LNP™ THERMOCOMP™ Compound ZKC08

DESCRIPTION

LNP THERMOCOMP ZKC08 compound is based on Polyphenylene Ether / Polystyrene (PPE/PS) blend containing 40% minerals and impact modifier. Added features of this grade include: High Dielectric Constant (Dk), Extremely Low Dissipation Factor (Df), Good Ductility and Good Thermal Performance,High Impact Resistance.

GENERAL INFORMATION	
Features	Dielectrics, Impact resistant, No PFAS intentionally added
Fillers	Mineral
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Consumer	Personal Accessory
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20261009

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Flexural Stress, yld, 1.3 mm/min, 50 mm span	65	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	63	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2000	MPa	ASTM D790
Tensile Stress, yld, Type I, 50 mm/min	43	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	36	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7.8	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	8.9	%	ASTM D638
Tensile Modulus, 50 mm/min	2170	MPa	ASTM D638
Flexural Stress, yield, 2 mm/min	72	MPa	ISO 178
Flexural Stress, break, 2 mm/min	70	MPa	ISO 178
Flexural Modulus, 2 mm/min	2230	MPa	ISO 178
Tensile Stress, break, 50 mm/min	42	MPa	ISO 527
Tensile Strain, break, 50 mm/min	9.3	%	ISO 527
Tensile Modulus, 1 mm/min	2080	MPa	ISO 527
IMPACT [1]			
Izod impact, notched			
23°C	205	J/m	ASTM D256
-20°C	166	J/m	ASTM D256
80*10*4 +23°C	21	kJ/m²	ISO 180/1A
80*10*4 -20°C	16	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	148	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	173	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	149	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	174	°C	ISO 75/Bf
CTE, -40°C to 150°C, flow	6.1E-05	1/°C	ASTM E831
CTE, -40°C to 150°C, xflow	8.3E-05	1/°C	ASTM E831
Relative Temp Index, Elec [2]	65	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	65	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	65	°C	UL 746B
PHYSICAL [1]			
Mold Shrinkage, flow, 24 hrs [3]	0.75 – 0.85	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [3]	0.75 – 0.85	%	ASTM D955
Water Absorption, (23°C/24hrs)	0.03	%	ISO 62-1
Density	1.43	g/cm³	ASTM D792
Melt Volume Rate			
300°C/5.0 kg	7	cm³/10 min	ISO 1133
300°C/10.0 kg	23.5	cm³/10 min	ISO 1133
Melt Flow Rate			
300°C/5.0 kgf	9.5	g/10 min	ASTM D1238
300°C/10 kgf	31	g/10 min	ASTM D1238
ELECTRICAL [1]			
Dielectric Constant			
1.1 GHz	3.91	-	SABIC method
1.9 GHz	3.93	-	SABIC method
5 GHz	3.95	-	SABIC method
10 GHz	3.93	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0009	-	SABIC method
1.9 GHz	0.0012	-	SABIC method
5 GHz	0.0018	-	SABIC method
10 GHz	0.0021	-	SABIC method
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-102468956	-	-
UL Recognized, 94HB Flame Class Rating	1	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	105	°C	
Drying Time	3 – 5	Hrs	
Melt Temperature	285 – 320	°C	
Nozzle Temperature	280 – 320	°C	
Front - Zone 3 Temperature	285 – 320	°C	
Middle - Zone 2 Temperature	280 – 310	°C	
Rear - Zone 1 Temperature	275 – 300	°C	
Mold Temperature	90 – 120	°C	
Back Pressure	0.3 – 0.9	MPa	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Screw Speed	50 – 150	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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