

LNPTM STAT-LOY™ Compound D30009

DESCRIPTION

LNP STAT-LOY D30009 compound is a Polycarbonate (PC) resin based electrically conductive material with colorability, low surface resistivity, flame retardant, and good surface quality. This material is targeted for explosive proof application.

GENERAL INFORMATION	
Features	Flame Retardant, Electrically Conductive
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components

TYPICAL PROPERTY VALUES

Revision 20261009

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 50 mm/min	46	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	30	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4.5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	>20	%	ASTM D638
Tensile Modulus, 5 mm/min	1820	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	70	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	1800	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	45	MPa	ISO 527
Tensile Stress, break, 50 mm/min	30	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.5	%	ISO 527
Tensile Strain, break, 50 mm/min	>20	%	ISO 527
Tensile Modulus, 1 mm/min	1800	MPa	ISO 527
Flexural Strength, 2 mm/min	68	MPa	ISO 178
Flexural Modulus, 2 mm/min	1780	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod impact, notched			
23°C	600	J/m	ASTM D256
-20°C	230	J/m	ASTM D256
-30°C	100	J/m	ASTM D256
80°10°3 +23°C	62	kJ/m²	ISO 180/1A
80°10°3 -30°C	10	kJ/m²	ISO 180/1A
80°10°4 +23°C	65	kJ/m²	ISO 180/1A
80°10°4 -30°C	13	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm	83	kJ/m²	ISO 179/1eA

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	9	kJ/m²	ISO 179/1eA
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	89	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
Instrumented Dart Impact Total Energy, 23°C	39	J	ASTM D3763
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 3.2 mm, unannealed	122	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	106	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	123	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	103	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	7.20E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.70E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate A/50	138	°C	ISO 306
Vicat Softening Temp, Rate B/50	113	°C	ISO 306
Vicat Softening Temp, Rate B/120	113	°C	ISO 306
PHYSICAL ⁽¹⁾			
Specific Gravity	1.33	-	ASTM D792
Melt Flow Rate			
260°C/1.2 kgf	10	g/10 min	ASTM D1238
260°C/2.16 kgf	18.5	g/10 min	ASTM D1238
Melt Volume Rate			
300°C/1.2 kg	9	cm³/10 min	ISO 1133
260°C/2.16 kg	16	cm³/10 min	ISO 1133
Water Absorption, (23°C/saturated)	0.85	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.13	%	ISO 62
Mold Shrinkage, flow, 3.2 mm ⁽²⁾	0.3 – 0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm ⁽²⁾	0.3 – 0.6	%	SABIC method
ELECTRICAL ⁽¹⁾			
Surface Resistivity	5.0E+10	Ω/sq	ASTM D257
Volume Resistivity	4.3E+10	Ω.cm	ASTM D257
Surface Resistance	9.5E+08	Ω	ASTM D257
Dielectric Constant			
1.1 GHz	3.3	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0355	-	SABIC method
FLAME CHARACTERISTICS ⁽³⁾			
UL Yellow Card Link	E207780-10400348	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	70 – 80	°C	
Drying Time	6 – 8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	225 – 255	°C	
Nozzle Temperature	225 – 255	°C	
Front - Zone 3 Temperature	225 – 255	°C	
Middle - Zone 2 Temperature	220 – 250	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Rear - Zone 1 Temperature	220 – 250	°C	
Mold Temperature	40 – 60	°C	
Back Pressure	0.1 – 0.5	MPa	
Screw Speed	30 – 70	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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