd³)	1.2 / 175	32
3 kg/m³ (5.1 lb/yd³)	2.0 / 290	41
4 kg/m³ (6.7 lb/yd³)	2.2 / 320	49
5 kg/m³ (8.4 lb/yd³)	2.8 / 405	54

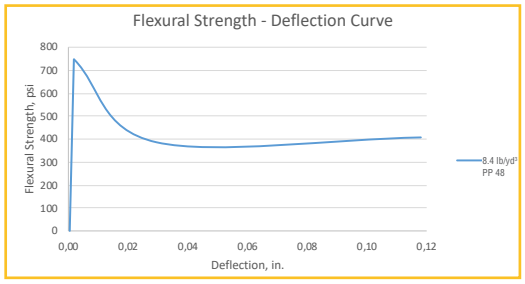
*R_{e3} = Equivalent Flexural Strength Ratio

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









LEGAL DISCLAIMER

The recommendations regarding the use of KraTos Macro PP 48 product presented by Kordsa Teknik Tekstil A.Ş. under the document are only recommendations and may vary according to the customer's purpose of using the product and technical data. Since the customer has the expertise and knowledge regarding the intended use of the product and the products made from the product in question, regardless of whether the product is used alone or with other materials, the customer undertakes all the risks and responsibilities arising from the use of the product. Kordsa Teknik Tekstil A.Ş. expressly declares that it is not liable for any loss and / or expense that may arise in the eye of the customer, regardless of whether it is used in accordance with the usage recommendation offered to the customer.