

NYLON 6/6 Polymer

Overview-

Since its development in 1935, nylon has found a home in applications ranging from automotive and aerospace to life saving medical devices. Today the family of nylon resins has expanded to meet the demands of a wide range of custom applications.

The strongest of all aliphatic nylons, Nylon 6/6 offers good abrasion resistance compared to Nylon 6. The addition of fillers such as glass fiber can improve stiffness and enhance fatigue resistance. Nylon 6/6 improved low temperature toughness translates into more robust performance in cold environments than Acetal, PBT, or Nylon 6.



Extruded Nylon 6/6 tubing is available in a variety of colors and sizes.

APPLICATIONS

- Catheter jacket
- Electrical insulation
- Furcation tubing
- Tether for GI sutures
- Fluid handling

AVAILABLE PRODUCTS

- Extruded tubing
- Custom profiles
- Multi-lumens
- Sub-Lite-Wall™ tubing
- Monofilament
- Spiral cut

QUICK SUMMARY OF PROPERTIES

- Superior abrasion resistance compared to Nylon 6
- Good fatigue resistance
- Class VI approved resins available
- High melting point (505 °F / 263 °C)
- Superior tenacity and elasticity
- Strongest aliphatic nylon



TENSILE STRENGTH



ABRASION RESISTANCE













MECHANICAL STRENGTH



NYLON 6/6

The information presented in this publication is believed to be accurate and is not intended to constitute a specification. Property characteristics are dramatically impacted by geometry and processing method, thus properties of extruded parts may vary. In some instances, data may not be available for publication and will be notated as "na" where applicable.

These tables are meant to serve as a general guideline only. Users should evaluate the material to determine suitability for their own particular application.

PHYSICAL		ASTM	Zytel ST801 NC010	Zytel 42A NC010
	Density (g/cc)	D792	1.08	1.14
	Water Absorption (%)	D570	1.2	1.2
	Oxygen Index (%)	D2863	na	na
MECHANICAL		ASTM		
	Ultimate Tensile Strength (MPa)	D638	52	86
	Elongation at Break (%)	D638	60	90
	Flexural Modulus (GPa)	D790	0.169	0.283
ELECTRICAL		ASTM		
	Volume Resistivity (Ω - cm)	D257	1.0×10^{14}	1.0×10^{15}
	Dielectric Constant 1 MHz	D150	3.2	4.0
THERMAL		ASTM		
	Thermal Conductivity (W/m - K)	C117	na	na
	Melt Temp ($^{\circ}\text{C}$)	D3418	263	263
T_g	Glass Temp ($^{\circ}\text{C}$)	D648	216	210