LNP™ STAT-KON™ Compound KDF20G

REGION EUROPE

DESCRIPTION

LNP STAT-KON KDF20G compound is based on POM (Acetal) copolymer resin containing conductive carbon powder and glass fiber. Added features of this grade include: Low Warpage, Electrically Conductive.

GENERAL INFORMATION	
Applications	Displays, Enclosure/Housing/Cover, Fuel Handling, Industrial Material Handling, Oil/Gas, Structural Support, Structure
Features	Electrically Conductive, Low Warpage, No PFAS intentionally added
Fillers	Carbon Powder, Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Acetal (POM) Copolymer
Processing Techniques	Injection Molding
Regional Availability	Europe

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electrical Components and Infrastructure
Industrial	Industrial Material Handling

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Modulus, 1 mm/min	3900	MPa	ISO 527
Tensile Stress, break, 5 mm/min	50	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Flexural Modulus, 2 mm/min	3800	MPa	ISO 178
Flexural Strength, 2 mm/min	90	MPa	ISO 178
Tensile Modulus, 5 mm/min	4100	MPa	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	53	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	53	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.7	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	1.4	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	3900	MPa	ASTM D790
Flexural Strength, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	2.5	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	16	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	2	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	20	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	29	J/m	ASTM D256
Izod Impact, unnotched, 23°C	225	J/m	ASTM D4812

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
THERMAL [1]			
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	117	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	157	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	150	°C	ISO 306
Vicat Softening Temp, Rate B/120	151	°C	ISO 306
CTE, -40°C to 40°C, flow	7.6E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.0E-05	1/°C	ISO 11359-2
HDT, 1.82 MPa, 3.2mm, unannealed	120	°C	ASTM D648
HDT, 0.45 MPa, 3.2 mm, unannealed	159	°C	ASTM D648
Vicat Softening Temp, Rate B/50	150	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	151	°C	ASTM D1525
CTE, -40°C to 40°C, flow	7.6E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	9.0E-05	1/°C	ASTM E831
PHYSICAL [1]			
Density	1.51	g/cm³	ISO 1183
Water Absorption, (23°C/24hrs)	0.16	%	ISO 62-1
Water Absorption, (23°C/saturated)	0.57	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.03	%	ISO 62-4
Moisture Absorption, (23°C/50% RH/Equilibrium)	0.08	%	ISO 62-4
Mold Shrinkage, flow	1 – 2.5	%	SABIC method
Mold Shrinkage, xflow	1 – 2.5	%	SABIC method
Dynamic COF	0.5	-	ASTM D3702 Modified: Manual
Static COF	0.88	-	ASTM D3702 Modified: Manual
POLYMER PROPERTIES			
Melt volume rate (MVR)			
Melt Volume Rate, MVR at 190°C/5.0 kg	11	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Surface Resistivity, ROA	1.E+01 – 1.E+04	Ω	IEC 60093
Volume Resistivity	1.E+00 – 1.E+03	Ω.cm	IEC 60093
Volume Resistivity	1.E+00 – 1.E+03	Ω.cm	SABIC method
Surface Resistivity	1.E+01 – 1.E+04	Ω	ASTM D4496
Volume Resistivity	1.E+00 – 1.E+03	Ω.cm	ASTM D4496
INJECTION MOLDING [2]			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Melt Temperature	180 – 200	°C	
Rear - Zone 1 Temperature	175 – 200	°C	
Middle - Zone 2 Temperature	180 – 200	°C	
Front - Zone 3 Temperature	180 – 200	°C	
Nozzle Temperature	175 – 200	°C	
Mold Temperature	80 – 120	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw speed (Circumferential speed)	0.15 – 0.25	m/s	

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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) 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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