LNP™ STAT-LOY™ Compound AF3009

AF-FR

DESCRIPTION

LNP STAT-LOY AF3009 compound is based on Acrylonitrile Butadiene Styrene (ABS) resin containing 10% glass fiber. Added features of this grade include: Permanently Anti-Static, Flame Retardant.

GENERAL INFORMATION	
Features	Flame Retardant, Antistatic, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Acrylonitrile Butadiene Styrene (ABS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components
Industrial	Material Handling

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield, 5 mm/min	43	MPa	ISO 527
Tensile Stress, break, 5 mm/min	42	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1.8	%	ISO 527
Tensile Strain, break, 5 mm/min	1.9	%	ISO 527
Tensile Modulus, 1 mm/min	3620	MPa	ISO 527
Flexural Strength, 2 mm/min	61	MPa	ISO 178
Flexural Modulus, 2 mm/min	3200	MPa	ISO 178
Tensile Stress, yld, Type I, 5 mm/min	43	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	42	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	1.8	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Modulus, 5 mm/min	4130	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	59	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3450	MPa	ASTM D790
IMPACT [1]			
Izod Impact, unnotched 80*10*4 +23°C	15	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	3	kJ/m²	ISO 180/1A
Multiaxial Impact	1	J	ISO 6603
Izod Impact, notched, 23°C	32	J/m	ASTM D256
Izod Impact, unnotched, 23°C	224	J/m	ASTM D4812
Instrumented Dart Impact Energy @ peak, 23°C	4	J	ASTM D3763
THERMAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	98	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	90	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	6.20E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.40E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, flow	6.20E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	9.40E-05	1/°C	ISO 11359-2
HDT, 0.45 MPa, 3.2 mm, unannealed	96	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	87	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.12E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	9.36E-05	1/°C	ASTM E831
PHYSICAL (1)			
Density	1.31	g/cm³	ISO 1183
Mold Shrinkage, flow, 24 hrs (2)	0.93	%	ISO 294
Mold Shrinkage, xflow, 24 hrs (2)	1	%	ISO 294
Density	1.31	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	2	%	ASTM D570
Mold Shrinkage, flow, 24 hrs (2)	0.8 – 1	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs (2)	0.9 – 1.1	%	ASTM D955
ELECTRICAL (1)			
Surface Resistivity (3)	1.E+10 – 1.E+12	Ω	ASTM D257
FLAME CHARACTERISTICS			
UL Compliant, 94V-0 Flame Class Rating (4)	1.5	mm	UL 94 by SABIC-IP
INJECTION MOLDING (5)			
Drying Temperature	70 – 80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.05 – 0.1	%	
Melt Temperature	200 – 210	°C	
Front - Zone 3 Temperature	205 – 215	°C	
Middle - Zone 2 Temperature	195 – 205	°C	
Rear - Zone 1 Temperature	180 – 195	°C	
Mold Temperature	10 – 50	°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) Measurement meets requirements as specified in ASTM D4496.

(4) UL rating shown here is based on internal measurements.

(5) 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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