

# LNP<sup>TM</sup> THERMOTUF<sup>TM</sup> 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 20200309

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
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
<b>IMPACT</b>			
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/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	13	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Charpy Impact, unnotched, 23°C	60	kJ/m <sup>2</sup>	ISO 179/2C
Charpy Impact, notched, 23°C	14	kJ/m <sup>2</sup>	ISO 179/2C
Charpy Impact, notched, -30°C	13	kJ/m <sup>2</sup>	ISO 179/2C
<b>THERMAL</b>			
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 <sup>(1)</sup>	75	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(1)</sup>	75	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(1)</sup>	75	°C	UL 746B
<b>PHYSICAL</b>			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Density	1.61	g/cm <sup>3</sup>	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	cm <sup>3</sup> /10 min	ISO 1133
Melt Volume Rate, MVR at 275°C/5 kg	32	cm <sup>3</sup> /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
<b>ELECTRICAL</b>			
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
<b>FLAME CHARACTERISTICS <sup>(1)</sup></b>			
UL Yellow Card Link	<a href="#">E207780-103732102</a>	-	-
UL Recognized, 94HB Flame Class Rating	0.7	mm	UL 94
<b>INJECTION MOLDING</b>			
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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