LNP™ THERMOTUF™ COMPOUND OF006N

DESCRIPTION

LNP THERMOTUF OF006N compound is a 30% glass fiber reinforced Polyphenylene sulfide (PPS). Added features include: high heat resistance and impact strength, excellent chemical resistance, low chloride contents, good warpage control and inherently flame-retardant. Applications of this grade include electric and electronic components.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, Low Warpage, Dimensional stability, High temperature resistance
Fillers	Glass Fiber
Polymer Types	Polyphenylene Sulfide, Linear (PPS, Linear)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Industrial	Electrical, Material Handling

TYPICAL PROPERTY VALUES

Revision 20260630

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	165	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.2	%	ASTM D638
Tensile Modulus, 5 mm/min	11300	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	230	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	10000	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	165	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.2	%	ISO 527
Tensile Modulus, 1 mm/min	11500	MPa	ISO 527
Flexural Strength, 2 mm/min	235	MPa	ISO 178
Flexural Modulus, 2 mm/min	10200	MPa	ISO 178
Bonding Strength ("T" treatment, shear type)	40	MPa	ISO 19095
Bonding strength (TRI) , 5 mm/min, Type A	45	MPa	ISO 19095
IMPACT [1]			
Izod Impact, notched, 23°C	120	J/m	ASTM D256
Izod Impact, unnotched, 23°C	710	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	12	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m²	ISO 180/1U
Charpy			
-20°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
-20°C, Unnotch Edgew 80*10*4 sp=62mm	43	kJ/m²	ISO 179/1eU
23°C, V-notch Edgew 80*10*4 sp=62mm	12.5	kJ/m²	ISO 179/1eA
23°C, Unnotch Edgew 80*10*4 sp=62mm	50	kJ/m²	ISO 179/1eU
THERMAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	268	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	275	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	267	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	278	°C	ISO 75/Bf
CTE			
-40°C to 90°C, flow	1.3E-5	1/°C	ASTM E831
-40°C to 90°C, xflow	5.1E-5	1/°C	ASTM E831
-40°C to 40°C, flow	1.3E-5	1/°C	ISO 11359-2
-40°C to 40°C, xflow	4.6E-5	1/°C	ISO 11359-2
-40°C to 90°C, flow	1.3E-5	1/°C	ISO 11359-2
-40°C to 90°C, xflow	5.1E-5	1/°C	ISO 11359-2
Relative Temp Index, Elec [2]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	130	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	130	°C	UL 746B
PHYSICAL [1]			
Density	1.54	g/cm³	ASTM D792
Melt Flow Rate			
315°C/5.0 kgf	48.0	g/10 min	ASTM D1238
Melt Volume Rate			
315°C/5.0 kg	32.0	cm³/10 min	ISO 1133
Specific Gravity	1.54	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24hrs)	0.01	%	ISO 62-4
Moisture Absorption, (23°C/50% RH/Equilibrium)	0.01	%	ISO 62-4
Water Absorption, (23°C/24hrs)	0.02	%	ISO 62-1
Water Absorption, (23°C/24hrs)	0.01	%	ASTM D570
Water Absorption, (23°C/saturated)	0.03	%	ISO 62-1
Mold Shrinkage, flow [3]	0.2 – 0.3	%	SABIC method
Mold Shrinkage, xflow [3]	0.5 – 0.6	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant			
1.9 GHz	3.82	-	SABIC method
5 GHz	3.8	-	SABIC method
Dissipation Factor			
1.9 GHz	0.004	-	SABIC method
5 GHz	0.0045	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104554506	-	-
UL Recognized, 94V-0 Flame Class Rating	0.8	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120 – 140	°C	
Drying Time	3 – 4	Hrs	
Hopper Temperature	50 – 70	°C	
Melt Temperature	310 – 330	°C	
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Rear - Zone 1 Temperature	290 – 300	°C	
Mold Temperature	135 – 160	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 100	rpm	

(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.

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