LNP™ LUBRICOMP™ COMPOUND IAL12

IAL-4012

DESCRIPTION

LNP LUBRICOMP IAL12 compound is based on Nylon 6/12 resin containing 5% PTFE, 10% aramid fiber. Added features of this grade include: Wear Resistant.

GENERAL INFORMATION	
Features	Wear resistant
Fillers	Aramid Fiber, PTFE
Polymer Types	Polyamide 612 (Nylon 612)
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 Strain, yield, 5 mm/min	8.2	%	ISO 527
Tensile Stress, break, 5 mm/min	63	MPa	ISO 527
Tensile Strain, break, 5 mm/min	8.8	%	ISO 527
Tensile Modulus, 1 mm/min	2920	MPa	ISO 527
Flexural Modulus, 2 mm/min	3630	MPa	ISO 178
Flexural Strength, 2 mm/min	74	MPa	ISO 178
Tensile Strain, yld, Type I, 5 mm/min	8.1	%	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	65	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	8.6	%	ASTM D638
Tensile Modulus, 5 mm/min	3100	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	2840	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	2	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	38	kJ/m²	ISO 180/1U
Multiaxial Impact	1	J	ISO 6603
Izod Impact, notched, 23°C	40	J/m	ASTM D256
Izod Impact, unnotched, 23°C	440	J/m	ASTM D4812
Instrumented Dart Impact Total Energy, 23°C	4	J	ASTM D3763
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	172	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	90	°C	ISO 75/Af

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 0.45 MPa, 3.2 mm, unannealed	187	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	100	°C	ASTM D648
CTE, -30°C to 30°C, flow	8.6E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	1.1E-04	1/°C	ASTM D696
PHYSICAL (1)			
Density	1.12	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.32	%	ISO 62
Specific Gravity	1.13	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.21	%	ASTM D570
Mold Shrinkage, flow, 24 hrs (2)	1 – 3	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs (2)	2 – 4	%	ASTM D955
Wear Factor Washer	31	10^-10 in^5-min/ft-lb-hr	ASTM D3702 Modified: Manual
Wear Factor Ring	0	10^-10 in^5-min/ft-lb-hr	ASTM D3702 Modified: Manual
Dynamic COF	0.45	-	ASTM D3702 Modified: Manual
Static COF	0.4	-	ASTM D3702 Modified: Manual
INJECTION MOLDING (3)			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.12 – 0.2	%	
Melt Temperature	270 – 275	°C	
Front - Zone 3 Temperature	270 – 280	°C	
Middle - Zone 2 Temperature	260 – 270	°C	
Rear - Zone 1 Temperature	255 – 265	°C	
Mold Temperature	65 – 95	°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) 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.

DISCLAIMER