

TECANYL 731 grey - Stock Shapes (rods, plates, tubes)

Chemical Designation

PPE (Polyphenylene ether)

Colour

grey opaque

Density

1.1 g/cm³

Main features

- high strength
- electrically insulating
- high toughness
- good weldable and bondable
- sensitive to stress cracking

Target Industries

- mechanical engineering
- electronics
- energy industry
- food technology
- automotive industry

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|-------------------------------|------------------|----------------------------------|----------------------|---------|
| Tensile strength | 50mm/min | 57 | MPa | DIN EN ISO 527-2 | |
| Modulus of elasticity (tensile test) | 1mm/min | 2400 | MPa | DIN EN ISO 527-2 | 1) |
| Tensile strength at yield | 50mm/min | 57 | MPa | DIN EN ISO 527-2 | |
| Elongation at yield (tensile test) | 50mm/min | 15 | % | DIN EN ISO 527-2 | |
| Elongation at break (tensile test) | 50mm/min | 22 | % | DIN EN ISO 527-2 | |
| Flexural strength | 2mm/min, 10 N | 85 | MPa | DIN EN ISO 178 | 2) |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N | 2500 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% / 5% 5mm/min, 10 N | 18/33/74 | MPa | EN ISO 604 | 3) |
| Compression modulus | 5mm/min, 10 N | 2100 | MPa | EN ISO 604 | 4) |
| Impact strength (Charpy) | max. 7,5J | 69 | kJ/m ² | DIN EN ISO 179-1eU | 5) |
| Ball indentation hardness | | 146 | MPa | ISO 2039-1 | 6) |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 145 | °C | DIN EN ISO 11357 | 1) |
| Melting temperature | | n.a. | °C | DIN EN ISO 11357 | 2) |
| Service temperature | short term | 110 | °C | | 3) |
| Service temperature | long term | 85 | °C | | |
| Thermal expansion (CLTE) | 23-60°C, long. | 8 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 23-100°C, long. | 8 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Specific heat | | 1.3 | J/(g*K) | ISO 22007-4:2008 | |
| Thermal conductivity | | 0.21 | W/(K*m) | ISO 22007-4:2008 | |
| Electrical properties | parameter | value | unit | norm | comment |
| surface resistivity | | 10 ¹⁴ | Ω | - | |
| volume resistivity | | 10 ¹⁴ | Ω*cm | - | |
| Other properties | parameter | value | unit | norm | comment |
| Water absorption | 24h / 96h (23°C) | 0.02 / 0.04 | % | DIN EN ISO 62 | 1) |
| Resistance to hot water/ bases | (+) | | - | | 2) |
| Resistance to weathering | - | | - | | 3) |
| Flammability (UL94) | corresponding to | HB | | DIN IEC 60695-11-10; | 4) |

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