LNP™ THERMOCOMP™ COMPOUND ZKC0CV

DESCRIPTION

LNP THERMOCOMP ZKC0CV compound is based on Polyphenylene Ether / Polystyrene (PPE/PS) blend containing proprietary fillers. Added features of this grade include: High Dielectric Constant (Dk), Low Dissipation Factor (Df) for Laser Direct Structuring (LDS) and Good Thermal Performance.

GENERAL INFORMATION	
Features	Heat Stabilized, Dielectrics, Laser Direct Structuring, Dimensional stability, No PFAS intentionally added
Fillers	Proprietary Filler
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Electrical and Electronics	Mobile Phone - Computer - Tablets, Speaker - Earphone, Wireless Communication

TYPICAL PROPERTY VALUES

Revision 20231220

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	62	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.7	%	ASTM D638
Tensile Modulus, 5 mm/min	5880	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5200	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	61	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.6	%	ISO 527
Tensile Modulus, 1 mm/min	5780	MPa	ISO 527
Flexural Strength, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	5820	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	50.6	J/m	ASTM D256
Izod Impact, notched, -30°C	25	J/m	ASTM D256
Izod Impact, unnotched, 23°C	266	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	5.3	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	3.8	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	19	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4.5	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	2.3	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	23	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	143	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	134	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	145	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	136	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	5.2E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.4E-5	1/°C	ASTM E831
PHYSICAL (1)			
Specific Gravity	2	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.07	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.02	%	ISO 62-4
Melt Volume Rate, MVR at 300°C/5.0 kg	5.2	cm³/10 min	ISO 1133
Mold Shrinkage, flow (2)	0.6 – 0.8	%	SABIC method
Mold Shrinkage, xflow (2)	0.7 – 0.9	%	SABIC method
ELECTRICAL (1)			
Dielectric Constant, 1.1 GHz	6.8	-	SABIC method
Dissipation Factor, 1.1 GHz	0.0013	-	SABIC method
Dielectric Constant, 1.9 GHz	6.8	-	SABIC method
Dissipation Factor, 1.9 GHz	0.0013	-	SABIC method
INJECTION MOLDING (3)			
Drying Temperature	105 – 120	°C	
Drying Time	3 – 5	Hrs	
Melt Temperature	290 – 325	°C	
Nozzle Temperature	290 – 325	°C	
Front - Zone 3 Temperature	290 – 325	°C	
Middle - Zone 2 Temperature	280 – 320	°C	
Rear - Zone 1 Temperature	270 – 310	°C	
Mold Temperature	90 – 120	°C	
Back Pressure	0.3 – 0.9	MPa	
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) 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.

(3) 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