

LNPTTM THERMOCOMPTM COMPOUND ZKCOAXXP

DESCRIPTION

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

GENERAL INFORMATION	
Features	Dielectrics, Low Moisture Absorption, Dimensional stability, No PFAS intentionally added
Fillers	Mineral
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Electrical and Electronics	Wireless Communication

TYPICAL PROPERTY VALUES

Revision 20260407

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 5 mm/min	50	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	49	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	5.5	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	14	%	ASTM D638
Tensile Modulus, 5 mm/min	2300	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	96	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2600	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	52	MPa	ISO 527
Tensile Stress, break, 5 mm/min	51	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	6	%	ISO 527
Tensile Strain, break, 5 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Strength, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	105	J/m	ASTM D256
Izod Impact, notched, -30°C	78	J/m	ASTM D256
Izod Impact, unnotched, 23°C	1300	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	900	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	11	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m ²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	90	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	55	kJ/m ²	ISO 180/1U

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	7.5	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	95	kJ/m²	ISO 179/1eU
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 3.2 mm, unannealed	160	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	142	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	160	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	143	°C	ISO 75/Af
CTE			
-40°C to 40°C, flow	5.8E-05	1/°C	ASTM E831
-40°C to 40°C, xflow	6.7E-05	1/°C	ASTM E831
-40°C to 90°C, flow	6.0E-05	1/°C	ASTM E831
-40°C to 90°C, xflow	7.3E-05	1/°C	ASTM E831
-40°C to 40°C, flow	5.9E-05	1/°C	ISO 11359-2
-40°C to 40°C, xflow	6.9E-05	1/°C	ISO 11359-2
-40°C to 90°C, flow	6.1E-05	1/°C	ISO 11359-2
-40°C to 90°C, xflow	7.3E-05	1/°C	ISO 11359-2
PHYSICAL ⁽¹⁾			
Specific Gravity	1.66	-	ASTM D792
Density	1.66	g/cm³	ISO 1183
Melt Flow Rate, 300°C/5.0 kgf	11.2	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/5.0 kg	7	cm³/10 min	ISO 1133
Water Absorption, (23°C/24hrs)	0.07	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.02	%	ISO 62-4
Mold Shrinkage, flow ⁽²⁾	0.7 – 0.9	%	SABIC method
Mold Shrinkage, xflow ⁽²⁾	0.7 – 0.9	%	SABIC method
ELECTRICAL ⁽¹⁾			
Dielectric Constant			
1.1 GHz	5.0	-	SABIC method
1.9 GHz	5.0	-	SABIC method
5 GHz	5.05	-	SABIC method
Dissipation Factor			
1.1 GHz	0.0011	-	SABIC method
1.9 GHz	0.0013	-	SABIC method
5 GHz	0.0017	-	SABIC method
INJECTION MOLDING ⁽³⁾			
Drying Temperature	105 – 120	°C	
Drying Time	3 – 5	Hrs	
Melt Temperature	290 – 320	°C	
Nozzle Temperature	290 – 320	°C	
Front - Zone 3 Temperature	290 – 320	°C	
Middle - Zone 2 Temperature	280 – 310	°C	
Rear - Zone 1 Temperature	270 – 300	°C	
Mold Temperature	90 – 120	°C	
Back Pressure	0.3 – 0.9	MPa	

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) 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

Any sale by SABIC, its subsidiaries and affiliates (each a “seller”), is made exclusively under seller’s standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer’s particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.