LNP™ THERMOCOMP™ Compound RF004XXD

RF-1004

DESCRIPTION

LNP THERMOCOMP RF004XXD compound is based on Nylon 6/6 resin containing 20% glass fiber.

GENERAL INFORMATION	
Features	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, Defense

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, break	156	MPa	ASTM D638
Tensile Strain, break	3.6	%	ASTM D638
Tensile Modulus, 50 mm/min	7170	MPa	ASTM D638
Flexural Stress	230	MPa	ASTM D790
Flexural Modulus	5860	MPa	ASTM D790
Tensile Stress, break	159	MPa	ISO 527
Tensile Strain, break	3.7	%	ISO 527
Tensile Modulus, 1 mm/min	7300	MPa	ISO 527
Flexural Stress	241	MPa	ISO 178
Flexural Modulus	7000	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	833	J/m	ASTM D4812
Izod Impact, notched, 23°C	101	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	11	J	ASTM D3763
Multiaxial Impact	2	J	ISO 6603
Izod Impact, unnotched 80*10*4 +23°C	56	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	8	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	260	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	247	°C	ASTM D648
CTE, -40°C to 40°C, flow	3.78E-05	1/°C	ASTM E831

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	7.92E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	3.88E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.94E-05	1/°C	ISO 11359-2
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	221	°C	ISO 75/Af
PHYSICAL (1)			
Density	1.295	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.8	%	ASTM D570
Mold Shrinkage, flow, 24 hrs (2)	0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs (2)	1.2	%	ASTM D955
Mold Shrinkage, flow, 24 hrs (2)	0.47	%	ISO 294
Mold Shrinkage, xflow, 24 hrs (2)	1.24	%	ISO 294
Wear Factor Washer	80	10^-10 in^5-min/ft-lb-hr	ASTM D3702 Modified: Manual
Dynamic COF	0.68	-	ASTM D3702 Modified: Manual
Static COF	0.52	-	ASTM D3702 Modified: Manual
Density	1.29	g/cm³	ISO 1183
INJECTION MOLDING (3)			
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) 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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