LNP™ THERMOCOMP™ COMPOUND DF0021XQ

DESCRIPTION

LNP THERMOCOMP DF0021XQ compound is based on Polycarbonate (PC) resin containing 10% glass fiber. Added features of this grade include: High Modulus, Good Surface, Low Warpage, Good Ductility, Non-Brominated & Non-Chlorinated Flame Retardant.

GENERAL INFORMATION	
Features	Low Warpage, Non Cl/Br flame retardant, High stiffness/Strength, Impact resistant
Fillers	Glass Fiber
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 20260409

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	82	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.5	%	ASTM D638
Tensile Modulus, 5 mm/min	4450	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	133	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4150	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	82	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3.5	%	ISO 527
Tensile Modulus, 1 mm/min	4450	MPa	ISO 527
Flexural Strength, 2 mm/min	135	MPa	ISO 178
Flexural Modulus, 2 mm/min	4020	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	150	J/m	ASTM D256
Izod Impact, notched, -30°C	80	J/m	ASTM D256
Izod Impact, unnotched, 23°C	710	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	850	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	16	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	46	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	55	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	15	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	9	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*3 +23°C	48	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	55	kJ/m²	ISO 180/1U
Charpy			
23°C, V-notch Edgew 80*10*4 sp=62mm	16	kJ/m²	ISO 179/1eA
-30°C, V-notch Edgew 80*10*4 sp=62mm	7	kJ/m²	ISO 179/1eA
23°C, Unnotch Edgew 80*10*4 sp=62mm	53	kJ/m²	ISO 179/1eU
-30°C, Unnotch Edgew 80*10*4 sp=62mm	63	kJ/m²	ISO 179/1eU
23°C, V-notch Edgew 80*10*3 sp=62mm	16	kJ/m²	ISO 179/1eA
-30°C, V-notch Edgew 80*10*3 sp=62mm	7	kJ/m²	ISO 179/1eA
23°C, Unnotch Edgew 80*10*3 sp=62mm	54	kJ/m²	ISO 179/1eU
-30°C, Unnotch Edgew 80*10*3 sp=62mm	63	kJ/m²	ISO 179/1eU
Instrumented Dart Impact Energy @ peak, 23°C	26	J	ASTM D3763
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	119	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	119	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	114	°C	ISO 75/Af
CTE, 23°C to 80°C, flow	4.00E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.00E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate A/50	127	°C	ISO 306
Vicat Softening Temp, Rate B/50	121	°C	ISO 306
Vicat Softening Temp, Rate B/120	123	°C	ISO 306
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]			
Specific Gravity	1.27	-	ASTM D792
Melt Flow Rate			
300°C/1.2 kgf	18	g/10 min	ASTM D1238
300°C/2.16 kgf	34.5	g/10 min	ASTM D1238
Melt Volume Rate			
300°C/1.2 kg	16.5	cm³/10 min	ISO 1133
300°C/2.16 kg	32	cm³/10 min	ISO 1133
Water Absorption, (23°C/saturated)	0.09	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.03	%	ISO 62
Mold Shrinkage, flow, 3.2 mm [3]	0.4 – 0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [3]	0.5 – 0.7	%	SABIC method
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	3.05	-	SABIC method
1.9 GHz	3.04	-	SABIC method
5 GHz	3	-	SABIC method
10 GHz	2.97	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0067	-	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
1.9 GHz	0.0063	-	SABIC method
5 GHz	0.0064	-	SABIC method
10 GHz	0.0063	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-104750844	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.8	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	110	°C	
Drying Time	3 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 295	°C	
Nozzle Temperature	270 – 295	°C	
Front - Zone 3 Temperature	270 – 295	°C	
Middle - Zone 2 Temperature	260 – 280	°C	
Rear - Zone 1 Temperature	250 – 270	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.1 – 0.3	MPa	
Screw Speed	50 – 90	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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