LNP™ THERMOTUF™ Compound WF006N

DESCRIPTION

LNP THERMOTUF WF006N compound is based on Polybutylene Terephthalate (PBT) resin containing 30% glass fiber. Added features of this grade include: High Metal Bonding Strength, High Impact, Good Dimensional Stability and Good Chemical Resistance. The potential applications include Nano-Molding Technology (NMT).

GENERAL INFORMATION	
Features	Chemical Resistance, Nano molding technology, Dimensional stability, High stiffness/Strength, Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Personal Accessory
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260416

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	110	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	110	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.7	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.7	%	ASTM D638
Tensile Modulus, 5 mm/min	7900	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	156	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	6600	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	120	MPa	ISO 527
Tensile Stress, break, 5 mm/min	120	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.5	%	ISO 527
Tensile Strain, break, 5 mm/min	2.5	%	ISO 527
Tensile Modulus, 1 mm/min	8200	MPa	ISO 527
Flexural Stress, break, 2 mm/min	166	MPa	ISO 178
Flexural Modulus, 2 mm/min	7400	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	840	J/m	ASTM D4812
Izod Impact, notched, 23°C	165	J/m	ASTM D256
Izod Impact, notched, -30°C	124	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C	52	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	14	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	11	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy Impact, notched, 23°C	15	kJ/m²	ISO 179/2C
Charpy Impact, notched, -30°C	12	kJ/m²	ISO 179/2C
Charpy Impact, unnotched, 23°C	62	kJ/m²	ISO 179/2C
THERMAL [1]			
Vicat Softening Temp, Rate B/50	153	°C	ASTM D1525
HDT, 1.82 MPa, 6.4 mm, unannealed	175	°C	ASTM D648
CTE, -40°C to 40°C, flow	2.1E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.9E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	1.5E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, xflow	4.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.2E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.2E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, flow	1.6E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	1.E-04	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	157	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	158	°C	ISO 75/Af
Relative Temp Index, Elec [2]	75	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	75	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	75	°C	UL 746B
PHYSICAL [1]			
Density	1.48	g/cm³	ASTM D792
Mold Shrinkage, flow [3]	0.2 – 0.3	%	SABIC method
Mold Shrinkage, xflow [3]	0.4 – 0.5	%	SABIC method
Melt Volume Rate			
250°C/5.0 kg	8.5	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Volume Resistivity	1.05E+15	Ω.cm	ASTM D257
Dielectric Constant			
1.1 GHz	3.53	-	SABIC method
1.9 GHz	3.54	-	SABIC method
Dissipation Factor			
1.1 GHz	0.012	-	SABIC method
1.9 GHz	0.011	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104047809	-	-
UL Recognized, 94HB Flame Class Rating	≥0.7	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	100 – 120	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 270	°C	
Nozzle Temperature	245 – 275	°C	
Front - Zone 3 Temperature	250 – 270	°C	
Middle - Zone 2 Temperature	250 – 270	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Rear - Zone 1 Temperature	240 – 260	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature [5]	100 – 160	°C	

(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.
(5) Suggest to use narrow mold temperature 140C~160C for NMT application.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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