

Nylatron® LFG

Nylatron LFG (Lubricated Food Grade) is self-lubricating in the real meaning of the word, and has a FDA food contact compliant composition. The Nylatron LFG has been specially developed for non-lubricated, highly loaded and slowly moving parts in food contact applications. Compared to standard cast nylons, it offers lower maintenance costs and longer service life.

		ISO*			ASTM*		
		Test methods	Units	Indicative Values	Test methods	Units	Indicative Values
Thermal Properties (1)	Melting temperature (DSC, 10°C (50°F) / min)	ISO 11357-1/-3	°C	215	ASTM D3418	°F	420
	Glass transition temperature (DSC, 20°C (68°F) / min) (2)	ISO 11357-1/-2	°C	-	ASTM D3418	°F	-
	Thermal conductivity at 23°C (73°F)	-	W/(K.m)	0.28	-	BTU in/(hr.ft².°F)	-
	Coefficient of linear thermal expansion (-40 to 150 °C) (-40 to 300°F)	-			ASTM E-831 (TMA)	in./in./°F	5,6,E-05
	Coefficient of linear thermal expansion (23 to 60°C) (73°F to 140°F)	-	ml/(m.K)	80 x 10-6			
	Coefficient of linear thermal expansion (23 to 100°C) (73°F to 210°F)	-	ml/(m.K)	90 x 10-6			
	Heat Deflection Temperature: method A: 1.8 MPa (264 PSI)	ISO 75-1/-2	°C	75	ASTM D648	°F	200
	Continuous allowable service temperature in air (20.000 hrs) (3)	-	°C	90	-	°F	220
	Min. service temperature (4)	-	°C	-20			
Flammability: UL 94 (3 mm (1/8 in.)) (5)	-	-	HB	-	-	HB	
Flammability: Oxygen Index	ISO 4589-1/-2	%	-				
Mechanical Properties (6)	Tensile stress at yield / tensile stress at break	ISO 527-1/-2 (7)	MPa	73 / -			
	Tensile strength	ISO 527-1/-2 (7)	MPa	73	ASTM D638 (8)	PSI	9.900
	Tensile strain (elongation) at yield	ISO 527-1/-2 (7)	%	5			
	Tensile strain (elongation) at break	ISO 527-1/-2 (7)	%	25	ASTM D638 (8)	%	50
	Tensile modulus of elasticity	ISO 527-1/-2 (9)	MPa	3000	ASTM D638 (8)	PSI	465.000
	Shear Strength				ASTM D732	PSI	9.300
	Compressive stress at 1 / 2 / 5 % nominal strain	ISO 604 (10)	MPa	31 / 58 / 85			
	Compressive stress at 10% nominal strain				ASTM D695 (11)	PSI	13.500
	Charpy impact strength - unnotched	ISO 179-1/1eU	kJ/m²	50			
	Charpy impact strength - notched	ISO 179-1/1eA	kJ/m²	4			
	Izod Impact notched				ASTM D256	ft.lb./in	1,5
	Flexural strength	ISO 178 (12)	MPa	107	ASTM D790 (13)	PSI	15.000
	Flexural modulus of elasticity				ASTM D790	PSI	525.000
	Ball indentation hardness (14)	ISO 2039-1	N/mm²	145			
	Rockwell hardness (14)	ISO 2039-2	-	M 82	ASTM D785	-	M 82
Shore hardness D (14)	ISO 868	-	76	ASTM D2240	-	-	
Electrical Properties	Electric strength	IEC 60243-1 (15)	kV/mm	22	ASTM D149	Volts/mil	-
	Volume resistivity	IEC 60093	Ohm.cm	> 10 14	IEC 60093	Ohm.cm	> 10 14
	Surface resistivity	ANSI/ESD STM 11.11	Ohm/sq.	> 10 13	ANSI/ESD STM 11.11	Ohm/sq.	> 10 13
	Dielectric constant at 1 MHz	IEC 60250	-	3,1	ASTM D150	-	-
	Dissipation factor at 1 MHz	IEC 60250	-	0,016	ASTM D150	-	-
Miscellaneous	Colour	-	-	natural [ivory] / blue	-	-	natural [ivory] / blue
	Density	ISO 1183-1	g/cm³	1.135			
	Specific Gravity				ASTM D792	-	1,14
	Water absorption after 24h immersion in water of 23°C (73°F)	ISO 62 (16)	%	0,66	ASTM D570 (17)	%	0,3
	Water absorption at saturation in air of 23 °C (73°F) / 50 % RH	-	%	2,000			
	Water absorption at saturation in water of 23 °C (73°F)	-	%	6,3	ASTM D570 (17)	%	6,0
	Wear rate	ISO 7148-2:1999 (18)	µm/km	6	QTM 55010 (19)	ln³.min/ft.lbs.hr	7,2.E-09
	Dynamic Coefficient of Friction (-)	ISO 7148-2:1999 (18)	-	0.22-0.35	QTM 55007 (20)	-	0,14
	Limiting PV at 100 FPM (safety factor 4)				QTM 55007 (21)	ft.lbs/in².min	6.000
	Limiting PV at 0.1 / 1 m/s cylindrical sleeve bearings (safety factor 4)	-	Mpa.m/s	0.23/0.15			
	Chemical Resistance	http://www.quadrantplastics.com/eu-en/support/chemical-resistance-information.html			http://www.quadrantplastics.com/na-en/support/chemical-resistance-information.html		

Note: 1 g/cm³ = 1,000 kg/m³; 1 MPa = 1 N/mm²; 1 kV/mm = 1 MV/m

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