LNP™ THERMOTUF™ COMPOUND WF009NA

DESCRIPTION

LNP THERMOTUF WF009NA compound is based on Polybutylene Terephthalate (PBT) resin containing 45% glass fiber. Added features of this grade include: Impact Modified, Good Metal Bonding Strength and Good Chemical Resistance targeted for Nano-Molding Technology (NMT) applications.

GENERAL INFORMATION	
Features	Chemical Resistance, Nano molding technology, High stiffness/Strength, Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber
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 20241021

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	178	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.1	%	ASTM D638
Tensile Modulus, 5 mm/min	14900	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	268	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	263	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	13400	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	177	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.2	%	ISO 527
Tensile Modulus, 1 mm/min	14950	MPa	ISO 527
Flexural Stress, break, 2 mm/min	275	MPa	ISO 178
Flexural Modulus, 2 mm/min	13400	MPa	ISO 178
Bonding strength (TRI) , 5 mm/min, Type A	40	MPa	ISO 19095
IMPACT [1]			
Izod Impact, unnotched, 23°C	1140	J/m	ASTM D4812
Izod Impact, notched, 23°C	146	J/m	ASTM D256
Izod Impact, notched, -30°C	127	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C	54	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	16	kJ/m²	ISO 180/1A
Charpy Impact, unnotched, 23°C	64	kJ/m²	ISO 179/2C
Charpy Impact, notched, 23°C	15	kJ/m²	ISO 179/2C
Charpy Impact, notched, -30°C	15	kJ/m²	ISO 179/2C

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
THERMAL [1]			
Vicat Softening Temp, Rate B/50	214	°C	ASTM D1525
HDT, 1.82 MPa, 6.4 mm, unannealed	216	°C	ASTM D648
Vicat Softening Temp, Rate A/50	215	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	213	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	1.4E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	4.9E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	1.8E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.9E-05	1/°C	ISO 11359-2
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	1.7	g/cm³	ASTM D792
Mold Shrinkage, flow [3]	0.19	%	SABIC method
Mold Shrinkage, xflow [3]	0.37	%	SABIC method
Melt Volume Rate, MVR at 275°C/5 kg	27	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Dielectric Constant, 1.1 GHz	3.95	-	SABIC method
Dielectric Constant, 1.9 GHz	4.01	-	SABIC method
Dissipation Factor, 1.1 GHz	0.0077	-	SABIC method
Dissipation Factor, 1.9 GHz	0.0077	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-103351822	-	-
UL Recognized, 94HB Flame Class Rating	≥0.7	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	100 – 120	°C	
Drying Time	4 – 8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	265 – 295	°C	
Nozzle Temperature	265 – 295	°C	
Front - Zone 3 Temperature	265 – 295	°C	
Middle - Zone 2 Temperature	260 – 290	°C	
Rear - Zone 1 Temperature	250 – 275	°C	
Mold Temperature	120 – 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.

MORE INFORMATION

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

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