

# Fibre Characteristics

FIBRE TYPE	DESCRIPTION	SPECIFIC GRAVITY	SENSITIVE TO	RESISTANT TO	HEAT REACTION	STRENGTH & ELONGATION
Polyester	Continuous Filament	1.38	Alkalis, Phenolic Compounds, Sulfuric Acid	Most Organic & Mineral Acids, Organic Solvents, Bleaches & Oxidizing Agents	Softens 228°C. Melts 255°C	Equivalent wet/dry strength ratio, Elongation 35% at Break
Polyamide, (Nylon)	Continuous Filament	1.14	Strong Acids & Oxidizing agents, soluble in formic, sulfuric acids & Phenolic Compounds	Alkalis, Alcohols, esters, Hydrocarbons & most Bleaches	Nylon 6,6 Softens 229°C , melts 249-260°C	Elongation Dry 40%, Wet 35%. 90-95% strength ratio wet/dry
Aramid, (Kevlar®)	Continuous Filament	1.44	Hydrochloric, Hydrobromic & Sulphuric Acids, Bleaching & Sunlight. Highly sensitive to Abrasion	Mineral & Organic Acids, Alkalis, Organic Solvents, Mildew & Fungi	371°C decomposition	Equivalent wet/dry strength ratio. Elongation 4% at Break
UHMP, (Spectra®) / Dyneema® Ultra high modulus polyolefin	Continuous Filament	.97	Strong Oxidizing Agents, Chlorosulfonic & Nitric Acids at High Temperatures	Most Acids & Alkalis, cold Alcohols, Ethers, Esters, Ketones & Bleaches	Melts 147°C	Equivalent wet/dry strength ratio. Elongation 2-5% at Break
TLCP, (Vectran® UM) Thermotropic liquid crystal fiber	Creep & Shrinkage ratio's almost 0%	1.37	Alkalis @ high temperatures	Acids, Alkalis	400°C decomposition	Elongation 2.4% @ BF, 98% strength ratio wet/dry. 22 g/d
P.B.O. (Zylon®)	Continuous Filament	1.56	Strong Acids, Acids & Alkalis at higher temperatures, Sunlight	Organic Solvents, Acids & Alkalis at room temperature	650°C decomposition	2.5% at Break