



TECHNICAL DATA SHEET

Witcom PES-BG, based on Polyethersulfone (PES)

bearing grade

| Properties | Test methods | Units | PES-BG |
|------------|--------------|-------|--------|
|------------|--------------|-------|--------|

Physical properties

| | | | |
|--|----------|-------------------|-----------|
| Specific gravity | ISO 1183 | g/cm ³ | 1,52 |
| Water absorption at saturation, 23 °C | ISO 62 | % | 1,6 |
| Humidity absorption, 23 °C/50 % r.h. | ISO 62 | % | 0,5 |
| Mould shrinkage (flow direction, 3 mm) | ISO 2577 | % | 0,2 - 0,4 |

Mechanical properties

| | | | |
|---------------------------------|-------------|-------------------|-------|
| Tensile strength (max.) | ISO 527 | MPa | 110 |
| Elongation at break | ISO 527 | % | 1 - 3 |
| Flexural strength | ISO 178 | MPa | 140 |
| Flexural modulus | ISO 178 | GPa | 7,0 |
| IZOD impact strength, notched | ISO 180/1eA | kJ/m ² | 5,5 |
| IZOD impact strength, unnotched | ISO 180/1eU | kJ/m ² | 16 |

Thermal properties

| | | | |
|---|-----------|-----------------------------------|-----|
| Heat distortion temperature (1,81 MPa) | ISO 75 | °C | 210 |
| Relative temperature index, 3 mm, with impact | UL 746B | °C | 180 |
| Coefficient of linear thermal expansion | ISO 11359 | K ⁻¹ ·10 ⁻⁵ | 2,4 |

Flammability

| | | | |
|-------------------|----------|---|-------------|
| Burning behaviour | ISO 1210 | - | V0 @ 3,0 mm |
| UL recognition | UL94 | - | - |

Electrical properties

| | | | |
|----------------------------|-------------|------|-----------------------------------|
| Surface resistivity | ASTM D257 | Ω/sq | 10 ⁴ - 10 ⁶ |
| Comparative tracking index | IEC 60112 | V | - |
| Glow wire rating, 1,6 mm | IEC 695-2-1 | °C | 960 |

Processing conditions (injection moulding)

| | |
|---|------------------------------|
| Drying conditions (dehumidifying drier) | : 4 - 6 Hours @ 130 - 160 °C |
| Maximum allowable moisture content | : 0,02 % |
| Melt temperature | : 350 - 390 °C |
| Mould temperature | : 150 - 190 °C |
| Screw speed | : 0,1 - 0,2 m/s |
| Back pressure | : 0 - 1,0 MPa |
| Injection pressure | : Keep to a minimum |
| Injection speed | : Fast ram speed |
| Hold pressure | : Keep to a minimum |

Revision date: 28-05-2009

This information is based on our experience to date and we believe it to be reliable. It is intended as a guide for use at your discretion and risk. We cannot guarantee favourable results and assume no liability in connection with the use of the product described. None of this information is to be taken as a license to operate under, or a recommendation to infringe, any patents.