

Quadrant EPP Ertalon® 6XAU+ PA 6, heat stabilized, cast (ISO Data)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Cast

Material Notes:

Ertalon 6 XAU+ is a heat stabilized cast nylon grade with a very dense and highly crystalline structure. Compared with conventional extruded or cast nylons, Ertalon 6 XAU+ offers superior heat ageing performance in air (much better resistance to thermal-oxidative degradation), allowing 15-30 °C higher continuously allowable service temperatures. Ertalon 6 XAU+ is particularly recommended for bearings and other mechanical parts subject to wear which are operating in air for long periods of time at temperatures over 60 °C. High mechanical strength, stiffness, hardness and toughness Good fatigue resistance High mechanical damping ability Good sliding properties Excellent wear resistance Good electrical insulating properties Good resistance to high energy radiation (gamma- and X-rays) Good machinability

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Ertalon-6XAU-PA-6-heat-stabilized-cast-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	2.2 %	2.2 %	50% RH
Water Absorption at Saturation	6.5 %	6.5 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	87	87	ISO 2039-2
Hardness, Shore D	80	80	
Ball Indentation Hardness	165 MPa	23900 psi	ISO 2039-1
Tensile Strength	86.0 MPa	12500 psi	at Yield; ISO 527-1/-2
Elongation at Break	25 %	25 %	ISO 527-1/-2
Elongation at Yield	5.0 %	5.0 %	ISO 527-1/-2
Tensile Modulus	3.50 GPa	508 ksi	ISO 527-1/-2
Flexural Strength	122 MPa	17700 psi	
Flexural Modulus	3.31 GPa	480 ksi	
Compressive Strength	34.0 MPa	4930 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	64.0 MPa	9280 psi	ISO 604
	@Strain 2 %	@Strain 2 %	

Mechanical Properties	93.0 MPa Metric	13500 psi English	Comments
	@Strain 5 %	@Strain 5 %	
K Factor (ISO)	11 $\mu\text{m}/\text{km}$	11 $\mu\text{m}/\text{km}$	
Charpy Impact Unnotched	NB	NB	ISO 179-1/1eU
Charpy Impact, Notched	0.300 J/cm ²	1.43 ft-lb/in ²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.40 - 0.60	0.40 - 0.60	
Limiting Pressure Velocity	0.0900 MPa-m/sec	2570 psi-ft/min	at 1 m/s unlubricated
	0.140 MPa-m/sec	4000 psi-ft/min	at 0.1 m/s unlubricated

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 $\mu\text{m}/\text{m}\cdot\text{C}$	50.0 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 23.0 - 100 °C	@Temperature 73.4 - 212 °F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft ² -°F	
Melting Point	215 °C	419 °F	DSC, 10°C/min.; ISO 11357-1/-3
Maximum Service Temperature, Air	105 °C	221 °F	Continuous; 20,000 h
	120 °C	248 °F	Continuous; 5,000 h
Deflection Temperature at 1.8 MPa (264 psi)	80.0 °C	176 °F	ISO 75-1/-2
Flammability, UL94	HB	HB	
Oxygen Index	25 %	25 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.0\text{e}+14$ ohm-cm	$\geq 1.0\text{e}+14$ ohm-cm	IEC 60093
Surface Resistivity per Square	$\geq 1.0\text{e}+13$ ohm	$\geq 1.0\text{e}+13$ ohm	IEC 60093
Dielectric Constant	3.6	3.6	IEC 60250
	@Frequency ≥ 100000 Hz	@Frequency ≥ 100000 Hz	
Dielectric Strength	29.0 kV/mm	737 kV/in	
Dissipation Factor	0.015	0.015	IEC 60250
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

Electrical Properties	Metric	English	Comments
Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
European Food 1935/2004	No	No	
FDA	No	No	
USP Class VI	No	No	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Unacceptable	Unacceptable	
Acids, Weak	Limited	Limited	
Alcohols	Limited	Limited	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Limited	Limited	
Chlorinated Solvents	Limited	Limited	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

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