

## Quadrant EPP Ertalon® 6 PLA PA 6, cast (ISO Data)

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

### Material Notes:

Unmodified cast nylon 6 grade exhibiting characteristics which come very close to those of Ertalon 66 SA. It combines high strength, stiffness and hardness with good creep and wear resistance, heat ageing properties and machinability. 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-6-PLA-PA-6-cast-ISO-Data.php](http://www.lookpolymers.com/polymer_Quadrant-EPP-Ertalon-6-PLA-PA-6-cast-ISO-Data.php)

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in <sup>3</sup>	ISO 1183-1
Moisture Absorption at Equilibrium	2.2 %	2.2 %	50% RH
Water Absorption at Saturation	6.5 %	6.5 %	
Outgassing - Total Mass Loss	1.5 %	1.5 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	ISO 2039-2
Hardness, Shore D	80	80	
Ball Indentation Hardness	165 MPa	23900 psi	ISO 2039-1
Tensile Strength	88.0 MPa	12800 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	3.60 GPa	522 ksi	ISO 527-1/-2
Flexural Strength	121 MPa	17500 psi	
Flexural Modulus	3.28 GPa	476 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 %	
	93.0 MPa	13500 psi	ISO 604
	@Strain 5 %	@Strain 5 %	

Mechanical Properties	Metric	English	Comments
Charpy Impact Unnotched	NB	NB	ISO 179-1/1eU
Charpy Impact, Notched	0.300 J/cm <sup>2</sup>	1.43 ft-lb/in <sup>2</sup>	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.40 - 0.60	0.40 - 0.60	
Limiting Pressure Velocity	0.0800 MPa-m/sec	2280 psi-ft/min	at 1 m/s unlubricated
	0.130 MPa-m/sec	3710 psi-ft/min	at 0.1 m/s unlubricated

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 µm/m-°C @Temperature 23.0 - 100 °C	50.0 µin/in-°F @Temperature 73.4 - 212 °F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	215 °C	419 °F	DSC, 10°C/min.; ISO 11357-1/-3
Maximum Service Temperature, Air	90.0 °C	194 °F	Continuous; 20,000 h
	105 °C	221 °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	>= 1.0e+14 ohm-cm	>= 1.0e+14 ohm-cm	IEC 60093
Surface Resistivity per Square	>= 1.0e+13 ohm	>= 1.0e+13 ohm	IEC 60093
Dielectric Constant	3.6 @Frequency >=100000 Hz	3.6 @Frequency >=100000 Hz	IEC 60250
Dielectric Strength	25.0 kV/mm	635 kV/in	
Dissipation Factor	0.012 @Frequency 100000 Hz	0.012 @Frequency 100000 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	IEC 60112

Compliance Properties	Metric	English	Comments
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Compliance Properties	Metric	English	Comments
European Food 1935/2004	No	No	
FDA	Yes	Yes	natural and blue
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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