

LNPTM THERMOTUFTM COMPOUND WF009NA

DESCRIPTION

LNP THERMOTUF WF009NA is a PBT based compound containing 45% glass fiber for nano-molding technology (NMT) application. Added features include high metal bonding strength.

TYPICAL PROPERTY VALUES

Revision 20200521

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	178	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.1	%	ASTM D 638
Tensile Modulus, 5 mm/min	14900	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	268	MPa	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	263	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	13400	MPa	ASTM D 790
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			
Izod Impact, unnotched, 23°C	1140	J/m	ASTM D 4812
Izod Impact, notched, 23°C	146	J/m	ASTM D 256
Izod Impact, notched, -30°C	127	J/m	ASTM D 256
Izod Impact, unnotched 80*10*4 +23°C	54	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	15	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	16	kJ/m ²	ISO 180/1A
Charpy Impact, unnotched, 23°C	64	kJ/m ²	ISO 179/2C
Charpy Impact, notched, 23°C	15	kJ/m ²	ISO 179/2C
Charpy Impact, notched, -30°C	15	kJ/m ²	ISO 179/2C
THERMAL			
Vicat Softening Temp, Rate B/50	214	°C	ASTM D 1525
HDT, 1.82 MPa, 6.4 mm, unannealed	216	°C	ASTM D 648
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 E 831
CTE, -40°C to 40°C, xflow	4.9E-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	5.9E-05	1/°C	ISO 11359-2
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			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Density	1.7	g/cm ³	ASTM D 792
Mold Shrinkage, flow	0.19	%	SABIC method
Mold Shrinkage, xflow	0.37	%	SABIC method
Melt Volume Rate, MVR at 275°C/5 kg	27	cm ³ /10 min	ISO 1133
ELECTRICAL			
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 ⁽¹⁾			
UL Yellow Card Link	E207780-103351822	-	-
UL Recognized, 94HB Flame Class Rating	≥0.7	mm	UL 94
INJECTION MOLDING			
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) 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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