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FORTRON[®] 4665B6

Polyphenylene sulfide

Fortron 4665B6 offers a high Comparative Tracking Index (CTI) for application requiring resistance to high voltage. The product exhibits good heat and chemical resistance as well as good electrical properties. This grade is also inherently flame-retardant. Due to the balance of mineral and glass fibers the warpage is very low. Applications include electronic components (i.e. lamp sockets, housings and position frames).

Product information

| 1 roddol information | | | |
|--|---------------------|-----------------------|----------------------------|
| Resin Identification | PPS-(GF+MD)6 5 | | ISO 1043 |
| Part Marking Code | >PPS-(GF+MD)6 | 5< | ISO 11469 |
| Rheological properties | | | |
| Moulding shrinkage, parallel | 0.2 | % | ISO 294-4, 2577 |
| Moulding shrinkage, normal | 0.6 | % | ISO 294-4, 2577 |
| Typical mechanical properties | | | |
| Tensile modulus | 17300 | MPa | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 125 | MPa | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 1.2 | % | ISO 527-1/-2 |
| Flexural modulus | 16000 | MPa | ISO 178 |
| Flexural strength | | MPa | ISO 178 |
| Compressive strength | | MPa | ISO 604 |
| Charpy impact strength, 23°C | | kJ/m ² | ISO 179/1eU |
| Charpy impact strength, -30 °C | | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | | kJ/m ² | ISO 179/1eA |
| Charpy notched impact strength, -30°C | | kJ/m ² | ISO 179/1eA |
| Izod notched impact strength, 23°C | | kJ/m ² | ISO 180/1A |
| Izod notched impact strength, -30°C Hardness, Rockwell, M-scale | 5.0 | kJ/m² | ISO 180/1A ISO 2039-2 |
| Poisson's ratio | 0.33 ^[C] | | 130 2039-2 |
| | 0.55 | | |
| [C]: Calculated | | | |
| Thermal properties | | | |
| Melting temperature, 10°C/min | 280 | | ISO 11357-1/-3 |
| Glass transition temperature, 10°C/min | | °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 270 | | ISO 75-1/-2 |
| Temperature of deflection under load, 8 MPa | 215 | - | ISO 75-1/-2 |
| Coefficient of linear thermal expansion | 20 | E-6/K | ISO 11359-1/-2 |
| (CLTE), parallel | | — • # <i>i</i> | |
| Coefficient of linear thermal expansion (CLTE), | 25 | E-6/K | ISO 11359-1/-2 |
| normal | • • | M/(m K) | |
| Thermal conductivity, flow | | W/(m K) | ISO 22007-2 ISO 22007-2 |
| Thermal conductivity, crossflow | | W/(m K) W/(m K) | ISO 22007-2 ISO 22007-2 |
| Thermal conductivity, through plane | 0.9 | vv/(III K) | 130 22007-2 |

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| Flammability Burning Behav. at 1.5mm nom. thick Thickness tested Burning Behav. at thickness h Thickness tested | n. V-0 class 1.5 mm V-0 class 0.82 mm | IEC 60695-11-10 IEC 60695-11-10 IEC 60695-11-10 IEC 60695-11-10 | |
|--|--|--|--|
| Electrical properties | | | |
| Relative permittivity, 1MHz Dissipation factor, 1MHz Volume resistivity Surface resistivity Electric strength Comparative tracking index | 5.3 20 E-4 >1E13 Ohm.m >1E15 Ohm 25 kV/mm 250 | IEC 62631-2-1 IEC 62631-2-1 IEC 62631-3-1 IEC 62631-3-2 IEC 60243-1 IEC 60112 | |
| Physical/Other properties | | | |
| Water absorption, 2mm Density | 0.02 % 2030 kg/m ³ | Sim. to ISO 62 ISO 1183 | |
| Injection | | | |
| Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Min. melt temperature Max. melt temperature Screw tangential speed Mold Temperature Optimum Min. mould temperature Max. mould temperature Hold pressure range Back pressure Ejection temperature | yes 130 °C 2-4 h ≤0.02 % 330 °C 310 °C 340 °C 0.2-0.3 m/s 150 °C 140 °C 160 °C 30-70 MPa 3 MPa 223 °C | | |
| Characteristics | | | |
| Processing | Injection Moulding | | |
| Delivery form | Pellets | | |
| Additives | Release agent | | |
| Special characteristics | Flame retardant, Heat stabilised or stable to heat, High Flow, Low Warpage, Chemical resistant | | |

Additional information

Injection molding

Preprocessing

Predrying in a dehumidified air dryer at 130 - 140 degC/3-4 hours is recommended.

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Processing

On injection molding machines with 15-25 D long three-section screws, as are usual in the trade, the FORTRON is processable. A shut-off nozzle is preferred to a free-flow nozzle.

Melt temperature 320-340 degC Mold wall temperature at least 140 degC

A medium injection rate is normally preferred. All mold cavities must be effectively vented.

Postprocessing

Tool temperature of at least 135 degC is recommended for parts to achieve maximum crystallizable potential.

Processing Notes Pre-D

Pre-Drying

FORTRON should in principle be predried. Because of the necessary low maximum residual moisture content the use of dry air dryers is recommended. The dew point should be =< -30° C. The time between drying and processing should be as short as possible.

Storage

For subsequent storage the material should be stored dry in the dryer until processed (≤ 60 h).

Automotive

OEM Continental STANDARD TST N 055 58.01

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