LNP™ THERMOCOMP™ Compound DF004AT

DESCRIPTION

LNP THERMOCOMP DF004AT compound is based on Polycarbonate (PC) resin containing 20% glass fiber. Added features of this grade include: Transparent/Translucent, High stiffness/Strength. Nature color only.

GENERAL INFORMATION	
Features	Transparent/Translucent, 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
Automotive	Automotive Interiors
Consumer	Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets

TYPICAL PROPERTY VALUES

Revision 20260625

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	2.8	%	ASTM D638
Tensile Modulus, 5 mm/min	5800	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	148	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5300	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	97	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.9	%	ISO 527
Tensile Modulus, 1 mm/min	5900	MPa	ISO 527
Flexural Strength, 2 mm/min	137	MPa	ISO 178
Flexural Modulus, 2 mm/min	4800	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	170	J/m	ASTM D256
Izod Impact, notched, 0°C	140	J/m	ASTM D256
Izod Impact, notched, -30°C	124	J/m	ASTM D256
Izod Impact, unnotched, 23°C	646	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	768	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	13.9	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10.6	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	40.1	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	45.8	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	14.9	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	10.1	kJ/m²	ISO 179/1eA

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	43.9	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	58.6	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	116	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	116	°C	ISO 75/Af
Vicat Softening Temp, Rate A/120	135	°C	ASTM D1525
Vicat Softening Temp, Rate A/50	133	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	125	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	124	°C	ASTM D1525
Vicat Softening Temp, Rate A/120	134	°C	ISO 306
Vicat Softening Temp, Rate A/50	132	°C	ISO 306
Vicat Softening Temp, Rate B/120	124	°C	ISO 306
Vicat Softening Temp, Rate B/50	122	°C	ISO 306
CTE, -40°C to 40°C, flow	2.53E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.66E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.27E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.81E-05	1/°C	ISO 11359-2
PHYSICAL [1]			
Density	1.32	g/cm³	ASTM D792
Mold Shrinkage, flow [2]	0.22	%	SABIC method
Mold Shrinkage, xflow [2]	0.44	%	SABIC method
Melt Flow Rate			
300°C/1.2 kgf	10	g/10 min	ASTM D1238
Water Absorption, (23°C/24hrs)	0.12	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.05	%	ISO 62-4
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	3.13	-	SABIC method
1.9 GHz	3.14	-	SABIC method
5 GHz	3.06	-	SABIC method
10 GHz	3.17	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0086	-	SABIC method
1.9 GHz	0.0089	-	SABIC method
5 GHz	0.0096	-	SABIC method
10 GHz	0.010	-	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	100	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 320	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	290 – 310	°C	
Middle - Zone 2 Temperature	280 – 295	°C	
Rear - Zone 1 Temperature	270 – 280	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Temperature	95 – 110	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	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) 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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