LNP™ STAT-LOY™ COMPOUND A3000TC

DESCRIPTION

LNP STAT-LOY A3000TC compound is a ABS resin based electrically conductive material with transparency, low surface resistivity and high cleanliness. Added features of this grade include LNP Clean Compounding Technology. This material is targeted for jigs, fixtures and boxes for semi-conductor/electronics handling industry.

GENERAL INFORMATION	
Features	Antistatic, Transparent/Translucent, Low ionics/Outgassing/Liquid particle count, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Acrylonitrile Butadiene Styrene (ABS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components
Industrial	Electrical, Material Handling

TYPICAL PROPERTY VALUES

Revision 20240716

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 50 mm/min	29.8	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	24.3	%	ASTM D638
Tensile Modulus, 50 mm/min	2040	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	55.6	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	1800	MPa	ASTM D790
Tensile Stress, break, 50 mm/min	30	MPa	ISO 527
Tensile Strain, break, 50 mm/min	20.3	%	ISO 527
Tensile Modulus, 1 mm/min	2010	MPa	ISO 527
Flexural Strength, 2 mm/min	55.1	MPa	ISO 178
Flexural Modulus, 2 mm/min	1874	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	138	J/m	ASTM D256
Izod Impact, unnotched, 23°C	1610	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	11.6	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	108.3	kJ/m²	ISO 180/1U
Charpy			
23°C, V-notch Edgew 80*10*4 sp=62mm	12.25	kJ/m²	ISO 179/1eA
23°C, Unnotch Edgew 80*10*4 sp=62mm	95.64	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	79.2	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	68.9	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	75.8	°C	ISO 75/Bf

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	65.3	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	9.1E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	11.5E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	9.0E-5	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	12.1E-5	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/120	80.6	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	80.9	°C	ISO 306
PHYSICAL (1)			
Specific Gravity	1.11	-	ASTM D792
Melt Flow Rate, 260°C/1.2 kgf	12.1	g/10 min	ASTM D1238
Water Absorption, (23°C/24hrs)	0.17	%	ASTM D570
Moisture Absorption (23°C / 50% RH)	0.58	%	ISO 62
Mold Shrinkage, flow (2)	0.73	%	SABIC method
Mold Shrinkage, xflow (2)	0.84	%	SABIC method
OPTICAL			
Light Transmission, 1.0 mm	88.4	%	ASTM D1003
Haze, 1.0 mm	8.3	%	ASTM D1003
ELECTRICAL (1)			
Surface Resistivity	6.3E+9	Ω	ASTM D257
Volume Resistivity	3.1E+10	Ω.cm	ASTM D257
Dielectric Constant, 1.1 GHz	2.82	-	SABIC method
Dissipation Factor, 1.1 GHz	0.03593	-	SABIC method
Dielectric Constant, 1.9 GHz	2.81	-	SABIC method
Dissipation Factor, 1.9 GHz	0.03966	-	SABIC method
Dielectric Constant, 5 GHz	2.75	-	SABIC method
Dissipation Factor, 5 GHz	0.03223	-	SABIC method
Dielectric Constant, 10 GHz	2.76	-	SABIC method
Dissipation Factor, 10 GHz	0.02348	-	SABIC method
Dielectric Constant, 20 GHz	2.62	-	SABIC method
Dissipation Factor, 20 GHz	0.03636	-	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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