



Technical Fact Sheet

CTF 311 Technical Fiber

General Description

CTF 311 technical fiber is a microdenier acrylic (polyacrylonitrile copolymer) suitable for a wide range of short fiber applications, such as: specialty papers, nonwovens, filtration media, gaskets, sealants, adhesives and coatings.

In flexible composite applications such as gaskets, the high aspect ratio of these fibers ensures good load transfer. Combined with the good fiber-matrix bonding and mechanical properties inherent to acrylic, CTF 311 fibers can impart improved strength, tear resistance and flexibility.

In liquid resin systems, the same geometry which makes these fibers good composite reinforcements results in a highly efficient thixotropic agent. Studies have shown that CTF 311 fiber is a more cost effective thickener than other commonly used materials such as fumed silica and aramid pulp.

In nonwoven applications, CTF 311 fiber can be used in many ways to tailor sheet properties. The small diameter and low density results in 70% more fibers per unit weight compared to a standard polyester.

In all cases, the short fiber length contributes to improved dispersion and processing characteristics.

Typical Physical Properties

Color	white
Cross section	round
Density	1.17 g/cm ³
Length	1.5 mm (0.06 in)*
Diameter	10 µm (0.0004 in)
Denier	0.9 dtex (0.8 denier)
Tensile strength	400 MPa (60 ksi), min.
Modulus	4 GPa (0.6 Msi), min.
Elongation	15%
Moisture content	< 4%
Surface charge	anionic

*Custom lengths from 0.5 - 10 mm available.

Environmental Stability

As an acrylonitrile copolymer, CTF 311 fiber has excellent chemical and environmental resistance. It is not attacked by micro-organisms and has superior resistance to weathering and sunlight. CTF 311 fiber is insoluble in common organic solvents, and has excellent resistance to dilute alkalis and most acids. However, fiber degradation will occur under hot, concentrated alkaline conditions.

IMPORTANT NOTICE

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