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AMROCK
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MONOFILAMENT POLYPROPYLENE FIBERS

FOR CRACK FREE
CONCRETE AND PLASTER

AMROCK Polypropylene Fibers

It's a well-established fact that concrete excels in compression strength but falls short in tension, leading to visible surface cracks. However, the more concerning issue lies in the majority of cracks concealed within the concrete mass, originating from temperature differentials during hydration. The internal temperature gradient, driven by the heat generated in the concrete's core, results in tensile stresses, ultimately causing cracks that remain hidden.

These interior cracks, although not immediately visible, pose a significant long-term threat to the structural integrity, akin to hidden termites requiring attention. Addressing this concern, PP Fibers emerged as a pivotal solution.

PP Fiber plays a crucial role in preventing the development of these concealed cracks. By uniformly reinforcing the concrete, these fibers act as a barrier, ensuring protection both externally and internally. This not only arrests crack formation but also extends the concrete's lifespan, consequently enhancing the overall longevity of the structure.

AMROCK Polypropylene Micro Fibre (PP Fiber) stands out as a high-intensity bundle monofilament crafted from virgin polypropylene using innovative technology. Endowed with inherent acid and alkali resistance, low thermal conductivity, and exceptionally stable chemical properties, AMROCK PP Fibre becomes a formidable ally in controlling micro-cracks induced by temperature variations during the initial plastic shrinkage stage of mortar and concrete.

Incorporating these fibers into mortar or concrete proves effective in preventing and suppressing crack formation, significantly boosting anti-crack, anti-seepage,, anti-impact, and anti-seismic capabilities. The versatility of these fibers extends to various applications, including underground waterproofing, roofing, walls, industrial and civil construction projects, pools, basements, roads, and bridges.

PP Fibers

In essence, AMROCK Polypropylene Micro Fibre emerges as an innovative material, offering enhanced crack resistance, seepage resistance, and wear resistance in mortar and concrete engineering, thereby contributing to the longevity and durability of structures. The advantages of AMROCK PP Micro Fibers in the concrete are as follows:

- Reduce plastic and drying shrinkage cracks in concrete.
- Makes the concrete more durable.
- Improve the Impact and Abrasion Resistance.
- Improves freeze-thaw resistance.
- Gives strength to the concrete.
- Improve resistance to explosive spalling in case of severe fire.

Sr. No.	Particulars	IRC: 15-2017	MoRT&H specifications	AMROCK PP Fibers
1.	Type & Cross section			Type - II Circular
2.	Effective diameter	8-300 microns	10-100 microns	18 microns
3.	Length	6-18 mm	6- 48 mm	6.60 mm
4.	Specific Gravity	0.90-1.36	0.91	0.91
5.	Preferred dosage	0.6-2.5 kg/m³	0.6-2 kg/m³	0.91 kg/m³
6.	Tensile Strength	>380 MPa	Not mentioned	430 MPa
7.	Water Absorption	Less than 0.45%	Less than 0.45%	Nil
8.	Melting point	Should not be less than 160 ˚C	Should not be less than 160 ˚C	164 ˚C
9.	Alkali resistance	Good	Good	Good

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