LNP™ THERMOCOMP™ Compound WF006V

DESCRIPTION

LNP THERMOCOMP WF006V compound is based on Polybutylene Terephthalate (PBT) containing 30% glass fiber. This material has fast plating capability and stable RF performance. Added features of this grade include wide processing window and chemical resistance. It makes a good candidate for internal and external parts of Laser Direct Structuring (LDS) applications.

GENERAL INFORMATION	
Features	Laser Direct Structuring, High stiffness/Strength, Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets, Speaker - Earphone, Wireless Communication
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260402

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 50 mm/min	94	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	2.5	%	ASTM D638
Tensile Modulus, 50 mm/min	8049	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	140	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	7100	MPa	ASTM D790
Tensile Stress, break, 50 mm/min	95	MPa	ISO 527
Tensile Strain, break, 50 mm/min	2.55	%	ISO 527
Tensile Modulus, 1 mm/min	8260	MPa	ISO 527
Flexural Strength, 2 mm/min	138	MPa	ISO 178
Flexural Modulus, 2 mm/min	6839	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	116	J/m	ASTM D256
Izod Impact, unnotched, 23°C	695	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	10.56	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	38.32	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10.91	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	45.91	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	205	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	158	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	204	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	153	°C	ISO 75/Af

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	2.13E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.31E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.10E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.74E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/120	149	°C	ISO 306
Vicat Softening Temp, Rate B/120	148	°C	ASTM D1525
PHYSICAL (1)			
Specific Gravity	1.5	-	ASTM D792
Melt Volume Rate			
270°C/5 kg	12.3	cm³/10 min	ISO 1133
Mold Shrinkage, flow	0.30	%	SABIC method
Mold Shrinkage, xflow	0.47	%	SABIC method
ELECTRICAL (1)			
Dielectric Constant			
1.1 GHz	3.503	-	SABIC method
1.9 GHz	3.53	-	SABIC method
5 GHz	3.543	-	SABIC method
10 GHz	3.54	-	SABIC method
20 GHz	3.357	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0106	-	SABIC method
1.9 GHz	0.0101	-	SABIC method
5 GHz	0.00923	-	SABIC method
10 GHz	0.00893	-	SABIC method
20 GHz	0.00869	-	SABIC method
INJECTION MOLDING (2)			
Drying Temperature	110 – 120	°C	
Drying Time	3 – 5	Hrs	
Melt Temperature	240 – 260	°C	
Nozzle Temperature	240 – 260	°C	
Front - Zone 3 Temperature	240 – 260	°C	
Middle - Zone 2 Temperature	240 – 260	°C	
Rear - Zone 1 Temperature	240 – 260	°C	
Mold Temperature	110 – 130	°C	
Back Pressure	0.1 – 0.3	MPa	
Screw Speed	90 – 110	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) 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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