

LNPTM STAT-KONTM 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 | Glass Fiber, Carbon Powder |
| 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/m ² | ISO 180/1A |
| Izod Impact, unnotched 80*10*4 +23°C | 16 | kJ/m ² | ISO 180/1U |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 2 | kJ/m ² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | 20 | kJ/m ² | ISO 179/1eU |
| Izod Impact, notched, 23°C | 29 | J/m | ASTM D256 |
| Izod Impact, unnotched, 23°C | 225 | J/m | ASTM D4812 |

| 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/cm ³ | 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 | cm ³ /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 | |

- (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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