LNP™ THERMOTUF™ COMPOUND WF008NA

DESCRIPTION

LNP THERMOTUF WF008NA compound is based on Polybutylene Terephthalate (PBT) resin containing 40% glass fiber. Added features of this grade include: High Modulus, Impact Modified, Good Metal Bonding Strength and Good Chemical Resistance targeted for Nano-Molding Technology (NMT) applications and Good Color Stability during anodizing process.

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
Building and Construction	Building Component
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	156	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.2	%	ASTM D638
Tensile Modulus, 5 mm/min	12800	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	236	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	11100	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	155	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3.2	%	ISO 527
Tensile Modulus, 1 mm/min	12527	MPa	ISO 527
Flexural Stress, break, 2 mm/min	228	MPa	ISO 178
Flexural Modulus, 2 mm/min	11720	MPa	ISO 178
Bonding strength (TRI) , 5 mm/min, Type A	38	MPa	ISO 19095
IMPACT [1]			
Izod Impact, unnotched, 23°C	912	J/m	ASTM D4812
Izod Impact, notched, 23°C	132	J/m	ASTM D256
Izod Impact, notched, -30°C	100	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	13	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m²	ISO 180/1A
Charpy Impact, unnotched, 23°C	60	kJ/m²	ISO 179/2C
Charpy Impact, notched, 23°C	14	kJ/m²	ISO 179/2C

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy Impact, notched, -30°C	13	kJ/m²	ISO 179/2C
THERMAL [1]			
Vicat Softening Temp, Rate B/50	208	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	206	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	204	°C	ASTM D648
CTE, -40°C to 40°C, flow	1.9E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.0E-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	6.6E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate A/50	221	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	208	°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	1.61	g/cm³	ASTM D792
Mold Shrinkage, flow [3]	0.27	%	SABIC method
Mold Shrinkage, xflow [3]	0.5	%	SABIC method
Melt Volume Rate, MVR at 250°C/5.0 kg	17	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 275°C/5 kg	32	cm³/10 min	ISO 1133
Melt Flow Rate, 275°C/2.16 kgf	15	g/10 min	ASTM D1238
Melt Flow Rate, 275°C/5 kgf	43	g/10 min	ASTM D1238
ELECTRICAL [1]			
Dielectric Constant, 1.1 GHz	3.97	-	SABIC method
Dielectric Constant, 1.9 GHz	3.96	-	SABIC method
Dielectric Constant, 5 GHz	3.96	-	SABIC method
Dissipation Factor, 1.1 GHz	0.011	-	SABIC method
Dissipation Factor, 1.9 GHz	0.01	-	SABIC method
Dissipation Factor, 5 GHz	0.009	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-103732102	-	-
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	255 – 275	°C	
Front - Zone 3 Temperature	250 – 270	°C	
Middle - Zone 2 Temperature	250 – 270	°C	
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

DISCLAIMER