LNP™ THERMOCOMP™ Compound AF003

AF-1003

DESCRIPTION

LNP THERMOCOMP AF003 compound is based on Acrylonitrile Butadiene Styrene (ABS) resin containing 15% glass fiber.

GENERAL INFORMATION	
Features	High stiffness/Strength, 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
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, break, 5 mm/min	69	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.4	%	ISO 527
Tensile Modulus, 1 mm/min	5160	MPa	ISO 527
Flexural Strength, 2 mm/min	103	MPa	ISO 178
Flexural Modulus, 2 mm/min	4510	MPa	ISO 178
Tensile Stress, brk, Type I, 5 mm/min	70	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.4	%	ASTM D638
Tensile Modulus, 5 mm/min	5500	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	112	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4900	MPa	ASTM D790
IMPACT [1]			
Izod Impact, unnotched 80*10*4 +23°C	20	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
Multiaxial Impact	3	J	ISO 6603
Izod Impact, notched, 23°C	77	J/m	ASTM D256
Izod Impact, unnotched, 23°C	320	J/m	ASTM D4812
Instrumented Dart Impact Total Energy, 23°C	14	J	ASTM D3763
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	103	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	97	°C	ISO 75/Af
HDT, 0.45 MPa, 3.2 mm, unannealed	103	°C	ASTM D648

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	96	°C	ASTM D648
CTE, -30°C to 30°C, flow	6.1E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	6.8E-05	1/°C	ASTM D696
PHYSICAL [1]			
Density	1.16	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.35	%	ISO 62
Density	1.16	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.24	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [2]	0.4 – 0.6	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	0.5 – 0.7	%	ASTM D955
INJECTION MOLDING [3]			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.05 – 0.1	%	
Melt Temperature	260	°C	
Front - Zone 3 Temperature	265 – 275	°C	
Middle - Zone 2 Temperature	230 – 245	°C	
Rear - Zone 1 Temperature	205 – 215	°C	
Mold Temperature	70 – 80	°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) 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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