LNP™ THERMOCOMP™ COMPOUND DF002FVQ

DESCRIPTION

LNP THERMOCOMP DF002FVQ compound is based on Polycarbonate (PC) resin containing 10% glass fiber and available in black color only. Added features of this grade include: Improved Plating Surface and Mechanical Performance targeted for Laser Direct Structuring (LDS) applications, Good Adhesion Strength, UL94 V0@0.8mm (black).

GENERAL INFORMATION	
Features	Dielectrics, Laser Direct Structuring, Electroplatable, 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	60	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Modulus, 5 mm/min	4610	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	4300	MPa	ASTM D790
Flexural Strength, 1.3 mm/min, 50 mm span	115	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	60	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3.5	%	ISO 527
Tensile Modulus, 1 mm/min	4625	MPa	ISO 527
Flexural Modulus, 2 mm/min	4100	MPa	ISO 178
Flexural Strength, 2 mm/min	110	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	100	J/m	ASTM D256
Izod Impact, unnotched, 23°C	600	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	9	kJ/m²	ISO 180/1A
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	42	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	126	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D648
CTE, -40°C to 40°C, flow	3.5E-05	1/°C	ASTM E831

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	6.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	3.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.7E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec [2]	80	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	80	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	80	°C	UL 746B
PHYSICAL [1]			
Density	1.35	g/cm³	ASTM D792
Melt Flow Rate, 300°C/1.2 kgf	11	g/10 min	ASTM D1238
Mold Shrinkage, flow [3]	0.2 – 0.4	%	SABIC method
Mold Shrinkage, xflow [3]	0.3 – 0.5	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant, 1.1 GHz	3.15	-	SABIC method
Dissipation Factor, 1.1 GHz	0.01	-	SABIC method
Dielectric Constant, 1.9 GHz	3.17	-	SABIC method
Dissipation Factor, 1.9 GHz	0.01	-	SABIC method
Dielectric Constant, 5 GHz	3.15	-	SABIC method
Dissipation Factor, 5 GHz	0.01	-	SABIC method
Dielectric Constant, 10 GHz	3.17	-	SABIC method
Dissipation Factor, 10 GHz	0.01	-	SABIC method
Dielectric Constant, 20 GHz	3.04	-	SABIC method
Dissipation Factor, 20 GHz	0.01	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-103895096	-	-
UL Recognized, 94V-0 Flame Class Rating	0.8	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	110	°C	
Drying Time	3 – 4	Hrs	
Maximum Moisture Content	0.02	%	
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) 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.

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.