MINIFIBERS, INC.

Comparison of Fiber Properties

Fiber Type	Specific Gravity (g/cm3)	Melt Point	Moisture Regain (%)	Tenacity (gpd)	Chemical Resistance
Acrylic Fiber	1.14 - 1.19	Does not melt. Degradation begins at ~290°C / 554°F.	1.0 - 2.5	1.9 - 3.4	Resists most acids, oxidants, and solvents. Sensitive to nitric acid, dimethyl formamide, and hot alkalis.
Lyocell Fiber	1.5	Does not melt or soften. Stable at 115°C for up to one hour. Decomposition begins at >175°C	~11.0	~3.7	Insoluble in common organic solvents. Will be dissolved by diluted hot or concentrated acids. Caustic soda at 8-10% concentration will attack fibers at room temperature.
Meta-Aramid Fiber	1.37 - 1.38	Does not melt. Degradation begins at ~300°C / 572°F. Carbonizes at ~425°C / 800°F.	3.5 - 5.1	2.6 - 5.0	Good resistance to acids and bases.
Nylon 6,6 Fiber	1.14	Sticks at ~230°C / 445°F. Melts at 255-265°C / 491-509°F.	3.5 - 5.0	2.3 - 9.3	Resists most organic solvents and bleaching agents. Sensitive to concentrated acids, phenol, hot dimethyl formamide, and hot, concentrated bases.
Para-Aramid Fiber	1.44	Does not melt. Degradation begins at ~482°C / 900°F.	3.5 - 5.0	~22.6	Good resistance to diluted acids and bases. Degraded by strong mineral acids.
Polyester Fiber	1.38	Sticks at 227-241°C / 440-465°F. Melts at 250-288°C / 482-550°F.	< 1.0	6.9 - 9.1	Resists most antioxidants. Sensitive to strong bases, concentrated nitric and sulfuric acids, nitrobenzene, and phenols.
Polyester Fiber – Undrawn	1.38	Sticks at 227-241°C / 440-465°F. Melts at 250-288°C / 482-550°F.	< 1.0	< 1.5	Resists most antioxidants. Sensitive to strong bases, concentrated nitric and sulfuric acids, nitrobenzene, and phenols.
Polyethylene Fiber – Low Melt	0.96	Melts at 121-129°C / 250-265°F	< 0.1	< 1.5	Resists most bases, acids, and solvents. Sensitive to hot, chlorinated hydrocarbons.
Polyethylene Fiber – UHMW / HMPE ADMIXUS® HPC	0.96	Melts at ~147°C / 296 °F	< 0.1	25.5 - 30.5	Resists most bases, acids, and solvents.
Polyethylene Fiber – UHMW / HMPE Dyneema®	0.97 - 0.98	Melts at 144-152°C / 291-306°F	< 0.1	28 - 45	Resistant to concentrated acids and alkalis, as well as numerous organic solvents. Highly resistant to corrosive chemicals except oxidizing acids.
Polypropylene Fiber	0.90	Softens at 141-177°C / 285-350°F. Melts at 163-168°C / 325-335°F.	< 0.1	2.0 - 5.5	Resists common solvents, strong acids and alkalis. Sensitive to chlorinated solvents at high temperatures and aromatic compounds.
Vectran™ LCP Fiber	1.40 - 1.41	Softens at >300°C / 572°F. Melt point undetermined.	< 0.1	~25.9	Excellent bleach resistance. Resistant to organic solvents, some acids of >90% concentration, and bases of <30% concentration.
Viscose Rayon Fiber – Regular Tenacity	1.50 - 1.55	Does not melt. Chars and decomposes at 175-204°C / 347-400°F.	10.7 - 16.0	1.6 - 2.6	Poor resistance to strong acids and bases.
Viscose Rayon Fiber – High Tenacity	1.50 - 1.55	Does not melt. Chars and decomposes at 175-204°C / 347-400°F.	10.7 - 16.0	4.3 - 5.3	Poor resistance to strong acids. Excellent resistance to strong bases.