

Quadrant EPP Nylatron® 703XL PA 6 + internal lubricant, cast (ISO Data)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Glass Fiber/Solid Lube Filled

Material Notes:

This high performance cast nylon 6 bearing grade provides an even better wear resistance than Nylatron NSM, combined with good pressure-velocity capabilities and a near zero level of "stick-slip". The elimination of stick-slip, mostly associated with chatter or squeaking, provides an amount of motion control for high-precision applications. 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-Nylatron-703XL-PA-6-internal-lubricant-cast-ISO-Data.php

Physical Properties	Metric	English	Comments
Density	1.11 g/cc	0.0401 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	2.0 %	2.0 %	50% RH
Water Absorption at Saturation	6.3 %	6.3 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	59	59	ISO 2039-2
Hardness, Shore D	73	73	
Ball Indentation Hardness	120 MPa	17400 psi	ISO 2039-1
Tensile Strength	60.0 MPa	8700 psi	at Yield; ISO 527-1/-2
Elongation at Break	15 %	15 %	ISO 527-1/-2
Elongation at Yield	6.0 %	6.0 %	ISO 527-1/-2
Tensile Modulus	2.75 GPa	399 ksi	ISO 527-1/-2
Compressive Strength	26.0 MPa	3770 psi	ISO 604
	@Strain 1 %	@Strain 1 %	
	48.0 MPa	6960 psi	
	@Strain 2 %	@Strain 2 %	ISO 604
	69.0 MPa	10000 psi	ISO 604
	@Strain 5 %	@Strain 5 %	
K Factor (ISO)	2.5 µm/km	2.5 µm/km	
Charpy Impact Unnotched	2.50 J/cm ²	11.9 ft-lb/in ²	ISO 179-1/1eU

Mechanical Properties	Metric	English	Comments
Coefficient of Friction, Dynamic	0.12 - 0.18	0.12 - 0.18	
Limiting Pressure Velocity	0.300 MPa-m/sec	8570 psi-ft/min	at 1 m/s unlubricated
	0.480 MPa-m/sec	13700 psi-ft/min	at 0.1 m/s unlubricated

Thermal Properties	Metric	English	Comments
CTE, linear	100 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	55.6 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 23.0 - 100 $^\circ\text{C}$	@Temperature 73.4 - 212 $^\circ\text{F}$	
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft ² - $^\circ\text{F}$	
Melting Point	215 $^\circ\text{C}$	419 $^\circ\text{F}$	DSC, 10 $^\circ\text{C}/\text{min}$.; ISO 11357-1/-3
Maximum Service Temperature, Air	90.0 $^\circ\text{C}$	194 $^\circ\text{F}$	Continuous; 20,000 h
	105 $^\circ\text{C}$	221 $^\circ\text{F}$	Continuous; 5,000 h
Deflection Temperature at 1.8 MPa (264 psi)	70.0 $^\circ\text{C}$	158 $^\circ\text{F}$	ISO 75-1/-2
Flammability, UL94	HB	HB	
Oxygen Index	$\leq 20\%$	$\leq 20\%$	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

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	

Chemical Resistance Properties	Metric	English	Comments
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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