LNP™ THERMOCOMP™ Compound TF002

TF-1002

DESCRIPTION

LNP THERMOCOMP TF002 compound is based on Polyurethane (TPU) resin containing 10% glass fiber.

GENERAL INFORMATION	
Features	Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polyurethane, Unspecified (PUR, Unspecified)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Sport/Leisure, Home Appliances, Commercial Appliance
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	42	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	38	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	32.5	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	53	%	ASTM D638
Tensile Modulus, 50 mm/min	1460	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	900	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	43	MPa	ISO 527
Tensile Stress, break, 5 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	33.6	%	ISO 527
Tensile Strain, break, 5 mm/min	55.4	%	ISO 527
Tensile Modulus, 1 mm/min	1260	MPa	ISO 527
Flexural Stress	26	MPa	ISO 178
Flexural Modulus, 2 mm/min	950	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	1230	J/m	ASTM D4812
Izod Impact, notched, 23°C	334	J/m	ASTM D256
Multiaxial Impact	24	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	29	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	129	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	31	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	152	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	67	°C	ASTM D648

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -30°C to 30°C, flow	8.9E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	1.7E-04	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	148	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	61	°C	ISO 75/Af
PHYSICAL (1)			
Specific Gravity	1.31	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.4	%	ASTM D570
Mold Shrinkage, flow, 24 hrs (2)	0.6 – 0.8	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs (2)	0.7 – 0.9	%	ASTM D955
Density	1.31	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.61	%	ISO 62
INJECTION MOLDING (3)			
Drying Temperature	95 – 105	°C	
Drying Time	2	Hrs	
Maximum Moisture Content	0.03	%	
Melt Temperature	210	°C	
Nozzle Temperature	205 – 225	°C	
Front - Zone 3 Temperature	200 – 220	°C	
Middle - Zone 2 Temperature	195 – 215	°C	
Rear - Zone 1 Temperature	195 – 210	°C	
Mold Temperature	15 – 45	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 60	rpm	
Shot to Cylinder Size	40 – 80	%	

(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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