

Rope Fiber Selection Guide (Typical Values)

	Kevlar 1*	Manila	Nylon	Polyester	Polypropylene
COST:					
Relative	15.00	1.20	2.30	2.50	1.00
STRENGTH:					
1" Tensile	78000	8100	22600	19800	12600
Breaking Tenacity Dry(grams/denier)	18-26.5	5.0-6.0	7.0-9.5	7.0-9.5	6.5
Wet Strength vs. Dry Strength	95%	Up to 120%	85-90%	100%	100%
Shock-load Absorption Ability	Poor	Poor	Excellent	Good	Very Good
WEIGHT:					
Specific Gravity	1.44	1.38	1.14	1.38	0.91
Floats	No	No	No	No	Yes
ELONGATION:					
Percent at Break	1.5-3.6%	10-12%	18-25%	12-15%	15-25%
Creep (extension under sustained load)	Very Low	Very Low	Moderate	Low	High
EFFECTS OF MOISTURE:					
Water Absorp. of Individual Fibers	3.5-7.0%	Up to 100%	2-8%	< 1%	None
Dielectric Properties	Poor	Very Poor	Poor	Good	Excellent
DEGRADATION:					
Resistance to UV in Sunlight	Fair	Good	Good	Excellent	Poor
Resistance to Rot and Mildew	Excellent	Poor	Excellent	Excellent	Excellent
Storage Requirements	Wet or Dry	Dry only	Wet or Dry	Wet or Dry	Wet or Dry
ROPE ABRASION RESISTANCE:					
Surface	Fair	Good	Very Good	Excellent	Good
Internal	Poor	Fair	Excellent	Excellent	Good
THERMAL PROPERTIES:					
Melts at	800° - Begins to decompose	Does not melt, Chars at 350°	420-480°	490-500°	330°
RESISTANCE 2*:					
Resistance to Acids	Fair	Poor	Fair	Good	Excellent
Resistance to Alkalis	Fair	Poor	Very Good	Fair	Excellent
Resistance to Oil/Gas	Very Good	Poor	Very Good	Very Good	Very Good

1* Based on DuPont Kevlar® data

2* Resistance is relative to the length of exposure, percent of concentration and temperature.