

LNPTTM LUBRICOMPTM COMPOUND QCL349

QCL-4034 FR-1

DESCRIPTION

LNP LUBRICOMP QCL349 compound is based on Nylon 6/10 resin containing 15% PTFE, 20% carbon fiber. Added features of this grade include: Wear Resistant, Flame Retardant, Electrically Conductive.

GENERAL INFORMATION	
Features	Flame Retardant, Electrically Conductive, Wear resistant, Carbon fiber filled, High stiffness/Strength
Fillers	Carbon Fiber, PTFE
Polymer Types	Polyamide 610 (Nylon 610)
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 Stress, yield	162	MPa	ISO 527
Tensile Stress, break	162	MPa	ISO 527
Tensile Strain, yield	1.6	%	ISO 527
Tensile Strain, break	1.6	%	ISO 527
Tensile Modulus, 1 mm/min	15750	MPa	ISO 527
Flexural Stress	239	MPa	ISO 178
Flexural Modulus	13000	MPa	ISO 178
Tensile Stress, yield	168	MPa	ASTM D638
Tensile Stress, break	158	MPa	ASTM D638
Tensile Strain, yield	1.8	%	ASTM D638
Tensile Strain, break	1.9	%	ASTM D638
Tensile Modulus, 50 mm/min	16540	MPa	ASTM D638
Flexural Stress	241	MPa	ASTM D790
Flexural Modulus	13100	MPa	ASTM D790
IMPACT ⁽¹⁾			
Izod Impact, notched 80°10*4 +23°C	5	kJ/m ²	ISO 180/1A
Izod Impact, unnotched 80°10*4 +23°C	32	kJ/m ²	ISO 180/1U
Multiaxial Impact	2	J	ISO 6603
Izod Impact, notched, 23°C	53	J/m	ASTM D256
Izod Impact, unnotched, 23°C	534	J/m	ASTM D4812

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Instrumented Dart Impact Energy @ peak, 23°C	4	J	ASTM D3763
THERMAL ⁽¹⁾			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	218	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	198	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	1.90E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.70E-05	1/°C	ISO 11359-2
HDT, 0.45 MPa, 3.2 mm, unannealed	217	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	200	°C	ASTM D648
CTE, -40°C to 40°C, flow	1.98E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.58E-05	1/°C	ASTM E831
Relative Temp Index, Elec ⁽²⁾	65	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	65	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽²⁾	65	°C	UL 746B
PHYSICAL ⁽¹⁾			
Density	1.52	g/cm ³	ISO 1183
Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.11	%	ISO 294
Mold Shrinkage, xflow, 24 hrs ⁽³⁾	0.78	%	ISO 294
Density	1.52	g/cm ³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.1	%	ASTM D570
Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.1	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs ⁽³⁾	0.8	%	ASTM D955
Wear Factor Washer	444	10 ⁻⁴ in ⁵ -min/ft-lb-hr	ASTM D3702 Modified: Manual
Dynamic COF	0.34	-	ASTM D3702 Modified: Manual
Static COF	0.28	-	ASTM D3702 Modified: Manual
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E121562-101343442	-	-
UL Yellow Card Link 2	E207780-103093570	-	-
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
INJECTION MOLDING ⁽⁴⁾			
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	250 – 260	°C	
Mold Temperature	80 – 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) 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.

(3) 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.

(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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