LNP™ THERMOCOMP™ COMPOUND D452

DESCRIPTION

LNP THERMOCOMP D452 compound is based on Polycarbonate (PC) resin containing 40% glass fiber. Added features of this grade include: High Modulus, Low Warpage, Good Ductility, Non-Brominated & Non-Chlorinated Flame Retardant, High Flow, IMR/IMD Capability.

GENERAL INFORMATION	
Features	Flame Retardant, High Flow, 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 20241021

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	141	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.3	%	ASTM D638
Tensile Modulus, 5 mm/min	11960	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	211	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	11660	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	140	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.2	%	ISO 527
Tensile Modulus, 1 mm/min	11290	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	189	MPa	ISO 178
Flexural Modulus, 2 mm/min	10050	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	620	J/m	ASTM D4812
Izod Impact, notched, 23°C	145	J/m	ASTM D256
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	13	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	41	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	98	°C	ASTM D648
CTE, 23°C to 80°C, flow	1.58E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	5.8E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec [2]	80	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	1.52	g/cm³	ASTM D792
Mold Shrinkage, flow, 24 hrs [3]	0.1 – 0.25	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.1 – 0.25	%	ASTM D955
Melt Flow Rate, 300°C/1.2 kgf	17.4	g/10 min	ASTM D1238
Melt Flow Rate, 300°C/2.16 kgf	39	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/1.2 kg	12	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/2.16 kg	30	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-101549550	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1	mm	UL 94
INJECTION MOLDING [4] [5]			
Drying Temperature	90 – 100	°C	
Drying Time	3 – 5	Hrs	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 – 315	°C	
Middle - Zone 2 Temperature	280 – 305	°C	
Rear - Zone 1 Temperature	270 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 1	MPa	
Screw Speed	20 – 100	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) Back Pressure, Screw Speed, Shot to Cylinder Size and Vent Depth are only mentioned as general guidelines. These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

(5) 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.

DISCLAIMER