LNP™ STAT-LOY™ COMPOUND D3000I

DESCRIPTION

LNP STAT-LOY D3000I compound is a Polycarbonate (PC) resin based electrically conductive material with colorability, low surface resistivity, high HDT, low temperature impact toughness and good surface quality. This material is targeted for explosive proof application.

GENERAL INFORMATION	
Features	Antistatic, Impact resistant, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components

TYPICAL PROPERTY VALUES

Revision 20251112

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 50 mm/min	46.7	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	83.59	%	ASTM D638
Tensile Modulus, 50 mm/min	1888	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	70.1	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	1730	MPa	ASTM D790
Tensile Stress, break, 50 mm/min	44.2	MPa	ISO 527
Tensile Strain, break, 50 mm/min	81.28	%	ISO 527
Tensile Modulus, 1 mm/min	1873	MPa	ISO 527
Flexural Strength, 2 mm/min	71.2	MPa	ISO 178
Flexural Modulus, 2 mm/min	1862	MPa	ISO 178
IMPACT [1]			
Izod Impact			
notched, 23°C	669	J/m	ASTM D256
unnotched, 23°C	NB	J/m	ASTM D4812
notched, -30°C	505	J/m	ASTM D256
unnotched, -30°C	NB	J/m	ASTM D4812
notched, -40°C	237	J/m	ASTM D256
unnotched, -40°C	NB	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	65.21	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	60.58	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	121	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	105	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	124	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	115	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	121	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	100	°C	ISO 75/Af
CTE			
-40°C to 80°C, flow	8.1E-5	1/°C	ASTM E831
-40°C to 80°C, xflow	9.9E-5	1/°C	ASTM E831
-40°C to 80°C, flow	7.8E-5	1/°C	ISO 11359-2
-40°C to 80°C, xflow	1.0E-4	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/120	121	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	120	°C	ISO 306
PHYSICAL [1]			
Specific Gravity	1.18	-	ASTM D792
Melt Flow Rate, 260°C/1.2 kgf	13.7	g/10 min	ASTM D1238
Moisture Absorption (23°C / 50% RH)	0.14	%	ISO 62
Mold Shrinkage, flow [2]	0.73	%	SABIC method
Mold Shrinkage, xflow [2]	0.93	%	SABIC method
ELECTRICAL [1]			
Surface Resistivity	2.8E+10	Ω/sq	ASTM D257
Volume Resistivity	5.4E+10	Ω.cm	ASTM D257
Surface Resistance	5.2E+08	Ω	ASTM D257
Dielectric Constant, 1.1 GHz	3.02	-	SABIC method
Dissipation Factor, 1.1 GHz	0.03358	-	SABIC method
Dielectric Constant, 1.9 GHz	2.96	-	SABIC method
Dissipation Factor, 1.9 GHz	0.03144	-	SABIC method
Dielectric Constant, 5 GHz	2.93	-	SABIC method
Dissipation Factor, 5 GHz	0.02694	-	SABIC method
Dielectric Constant, 10 GHz	2.95	-	SABIC method
Dissipation Factor, 10 GHz	0.02242	-	SABIC method
Dielectric Constant, 20 GHz	2.77	-	SABIC method
Dissipation Factor, 20 GHz	0.02251	-	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	75 – 80	°C	
Drying Time	6 – 8	Hrs	
Melt Temperature	240 – 260	°C	
Nozzle Temperature	240 – 260	°C	
Front - Zone 3 Temperature	240 – 260	°C	
Middle - Zone 2 Temperature	240 – 260	°C	
Rear - Zone 1 Temperature	240 – 260	°C	
Mold Temperature	40 – 60	°C	

(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.

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