LNP™ THERMOTUF™ COMPOUND WF008NA

DESCRIPTION

PBT/glass fiber compounds for nano-molding technology (NMT) application, featured with high modulus, excellent bonding force, good surface quality, high impact and good color stability during anodizing process.

TYPICAL PROPERTY VALUES

Revision 20191217

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	156	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	3.2	%	ASTM D 638
Tensile Modulus, 5 mm/min	12800	MPa	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	236	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	11100	MPa	ASTM D 790
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			
Izod Impact, unnotched, 23°C	912	J/m	ASTM D 4812
Izod Impact, notched, 23°C	132	J/m	ASTM D 256
Izod Impact, notched, -30°C	100	J/m	ASTM D 256
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
Charpy Impact, notched, -30°C	13	kJ/m²	ISO 179/2C
THERMAL			
Vicat Softening Temp, Rate B/50	208	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	206	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	204	°C	ASTM D 648
CTE, -40°C to 40°C, flow	1.9E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.0E-05	1/°C	ASTM E 831
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 [1]	75	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	75	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	75	°C	UL 746B
PHYSICAL			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Density	1.61	g/cm³	ASTM D 792
Mold Shrinkage, flow	0.27	%	SABIC method
Mold Shrinkage, xflow	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 D 1238
Melt Flow Rate, 275°C/5 kgf	43	g/10 min	ASTM D 1238
ELECTRICAL			
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 (1)			
UL Yellow Card Link	E207780-103732102	-	-
UL Recognized, 94HB Flame Class Rating	0.7	mm	UL 94
INJECTION MOLDING			
Drying Temperature	100 – 120	°C	
Drying Time	2 – 4	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	100 – 160	°C	

(1) 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.

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