LNP™ THERMOCOMP™ COMPOUND ZKC08

DESCRIPTION

LNP™ Thermocomp™ ZKC08 is a compound based on PPO resin containing Mineral Filler, Impact Modifier. Added features of this material include: high dielectric constant (Dk), extremely low dissipation factor (Df), good ductility, and good thermal performance.

TYPICAL PROPERTY VALUES

Revision 20200610

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Flexural Modulus, 1.3 mm/min, 50 mm span	2000	MPa	ASTM D 790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	65	MPa	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	63	MPa	ASTM D 790
Flexural Modulus, 2 mm/min	2230	MPa	ISO 178
Flexural Stress, yield, 2 mm/min	72	MPa	ISO 178
Flexural Stress, break, 2 mm/min	70	MPa	ISO 178
Tensile Modulus, 50 mm/min	2170	MPa	ASTM D 638
Tensile Stress, yld, Type I, 50 mm/min	43	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	7.8	%	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	36	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	8.9	%	ASTM D 638
Tensile Stress, break, 50 mm/min	42	MPa	ISO 527
Tensile Modulus, 1 mm/min	2080	MPa	ISO 527
Tensile Strain, break, 50 mm/min	9.3	%	ISO 527
IMPACT			
Izod Impact, notched, 23°C	205	J/m	ASTM D 256
Izod Impact, notched, -20°C	166	J/m	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	21	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -20°C	16	kJ/m²	ISO 180/1A
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	148	°C	ASTM D 648
HDT, 0.45 MPa, 3.2 mm, unannealed	173	°C	ASTM D 648
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 E 831
CTE, -40°C to 150°C, xflow	8.3E-05	1/°C	ASTM E 831
Relative Temp Index, Elec [1]	65	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	65	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	65	°C	UL 746B
PHYSICAL			
Melt Volume Rate, MVR at 300°C/5.0 kg	7	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 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 D 1238
Melt Flow Rate, 300°C/10 kgf	31	g/10 min	ASTM D 1238
Mold Shrinkage, flow, 24 hrs	0.75 – 0.85	%	ASTM D 955

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, xflow, 24 hrs	0.75 – 0.85	%	ASTM D 955
Water Absorption, (23°C/24hrs)	0.03	%	ISO 62-1
Density	1.43	g/cm³	ASTM D 792
ELECTRICAL			
Dielectric Constant, 1.1 GHz	3.91	-	SABIC method
Dissipation Factor, 1.1 GHz	0.0009	-	SABIC method
Dielectric Constant, 1.9 GHz	3.93	-	SABIC method
Dissipation Factor, 1.9 GHz	0.0012	-	SABIC method
Dielectric Constant, 5 GHz	3.95	-	SABIC method
Dissipation Factor, 5 GHz	0.0018	-	SABIC method
Dielectric Constant, 10 GHz	3.93	-	SABIC method
Dissipation Factor, 10 GHz	0.0021	-	SABIC method
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E207780-102468956	-	-
UL Recognized, 94HB Flame Class Rating	1	mm	UL 94
INJECTION MOLDING			
Drying Temperature	105	°C	
Drying Time	3 – 5	hrs	
Melt Temperature	285 – 295	°C	
Nozzle Temperature	280 – 295	°C	
Front - Zone 3 Temperature	285 – 305	°C	
Middle - Zone 2 Temperature	280 – 295	°C	
Rear - Zone 1 Temperature	275 – 285	°C	
Mold Temperature	90	°C	
Back Pressure	9	MPa	
Screw Speed	100	rpm	

(1) 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.

DISCLAIMER