LNP™ THERMOTUF™ COMPOUND WF009N

DESCRIPTION

45% glass fiber reinforced, high metal bonding strength, for nano-molding technology (NMT) application especially at low molding temperature.

TYPICAL PROPERTY VALUES

Revision 20191217

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	168	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.2	%	ASTM D 638
Tensile Modulus, 5 mm/min	14500	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	256	MPa	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	251	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	13200	MPa	ASTM D 790
Tensile Stress, break, 5 mm/min	163	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.1	%	ISO 527
Tensile Modulus, 1 mm/min	14100	MPa	ISO 527
Flexural Stress, break, 2 mm/min	259	MPa	ISO 178
Flexural Modulus, 2 mm/min	12300	MPa	ISO 178
Bonding strength (TRI) , 5 mm/min, Type A	40	MPa	ISO 19095
IMPACT			
Izod Impact, unnotched, 23°C	1050	J/m	ASTM D 4812
Izod Impact, notched, 23°C	153	J/m	ASTM D 256
Izod Impact, notched, -30°C	144	J/m	ASTM D 256
Izod Impact, unnotched 80*10*4 +23°C	64	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	16	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	16	kJ/m²	ISO 180/1A
Charpy Impact, unnotched, 23°C	72	kJ/m²	ISO 179/2C
Charpy Impact, notched, 23°C	17	kJ/m²	ISO 179/2C
Charpy Impact, notched, -30°C	16	kJ/m²	ISO 179/2C
THERMAL			
Vicat Softening Temp, Rate B/50	212	°C	ASTM D 1525
HDT, 1.82 MPa, 6.4 mm, unannealed	215	°C	ASTM D 648
Vicat Softening Temp, Rate A/50	213	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	211	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	1.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.6E-05	1/°C	ASTM E 831
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			
Density	1.7	g/cm³	ASTM D 792
Mold Shrinkage, flow	0.14	%	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, xflow	0.34	%	SABIC method
Melt Volume Rate, MVR at 275°C/5 kg	29	cm³/10 min	ISO 1133
ELECTRICAL			
Dielectric Constant, 1.1 GHz	3.94	-	SABIC method
Dielectric Constant, 1.9 GHz	3.95	-	SABIC method
Dissipation Factor, 1.1 GHz	0.011	-	SABIC method
Dissipation Factor, 1.9 GHz	0.010	-	SABIC method
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E207780-103351811	-	-
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 – 285	°C	
Nozzle Temperature	265 – 285	°C	
Front - Zone 3 Temperature	265 – 285	°C	
Middle - Zone 2 Temperature	260 – 280	°C	
Rear - Zone 1 Temperature	250 – 270	°C	
Mold Temperature	100 – 140	°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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