



Material: PEEK 1000

Produced from virgin polyetheretherketone resin and offers the highest toughness and impact strength of all PEEK grades. Can be sterilised by all conventional sterilisation methods and additionally has the Japanese MITI approval which includes testing with respect to solvent extractables and mutagenicity. Its composition complies with the directives of the EU and FDA regulations concerning plastic materials intended to come into contact with foodstuffs. Excellent chemical resistance, hydrolysis resistance, flammability ratings, dimensional stability, operating temperature range (-60°C+250°C), resistance against high energy radiation, mechanical strength/stiffness and insulating properties make this grade very popular in medical, pharmaceutical and food processing industries.

Technical Specification

| Property | Test Method | Units | Value |
|---|------------------|-----------------------------------|-----------------------|
| Colour | - | - | Natural (Ivory)/Black |
| Density | ISO 1183 | g/cm ³ | 1.15 |
| Water Absorption - saturation in air (23°C/50%RH) | - | % | 2.20 |
| Water Absorption - saturation in water (23°C) | - | % | 6.50 |
| Tensile strength*1 | ISO 527 | N/mm ² | 85 |
| Tensile modulus of elasticity*1 | ISO 527 | N/mm ² | 3500 |
| Elongation at break*1 | ISO 527 | % | 25 |
| Impact - Charpy*1 | 179/1eU | kJ/m ² | No break |
| Impact – Charpy notched*1 | 180/2A | kJ/m ² | 3.5 |
| Hardness | Rockwell Shore D | - | M88 |
| Melt Point | - | °C | 220 |
| Max service temp in air short periods | - | °C | 170 |
| Max service temp continuously for 20000hrs | - | °C | 90 |
| Linear thermal expansion coefficient | - | K ⁻¹ x10 ⁻⁵ | 8.0 |
| Thermal Conductivity | - | W/(K.m) | 0.29 |
| Flammability (3mm thickness) | - | - | HB |
| Volume resistivity*1 | IEC93 | Ohm.cm | >10 ¹⁴ |
| Dielectric strength*1 | IEC243 | Kv/mm | 25 |
| Outside applications – UV resistance | - | - | B/A |
| Acids – strong (Ph<3) | - | - | C |
| Alkalis – strong (pH>11) | - | - | B/C |
| Chlorinated Hydrocarbons | - | - | A/B |
| Hot Water | - | - | B |
| ‘A’ – Acceptable service, ‘B’ – Limited, ‘C’ – Unacceptable | | | |
| *1 Measured on dry test specimens (where applicable) | | | |

Availability:

Rod, 500mm, 1M & 3m long – 3-200mm diameter

Plate, 500, 1m & 3m long x 500 & 1000mm wide – 5-25mm thickness

Plate, 500, 1m & 3m long x 300 & 615mm wide – 30-100mm thickness

Applications:

Bearings, Valve Seats, Pump Components, Rollers, Gears, High Temp Insulation, Components in boiling water or steam

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The data shown are typical values and are not intended to represent specifications. Their aim is to guide the user toward a material choice.

Not all material sizes shown within the availability programme of this data sheet are available as standard.

Please contact ABG Rubber and Plastics Ltd for further details.