LNP™ THERMOCOMP™ COMPOUND OFM46

DESCRIPTION

LNP THERMOCOMP OFM46 compound is based on Polyphenylene Sulfide (PPS) containing 50% glass fiber and minerals. Added features of this material include: high stiffness and strength, excellent dimensional stability and warpage control, good flame and chemical resistance, low coefficient of thermal expansion and moisture absorption.

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

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Electrical and Electronics	Wireless Communication

TYPICAL PROPERTY VALUES

Revision 20260805

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	160	MPa	ASTM D638
Tensile Strain, Break			
Type I, 5 mm/min	1.8	%	ASTM D638
5 mm/min	1.8	%	ISO 527
Tensile Modulus, 5 mm/min	15000	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	13200	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	160	MPa	ISO 527
Tensile Modulus, 1 mm/min	15100	MPa	ISO 527
Flexural Strength, 2 mm/min	230	MPa	ISO 178
Flexural Modulus, 2 mm/min	13300	MPa	ISO 178
IMPACT [1]			
Izod impact, notched			
23°C	90	J/m	ASTM D256
80*10*4 +23°C	9.5	kJ/m²	ISO 180/1A
80*10*4 0°C	8.5	kJ/m²	ISO 180/1A
80*10*4 -20°C	7.2	kJ/m²	ISO 180/1A
Izod Impact, Unnotched			
23°C	512	J/m	ASTM D4812
80*10*4 +23°C	35	kJ/m²	ISO 180/1U
80*10*4 0°C	31	kJ/m²	ISO 180/1U
80*10*4 -20°C	28	kJ/m²	ISO 180/1U

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	35	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	278	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	263	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	278	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	265	°C	ISO 75/Af
CTE			
-40°C to 90°C, flow	1.5E-5	1/°C	ASTM E831
-40°C to 90°C, xflow	3.4E-5	1/°C	ASTM E831
-40°C to 40°C, flow	1.5E-5	1/°C	ISO 11359-2
-40°C to 40°C, xflow	3.0E-5	1/°C	ISO 11359-2
-40°C to 90°C, flow	1.6E-5	1/°C	ISO 11359-2
-40°C to 90°C, xflow	3.5E-5	1/°C	ISO 11359-2
-40°C to 125°C, flow	1.6E-5	1/°C	ISO 11359-2
-40°C to 125°C, xflow	3.9E-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]			
Specific Gravity	1.77	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.02	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.01	%	ISO 62-4
Melt Flow Rate			
315°C/5.0 kgf	32	g/10 min	ASTM D1238
Mold Shrinkage, flow [3]	0.25	%	SABIC method
Mold Shrinkage, xflow [3]	0.4	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant			
1.9 GHz	4.4	-	SABIC method
5 GHz	4.45	-	SABIC method
Dissipation Factor			
1.9 GHz	0.004	-	SABIC method
5 GHz	0.0046	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104610218	-	-
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	
Melt Temperature	310 – 330	°C	
Nozzle Temperature	310 – 330	°C	
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	
Rear - Zone 1 Temperature	290 – 310	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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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