LNP™ THERMOCOMP™ Compound DF004ER

DF-1004 EM MR

DESCRIPTION

LNP THERMOCOMP DF004ER compound is based on Polycarbonate (PC) resin containing 20% glass fiber. Added features of this grade include: Easy Molding, Mold Release.

GENERAL INFORMATION	
Features	Good Processability, Enhanced mold release, 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 20241025

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	96	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.7	%	ASTM D638
Tensile Modulus, 5 mm/min	5650	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	166	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5580	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	97	MPa	ISO 527
Tensile Stress, break, 5 mm/min	96	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.6	%	ISO 527
Tensile Strain, break, 5 mm/min	3.6	%	ISO 527
Tensile Modulus, 1 mm/min	5850	MPa	ISO 527
Flexural Strength, 2 mm/min	172	MPa	ISO 178
Flexural Modulus, 2 mm/min	5600	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	854	J/m	ASTM D4812
Izod Impact, notched, 23°C	144	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	16	J	ASTM D3763
Multiaxial Impact	6	J	ISO 6603
Izod Impact, unnotched 80*10*4 +23°C	54	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	14	kJ/m²	ISO 180/1A
THERMAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	140	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	141	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	144	°C	ISO 75/Bf
CTE, -40°C to 40°C, flow	4.19E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.36E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	4.18E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.37E-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	1.322	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.11	%	ASTM D570
Density	1.31	g/cm³	ISO 1183
Moisture Absorption, (23°C/50% RH/24hrs)	0.17	%	ISO 62-4
Melt Volume Rate, MVR at 300°C/1.2 kg	11	cm³/10 min	ASTM D1238
Mold Shrinkage, flow (3)	0.2 – 0.3	%	SABIC method
Mold Shrinkage, xflow (3)	0.4 – 0.5	%	SABIC method
Mold Shrinkage on Tensile Bar, flow (3)	0.25 – 0.45	%	SABIC method
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E121562-101344608	-	-
UL Yellow Card Link 2	E45329-101344593	-	-
UL Yellow Card Link 3	E207780-101344586	-	-
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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