LNP™ THERMOCOMP™ Compound WX05502

9750

DESCRIPTION

LNP THERMOCOMP WX05502 compound is based on Polybutylene Terephthalate (PBT) resin containing 45% glass fiber/mineral. Added features of this grade include: Flame Retardant.

GENERAL INFORMATION	
Features	Flame Retardant, Low Warpage, High stiffness/Strength, No PFAS intentionally added
Fillers	Mineral, Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
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 20240715

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	90	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.4	%	ASTM D638
Tensile Modulus, 50 mm/min	13240	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	141	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	10900	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	85	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1.2	%	ISO 527
Tensile Strain, break, 5 mm/min	1.2	%	ISO 527
Tensile Modulus, 1 mm/min	11740	MPa	ISO 527
Flexural Stress	142	MPa	ISO 178
Flexural Modulus, 2 mm/min	11380	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	337	J/m	ASTM D4812
Izod Impact, notched, 23°C	18	J/m	ASTM D256
Multiaxial Impact	1	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	8	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	22	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	221	°C	ASTM D648

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	205	°C	ASTM D648
CTE, -30°C to 30°C, flow	2.1E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	5.E-05	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	217	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	197	°C	ISO 75/Af
Relative Temp Index, Elec [2]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	130	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	140	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.81	-	ASTM D792
Density	1.8	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.02	%	ASTM D570
Mold Shrinkage, flow, 24 hrs [3]	0.3 – 0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	1 – 3	%	ASTM D955
Moisture Absorption (23°C / 50% RH)	0.03	%	ISO 62
ELECTRICAL [1]			
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥1.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥0.75	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.75	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 2	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥3	mm	UL 746A
High Voltage Arc Track Rate {PLC}	0	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D495
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-101283789	-	-
UL Yellow Card Link 2	E207780-101283806	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.75	mm	UL 94
UV-light, water exposure/immersion	F2	-	UL 746C
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	

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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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