LNP™ THERMOCOMP™ COMPOUND WX05456

9760

DESCRIPTION

LNP THERMOCOMP WX05456 compound is based on Polybutylene Terephthalate (PBT) resin containing mineral. Added features of this grade include: Low Warpage, Flame Retardant.

GENERAL INFORMATION	
Features	Flame Retardant, Low Warpage, High stiffness/Strength
Fillers	Mineral
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, break	48	MPa	ASTM D638
Tensile Strain, break	1.8	%	ASTM D638
Tensile Modulus, 50 mm/min	4220	MPa	ASTM D638
Flexural Stress	90	MPa	ASTM D790
Flexural Modulus	4390	MPa	ASTM D790
Tensile Stress, break	47	MPa	ISO 527
Tensile Strain, break	1.4	%	ISO 527
Tensile Modulus, 1 mm/min	4650	MPa	ISO 527
Flexural Stress	88	MPa	ISO 178
Flexural Modulus	4200	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	197	J/m	ASTM D4812
Izod Impact, notched, 23°C	26	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	7	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	15	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	2	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	171	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	71	°C	ASTM D648
CTE, -40°C to 40°C, flow	5.81E-05	1/°C	ASTM E831

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	6.67E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	5.81E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.68E-05	1/°C	ISO 11359-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	163	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	82	°C	ISO 75/Af
Relative Temp Index, Elec (2)	105	°C	UL 746B
Relative Temp Index, Mech w/impact (2)	105	°C	UL 746B
Relative Temp Index, Mech w/o impact (2)	105	°C	UL 746B
PHYSICAL (1)			
Density	1.546	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.05	%	ASTM D570
Mold Shrinkage, flow, 24 hrs (3)	1.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs (3)	1.5	%	ASTM D955
Mold Shrinkage, flow, 24 hrs (3)	1.47	%	ISO 294
Mold Shrinkage, xflow, 24 hrs (3)	1.51	%	ISO 294
Density	1.54	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
ELECTRICAL (1)			
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E121562-101283790	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING (4)			
Drying Temperature	120 – 150	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 275	°C	
Front - Zone 3 Temperature	265 – 275	°C	
Middle - Zone 2 Temperature	250 – 260	°C	
Rear - Zone 1 Temperature	230 – 245	°C	
Mold Temperature	80 – 95	°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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