LNP™ THERMOCOMP™ Compound RF002SXS

RF-1002 HS

DESCRIPTION

LNP THERMOCOMP RF002SXS compound is based on Nylon 6/6 resin containing 10% glass fiber. Added features of this grade include: Heat Stabilized.

GENERAL INFORMATION	
Features	Heat Stabilized, High stiffness/Strength, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polyamide 66 (Nylon 66)
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, brk, Type I, 5 mm/min	95	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Modulus, 50 mm/min	5440	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	144	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	147	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4340	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	87	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.8	%	ISO 527
Tensile Modulus, 1 mm/min	5430	MPa	ISO 527
Flexural Stress	135	MPa	ISO 178
Flexural Modulus, 2 mm/min	4480	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	285	J/m	ASTM D4812
Izod Impact, notched, 23°C	30	J/m	ASTM D256
Multiaxial Impact	1	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	5	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	21	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	3	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	256	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	238	°C	ASTM D648

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -30°C to 30°C, flow	4.1E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	8.2E-05	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	252	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	221	°C	ISO 75/Af
Relative Temp Index, Elec (2)	130	°C	UL 746B
Relative Temp Index, Mech w/impact (2)	115	°C	UL 746B
Relative Temp Index, Mech w/o impact (2)	115	°C	UL 746B
PHYSICAL (1)			
Density	1.22	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.86	%	ASTM D570
Mold Shrinkage, flow, 24 hrs (3)	0.9 – 2	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs (3)	1 – 3	%	ASTM D955
Density	1.22	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	1.2	%	ISO 62
ELECTRICAL (1)			
Hot-Wire Ignition (HWI), PLC 4	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E121562-101281586	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING (4)			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.15 – 0.25	%	
Melt Temperature	280 – 305	°C	
Front - Zone 3 Temperature	295 – 305	°C	
Middle - Zone 2 Temperature	280 – 295	°C	
Rear - Zone 1 Temperature	265 – 275	°C	
Mold Temperature	95 – 110	°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) 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.

(3) 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.

(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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