LNP™ THERMOTUF™ Compound PF006I

PF-1006 HI

DESCRIPTION

LNP THERMOTUF PF006I compound is based on Nylon 6 resin containing 30% glass fiber. Added features of this grade include: Impact Modified.

GENERAL INFORMATION	
Features	High stiffness/Strength, Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polyamide 6 (Nylon 6)
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, yld, Type I, 5 mm/min	50	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	97	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	8.1	%	ASTM D638
Tensile Modulus, 5 mm/min	8500	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	157	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	6820	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	35	MPa	ISO 527
Tensile Stress, break, 5 mm/min	99	MPa	ISO 527
Tensile Modulus, 1 mm/min	9650	MPa	ISO 527
IMPACT [1]			
Izod Impact, unnotched, 23°C	727	J/m	ASTM D4812
Izod Impact, notched, 23°C	106	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	16	J	ASTM D3763
Multiaxial Impact	4	J	ISO 6603
Izod Impact, unnotched 80*10*4 +23°C	53	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	139	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	137	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	141	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	135	°C	ISO 75/Af

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Elec [2]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	70	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	85	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.35	-	ASTM D792
Density	1.35	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.83	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [3]	0.1 – 0.3	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.9 – 2	%	ASTM D955
Mold Shrinkage, flow, 24 hrs [3]	0.11 – 0.3	%	ISO 294
Mold Shrinkage, xflow, 24 hrs [3]	0.62 – 0.67	%	ISO 294
Density	1.37	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.83	%	ISO 62
ELECTRICAL [1]			
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D495
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-103093413	-	-
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	265 – 275	°C	
Front - Zone 3 Temperature	275 – 290	°C	
Middle - Zone 2 Temperature	265 – 275	°C	
Rear - Zone 1 Temperature	250 – 260	°C	
Mold Temperature	80 – 95	°C	
Back Pressure	0.3 – 0.7	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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