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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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Page: 3 of 3

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