

NYLON 12 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 Nylon 12 family offers the lowest water absorption at approximately 2% at saturation, translating into good dimensional stability and electrical properties. Tougher than nylon 11, this family offers comparatively low density as well as good chemical and stress crack resistance. Tubing extruded from Nylon 12 can be colored in transparent and opaque colors and works well as a catheter shaft commonly used in medical applications. Amorphous grades of Nylon 12 offer more translucence, and lightly flexible grades also are available for applications requiring a smaller bend radius.



Extruded Nylon 12 tubing in a variety of colors and sizes.

APPLICATIONS

- Catheter jacket
- Electrical insulation
- Furcation tubing for fiber optics

AVAILABLE PRODUCTS

- Extruded tubing
- Custom profiles
- Multi-lumens
- Sub-Lite-Wall™ tubing
- Monofilament
- Spiral cut
- Clear and opaque products available

QUICK SUMMARY OF PROPERTIES

- Exceptional flexibility
- Low moisture absorption
- Chemically resistant
- USP Class VI approved material
- Stress cracking resistance
- Tougher than Nylon 11
- Comparatively low density
- FDA and BGA approved for food contact



TENSILE STRENGTH



FLEXURAL MODULUS



MOISTURE ABSORPTION



NYLON 12

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	Grilamid® TR55	Grilamid® TR55 LX	Grilamid® L25 NZ ESD	Vestamid® L2140	Rislan® AESNO
	Density (g/cc)	D792	1.06	1.04	1.02	1.01	na
	Water Absorption (%)	D570	1.5	1.0	1.1	0.7	0.8
MECHANICAL		ASTM					
	Ultimate Tensile Strength (MPa)	D638	75	70	35	47	48
	Elongation at Break (%)	D638	>50	>50	>50	>50	330
ELECTRICAL		ASTM					
	Volume Resistivity (Ω - cm)	D257	1.0×10^{11}	1.0×10^{11}	na	1.0×10^{15}	1.0×10^{14}
	Dielectric Strength (V/mil)	D149	31	32	32	26	30
THERMAL		ASTM					
	Melt Temp (°C)		160	110	178	178	177

