

Comparison of Fiber Properties

Fiber Type	Specific Gravity	Melt Point	Moisture Regain (%)	Breaking Tenacity (gpd)	Elongation at Break	Chemical Reactivity Note
Acetate Fiber	1.32	500°F (Tg 350)	6.3 - 6.5	1.2 - 1.6		Poor resistance to strong acids. Strong bases cause loss of strength. Dissolved by acetone.
Acrylic Fiber	1.14 - 1.19	No definite melt.	1.0 - 2.5	2.2 - 5.4		Good resistance to acids, except nitric acid. Moderate resistance to weak bases.
Cellulose Fiber	1.5	Does not melt.	10.7 - 16.1			Poor resistance to acids and bases.
Kevlar (Technora) Fiber	1.44	Does not melt. Resists to 900°F	3.5 - 5.0	18 - 30		Good resistance to dilute acids and bases. Degraded by strong mineral acids.
Nomex Fiber	1.37 - 1.38	Does not melt. Resists to 800°F	3.5 - 5.1	2.3 - 5.1	30-36%	Good resistance to acids and bases.
Nylon 6 Fiber	1.14	419-430°F	2.8 - 5.0	3.5 - 6.0		Degraded by hot, concentrated acids and bases.
Nylon 6,6 Fiber	1.13-1.14	Sticks @ 445°F; Melts @ 480-500°F	4.0 - 4.5	3.5 - 6.0		Degraded by hot, concentrated acids and bases.
Polyester Fiber - High Tenacity	1.38	482-550°F	0.4 - 0.5	4.0 - 8.6	20-34%	Good resistance to acids. Poor resistance to strong bases. Good resistance to organic solvents.
Polyester Fiber - Regular Tenacity	1.38	482-550°F	0.4 - 0.5	2.0 - 4.0	28-47%	Good resistance to acids. Poor resistance to strong bases. Good resistance to organic solvents.
Polyester Fiber - Undrawn	1.38	482-550°F	0.4 - 0.9			
Polyethylene Fiber	0.92 - 0.96	220-255°F	< 1.0	3.0 - 4.2		Excellent resistance to acids and bases.
Polypropylene Fiber	0.91	325-335°F	< 1.0	3.0 - 4.2		Excellent resistance to acids and bases.
Rayon Fiber	1.54	Does not melt.	11.0 - 11.5	1.9 - 3.4		Poor resistance to strong acids and bases.

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