LNP™ LUBRICOMP™ COMPOUND RL004

RL-4040

DESCRIPTION

LNP LUBRICOMP RL004 is a copmpound based on Nylon 66 resin containing 20% PTFE. Added feature of this grade includes: Wear Resistant.

INDUSTRY	SUB INDUSTRY
Building and Construction	Water Management
Consumer	Home Appliances, Commercial Appliance
Electrical and Electronics	Electrical Devices and Displays, Electrical Components and Infrastructure
Healthcare	Pharmaceutical
Hydrocarbon and Energy	Fossil
Industrial	Textile

TYPICAL PROPERTY VALUES

Revision 20191223

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Modulus, 5 mm/min	3000	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	6.7	%	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	71	MPa	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	2450	MPa	ASTM D 790
Flexural Strength, 1.3 mm/min, 50 mm span	91	MPa	ASTM D 790
Hardness, Rockwell M	56	-	ASTM D 785
Hardness, Rockwell R	110	-	ASTM D 785
Tensile Modulus, 1 mm/min	2900	MPa	ISO 527
Tensile Strain, break, 5 mm/min	9.4	%	ISO 527
Tensile Stress, break, 5 mm/min	65	MPa	ISO 527
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
Flexural Modulus, 2 mm/min, 60°C	1400	MPa	ISO 178
Flexural Modulus, 2 mm/min, 100°C	700	MPa	ISO 178
Flexural Strain, break, 2 mm/min	7	%	ISO 178
Flexural Strain, break, 2 mm/min, 60°C	7	%	ISO 178
Flexural Strain, break, 2 mm/min, 100°C	7	%	ISO 178
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Stress, yield, 2 mm/min, 60°C	35	MPa	ISO 178
Flexural Stress, yield, 2 mm/min, 100°C	18	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	35	J/m	ASTM D 256
Izod Impact, unnotched, 23°C	600	J/m	ASTM D 4812
Instrumented Impact Total Energy, 23°C	4	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	5	kJ/m²	ISO 179/1eA

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	65	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	240	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	239	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	70	°C	ASTM D 648
CTE, -30°C to 30°C, flow	9.0E-05	1/°C	ASTM D 696
CTE, -30°C to 30°C, xflow	8.8E-05	1/°C	ASTM D 696
CTE, 23°C to 60°C, flow	9.7E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	1.2E-04	1/°C	ISO 11359-2
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	70	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	201	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/120	230	°C	ISO 306
Vicat Softening Temp, Rate B/50	240	°C	ISO 306
Relative Temp Index, Elec [1]	65	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	65	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	65	°C	UL 746B
PHYSICAL			
Density	1.25	g/cm³	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.8 – 1.2	%	ASTM D 570
Water Absorption, 24 hours	1 – 1.2	%	ASTM D 570
Dynamic COF	0.27	-	ASTM D 3702 Modified: Manual
Static COF	0.2	-	ASTM D 3702 Modified: Manual
Wear Factor Washer	21	10^-10 in^5-min/ft-lb-hr	ASTM D 3702 Modified: Manual
Density	1.25	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.8 – 1.2	%	ISO 62
Water Absorption, 23°C/24hrs	1 – 1.2	%	ISO 62-1
Melt Volume Rate, MVR at 275°C/2.16 kg	24 – 32	cm³/10 min	ISO 1133
Mold Shrinkage, flow	1 – 3	%	SABIC method
Mold Shrinkage, xflow	1 – 3	%	SABIC method
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E121562-101282879	-	-
UL Yellow Card Link 2	E45329-101344479	-	-
UL Recognized, 94HB Flame Class Rating	1.5	mm	UL 94
INJECTION MOLDING			
Drying Temperature	80	°C	
Drying Time	4	hrs	
Maximum Moisture Content	0.15 – 0.25	%	
Melt Temperature	275 – 290	°C	
Rear - Zone 1 Temperature	265 – 275	°C	
Middle - Zone 2 Temperature	280 – 295	°C	
Front - Zone 3 Temperature	295 – 305	°C	
Mold Temperature	80 – 95	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 60	rpm	

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(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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