LNP™ THERMOCOMP™ Compound DF005

DF-1005

DESCRIPTION

LNP THERMOCOMP DF005 compound is based on Polycarbonate (PC) resin containing 25% glass fiber.

GENERAL INFORMATION	
Features	High stiffness/Strength, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Personal Accessory
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	109	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	108	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.4	%	ASTM D638
Tensile Modulus, 50 mm/min	8330	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	180	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	180	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	7020	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	109	MPa	ISO 527
Tensile Stress, break, 5 mm/min	107	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.7	%	ISO 527
Tensile Strain, break, 5 mm/min	3.3	%	ISO 527
Tensile Modulus, 1 mm/min	7890	MPa	ISO 527
Flexural Stress	180	MPa	ISO 178
Flexural Modulus, 2 mm/min	6990	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	901	J/m	ASTM D4812
Izod Impact, notched, 23°C	109	J/m	ASTM D256
Multiaxial Impact	3	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	16	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	54	kJ/m²	ISO 180/1U

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	144	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	141	°C	ASTM D648
CTE, -30°C to 30°C, flow	2.E-06	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	7.E-06	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	145	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	141	°C	ISO 75/Af
Relative Temp Index, Elec [2]	125	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	115	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	125	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.4	-	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.14	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [3]	0.2 – 0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.5 – 0.8	%	ASTM D955
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62
ELECTRICAL [1] [2]			
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 2	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥1.5	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-101344533	-	-
UL Recognized, 94V-1 Flame Class Rating	≥3	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	305 – 325	°C	
Front - Zone 3 Temperature	320 – 330	°C	
Middle - Zone 2 Temperature	310 – 320	°C	
Rear - Zone 1 Temperature	295 – 305	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 60	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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