

LNPT[™] THERMOCOMP[™] COMPOUND DF006 1VI

DESCRIPTION

LNP THERMOCOMP DF006 1VI compound is based on Polycarbonate (PC) resin containing 30% glass fiber. Added features of this grade include: Improved Plating Surface and Mechanical Performance targeted for Laser Direct Structuring (LDS) applications, Non-Brominated, Non-Chlorinated Flame Retardant, Wide Processing Window.

GENERAL INFORMATION	
Features	Flame Retardant, Dielectrics, Laser Direct Structuring, Non Cl/Br flame retardant, High stiffness/Strength
Fillers	Glass Fiber
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Consumer	Personal Accessory
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20241021

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, brk, Type I, 5 mm/min	103	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Modulus, 5 mm/min	9400	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	8100	MPa	ASTM D790
Flexural Strength, 1.3 mm/min, 50 mm span	150	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	106	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	9300	MPa	ISO 527
Flexural Modulus, 2 mm/min	8200	MPa	ISO 178
Flexural Strength, 2 mm/min	150	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	70	J/m	ASTM D256
Izod Impact, unnotched, 23°C	400	J/m	ASTM D4812
Izod Impact, notched 80°10*4 +23°C	7	kJ/m ²	ISO 180/1A
Izod Impact, unnotched 80°10*4 +23°C	30	kJ/m ²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80°10*4 sp=62mm	7	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80°10*4 sp=62mm	30	kJ/m ²	ISO 179/1eU
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 3.2 mm, unannealed	118	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	2.2E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.0E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.1E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.2E-05	1/°C	ISO 11359-2
PHYSICAL ⁽¹⁾			
Density	1.5	g/cm ³	ASTM D792
Melt Flow Rate, 300°C/2.16 kgf	25	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/1.2 kgf	13	g/10 min	ASTM D1238
Mold Shrinkage, flow ⁽²⁾	0.1 – 0.3	%	SABIC method
Mold Shrinkage, xflow ⁽²⁾	0.1 – 0.3	%	SABIC method
ELECTRICAL ⁽¹⁾			
Dielectric Constant, 1.1 GHz	3.590	-	SABIC method
Dissipation Factor, 1.1 GHz	0.009	-	SABIC method
Dielectric Constant, 1.9 GHz	3.520	-	SABIC method
Dissipation Factor, 1.9 GHz	0.008	-	SABIC method
Dielectric Constant, 5 GHz	3.520	-	SABIC method
Dissipation Factor, 5 GHz	0.008	-	SABIC method
Dielectric Constant, 10 GHz	3.520	-	SABIC method
Dissipation Factor, 10 GHz	0.008	-	SABIC method
Dielectric Constant, 20 GHz	3.300	-	SABIC method
Dissipation Factor, 20 GHz	0.008	-	SABIC method
FLAME CHARACTERISTICS ⁽³⁾			
UL Yellow Card Link	E207780-104560651	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.6	mm	UL 94
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	110 – 120	°C	
Drying Time	3 – 4	Hrs	
Melt Temperature	290 – 310	°C	
Nozzle Temperature	285 – 310	°C	
Front - Zone 3 Temperature	285 – 310	°C	
Middle - Zone 2 Temperature	285 – 310	°C	
Rear - Zone 1 Temperature	285 – 310	°C	
Mold Temperature	100 – 130	°C	
Back Pressure	0.1 – 0.3	MPa	
Screw Speed	50 – 150	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) 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.

(3) 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.

(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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