LNP™ THERMOCOMP™ COMPOUND D251U

DESCRIPTION

LNP THERMOCOMP D251U compound is based on Polycarbonate (PC) resin containing 20% glass fiber. Added features of this grade include: High Modulus, Low Warpage, Good Ductility, Non-Brominated & Non-Chlorinated Flame Retardant, Good UV Stability.

GENERAL INFORMATION	
Features	Flame Retardant, Low Warpage, Non Cl/Br flame retardant, High stiffness/Strength, Impact resistant, Weatherable/UV stable
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 20260416

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	110	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.7	%	ASTM D638
Tensile Modulus, 5 mm/min	6700	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	167	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	6200	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	112	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.6	%	ISO 527
Tensile Modulus, 1 mm/min	6810	MPa	ISO 527
Flexural Stress, break, 2 mm/min	166	MPa	ISO 178
Flexural Modulus, 2 mm/min	6290	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	650	J/m	ASTM D4812
Izod Impact, notched, 23°C	147	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	20	J	ASTM D3763
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	49	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	121	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	115	°C	ASTM D648
CTE, 23°C to 80°C, flow	2.5E-05	1/°C	ISO 11359-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 80°C, xflow	7.5E-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
Mold Shrinkage, flow, 24 hrs [3]	0.2 – 0.4	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.2 – 0.4	%	ASTM D955
Melt Flow Rate			
300°C/1.2 kgf	12	g/10 min	ASTM D1238
300°C/2.16 kgf	24	g/10 min	ASTM D1238
Water Absorption, (23°C/saturated)	0.07	%	ISO 62-1
Melt Volume Rate			
300°C/1.2 kg	10	cm³/10 min	ISO 1133
300°C/2.16 kg	20	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	3.24	-	SABIC method
1.9 GHz	3.27	-	SABIC method
5 GHz	3.28	-	SABIC method
10 GHz	3.28	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0066	-	SABIC method
1.9 GHz	0.0067	-	SABIC method
5 GHz	0.0071	-	SABIC method
10 GHz	0.0072	-	SABIC method
Comparative Tracking Index	175	V	IEC 60112
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-104088917	-	-
UL Yellow Card Link 2	E121562-104123741	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.3	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	≥1.5	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING [4]			
Drying Temperature	110	°C	
Drying Time	3 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	285 – 310	°C	
Nozzle Temperature	285 – 305	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.1 – 0.3	MPa	
Screw Speed	50 – 90	rpm	

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(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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