

Application purpose and characteristics

PCTFE is ideal for use in the presence of liquid gas, particularly air and liquid oxygen. Applications: connecting pieces, pump bodies, fittings, seats, valve flaps, insulation units, shaft seals, piston seals etc.

Very good mechanical strength; in particular, low creeping under compressive stress. Non-flammable, even at high oxygen concentrations (100% oxygen index limit). High chemical resistance to mineral acid and a number of organic acids. Excellent resistance

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| Material name, short description | PCTFE |
| Material name, based on technical standards | Polychlorotrifluoroethylene |
| Density | 2.125 g/cm ³ |
| Color | natural (white) |
| Compound code | PCTFE 00.017-00 |

Mechanical properties

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|-----------------------------------|--|
| Modulus of elasticity & tension 1 | ≥ 1300 N/mm ² ASTM D 790 |
| Tensile strength | ≥ 35 N/mm ² ASTM D 638 |
| Elongation at break | ≥ 80 % ASTM D 638 |
| Compressive strength 1 | ≥ 9 N/mm ² ASTM D 695 0.1% off set, 25°C |
| Deformation under load 1 | 2.6 % ASTM D 621 24 h/14.2 N/mm ² bei 23 °C |
| Hardness nominal value | 85 ±5 Shore D |

Thermal attributes

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| Max. operating temperature long term | 150 °C |
| Max. operating temperature short term | 180 °C |
| Coefficient of linear thermal expansion 1 | 4.5 - 7.0 * 10 ⁻⁵ /°C ASTM D 696 23 - 200 °C, Mld.Dir. |
| Crystalline melting point | 210 °C |
| Thermal conductivity | 0.22 W/(m·K) ±0.01 ASTM C 177 Moulding Direction (MD) |

Electrical attributes

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| Dielectric dissipation factor 1 | 0.025 ASTM D 150 1 KHz |
| Dielectric dissipation factor 2 | 0.011 ASTM D 150 1 MHz |
| Dielectric constant 1 | 2.5 ASTM D 150 1 KHz |
| Dielectric constant 2 | 2.4 1 MHz |
| Dielectric strength 1 | ≥ 20 kV/mm ASTM D 149 Air (Tape) |
| Volume resistivity | ≤10 ¹⁵ Ω*cm |

In compliance with **RoHS** and **REACH** directives.

This information is based on our available data. These values are measured on standard test specimens and are within the normal tolerance range of material properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. The customer is solely responsible for quality and suitability of material for his application. He has to test usage and processing prior to use. Angst+Pfister makes no guarantees for the suitability of the material for any given application and assumes no obligation or liability in connection with the information provided above.

Approvals / Compliance

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| Food & Beverage | FDA CFR 21 - 177.1380 "Fluorocarbon resins" |
| Specific substance statements | ADI free (free of Animal Derived Ingredients) resp. TSE/BSE related substances |



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