LNP™ LUBRICOMP™ COMPOUND KAL22

KAL-4022

DESCRIPTION

LNP LUBRICOMP KAL22 is a compound based on Acetal Copolymer resin containing 10% PTFE, 10% Aramid Fiber. Added feature of this material is: Wear Resistant.

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Under the Hood
Building and Construction	Outdoor, Lawn and Landscape

TYPICAL PROPERTY VALUES

Revision 20191223

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Modulus, 5 mm/min	3500	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	7.4	%	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	6.5	%	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	58	MPa	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	3400	MPa	ASTM D 790
Flexural Strength, 1.3 mm/min, 50 mm span	83	MPa	ASTM D 790
Tensile Modulus, 1 mm/min	3400	MPa	ISO 527
Tensile Strain, break, 5 mm/min	6.5	%	ISO 527
Tensile Strain, yield, 5 mm/min	5.9	%	ISO 527
Tensile Stress, yield, 5 mm/min	62	MPa	ISO 527
Flexural Modulus, 2 mm/min	3300	MPa	ISO 178
Flexural Strength, 2 mm/min	88	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	45	J/m	ASTM D 256
Izod Impact, unnotched, 23°C	540	J/m	ASTM D 4812
Izod Impact, notched 80*10*4 +23°C	9	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	40	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	53	kJ/m²	ISO 179/1eU
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	162	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D 648
CTE, 23°C to 60°C, flow	7.7E-05	1/°C	ASTM E 831
CTE, 23°C to 60°C, xflow	1.2E-04	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/50	152	°C	ASTM D 1525
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	104	°C	ISO 75/Af
HDT/Af, 0.45 MPa Flatw 80*10*4 sp=64mm	152	°C	ISO 75/Cf
Vicat Softening Temp, Rate B/120	153	°C	ISO 306
Vicat Softening Temp, Rate B/50	152	°C	ISO 306

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 60°C, flow	7.7E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	1.2E-04	1/°C	ISO 11359-2
PHYSICAL			
Specific Gravity	1.46	-	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.1	%	ASTM D 570
Water Absorption, 24 hours	0.2 – 0.4	%	ASTM D 570
Dynamic COF	0.19	-	ASTM D 3702 Modified: Manual
Static COF	0.22	-	ASTM D 3702 Modified: Manual
Wear Factor Washer	29	10^-10 in^5-min/ft-lb-hr	ASTM D 3702 Modified: Manual
Melt Flow Rate, 230°C/10 kgf	13	g/10 min	ASTM D1238
Density	1.46	g/cm³	ISO 1183
Water Absorption, 23°C/24hrs	0.2 – 0.4	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 230°C/10.0 kg	11	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	E45329-101344678	-	-
UL Recognized, 94HB Flame Class Rating	≥0.8	mm	UL 94
INJECTION MOLDING			
Drying Temperature	80	°C	
Drying Time	4	hrs	
Melt Temperature	200 – 215	°C	
Rear - Zone 1 Temperature	175 – 190	°C	
Middle - Zone 2 Temperature	195 – 205	°C	
Front - Zone 3 Temperature	210 – 220	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 60	rpm	

(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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