LNP™ LUBRICOMP™ COMPOUND KAL22

KAL-4022

DESCRIPTION

LNP LUBRICOMP KAL22 compound is based on Acetal (POM) Copolymer resin containing 10% PTFE, 10% aramid fiber. Added features of this grade include: Wear Resistant.

GENERAL INFORMATION	
Features	Wear resistant
Fillers	Aramid Fiber, PTFE
Polymer Types	Acetal (POM) Copolymer
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Modulus, 5 mm/min	3500	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	7.4	%	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	6.5	%	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	58	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	3400	MPa	ASTM D790
Flexural Strength, 1.3 mm/min, 50 mm span	83	MPa	ASTM D790
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 [1]			
Izod Impact, notched, 23°C	45	J/m	ASTM D256
Izod Impact, unnotched, 23°C	540	J/m	ASTM D4812
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 [1]			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 0.45 MPa, 3.2 mm, unannealed	162	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D648
CTE, 23°C to 60°C, flow	7.7E-05	1/°C	ASTM E831
CTE, 23°C to 60°C, xflow	1.2E-04	1/°C	ASTM E831
Vicat Softening Temp, Rate B/50	152	°C	ASTM D1525
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	104	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	152	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/120	153	°C	ISO 306
Vicat Softening Temp, Rate B/50	152	°C	ISO 306
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 [1]			
Specific Gravity	1.46	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.1	%	ASTM D570
Water Absorption, (23°C/24hrs)	0.2 – 0.4	%	ASTM D570
Dynamic COF	0.19	-	ASTM D3702 Modified: Manual
Static COF	0.22	-	ASTM D3702 Modified: Manual
Wear Factor Washer	29	10^-10 in^5-min/ft-lb-hr	ASTM D3702 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 [2]	1 – 3	%	SABIC method
Mold Shrinkage, xflow [2]	1 – 3	%	SABIC method
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E45329-101344678	-	-
UL Yellow Card Link 2	E207780-102991912	-	-
UL Recognized, 94HB Flame Class Rating	≥0.8	mm	UL 94
INJECTION MOLDING [4]			
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) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) 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.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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