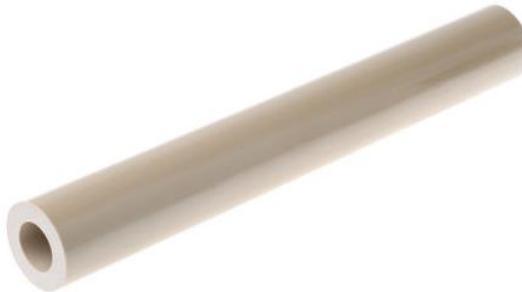


## Datasheet

### Beige Round PEEK Tube

RS Stock number 778-1734



#### Chemical Designation

PEEK (Polyetheretherketone)

#### Colour

natural opaque

#### Density

1.31 g/cm<sup>3</sup>

#### Main features

- good heat deflection temperature
- good machinability
- inherent flame retardant
- resistance against high energy radiation
- good slide and wear properties
- very good chemical resistance
- high creep resistance
- hydrolysis and superheated steam resistant

#### Target Industries

- chemical technology
- mechanical engineering
- electrical engineering
- aircraft and aerospace technology
- automotive industry
- food engineering
- semiconductor technology
- vacuum technology
- textile industry

| Mechanical properties                 | parameter                | value   | unit              | norm               | comment |
|---------------------------------------|--------------------------|---------|-------------------|--------------------|---------|
| Modulus of elasticity (tensile test)  | 1mm/min                  | 4200    | MPa               | DIN EN ISO 527-2   | 1)      |
| Tensile strength                      | 50mm/min                 | 116     | MPa               | DIN EN ISO 527-2   |         |
| Tensile strength at yield             | 50mm/min                 | 116     | MPa               | DIN EN ISO 527-2   |         |
| Elongation at yield                   | 50mm/min                 | 5       | %                 | DIN EN ISO 527-2   |         |
| Elongation at break                   | 50mm/min                 | 15      | %                 | DIN EN ISO 527-2   |         |
| Flexural strength                     | 2mm/min, 10 N            | 175     | MPa               | DIN EN ISO 178     | 2)      |
| Modulus of elasticity (flexural test) | 2mm/min, 10 N            | 4200    | MPa               | DIN EN ISO 178     |         |
| Compression strength                  | 1% / 2%<br>5mm/min, 10 N | 23 / 43 | MPa               | EN ISO 604         | 3)      |
| Compression modulus                   | 5mm/min, 10 N            | 3400    | MPa               | EN ISO 604         | 4)      |
| Impact strength (Charpy)              | max. 7,5J                | n.b.    | kJ/m <sup>2</sup> | DIN EN ISO 179-1eU | 5)      |
| Notched impact strength (Charpy)      | max. 7,5J                | 4       | kJ/m <sup>2</sup> | DIN EN ISO 179-1eA |         |
| Ball indentation hardness             |                          | 253     | MPa               | ISO 2039-1         | 6)      |

| <b>Thermal properties</b>      | <b>parameter</b>                               | <b>value</b>     | <b>unit</b>                      | <b>norm</b>          | <b>comment</b>   |
|--------------------------------|--|------------------|----------------------------------|----------------------|--|
| Glass transition temperature   |  | 150              | °C                               | DIN 53765            | 1)   |
| Melting temperature            |  | 341              | °C                               | DIN 53765            |  |
| Heat distortion temperature    | HDT, Method A                                  | 162              | °C                               | ISO-R 75 Method A    |  |
| Service temperature            | short term                                     | 300              | °C                               |                      | 2)   |
| Service temperature            | long term                                      | 260              | °C                               |                      |  |
| Thermal expansion (CLTE)       | 23-60°C, long.                                 | 5                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Thermal expansion (CLTE)       | 23-100°C, long.                                | 5                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Thermal expansion (CLTE)       | 100-150°C, long.                               | 7                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |  |
| Specific heat                  |  | 1.1              | J/(g*K)                          | ISO 22007-4:2008     |  |
| Thermal conductivity           |  | 0.27             | W/(K*m)                          | ISO 22007-4:2008     |  |
| <b>Electrical properties</b>   | <b>parameter</b>                               | <b>value</b>     | <b>unit</b>                      | <b>norm</b>          | <b>comment</b>   |
| Specific surface resistance    | Silver electrode, 23°C,<br>12% r.h.            | 10 <sup>15</sup> | Ω                                | DIN IEC 60093        | 1)   |
| Specific volume resistance     | Silver electrode, 23°C,<br>12% r.h.            | 10 <sup>15</sup> | Ω*cm                             | DIN IEC 60093        | (1) Specimen in 20mm<br>thickness<br>(2) Specimen in 1mm thickness             |
| Dielectric strength            | 23°C, 50% r.h.                                 | 73               | kV/mm                            | ISO 60243-1          | 2)   |
| Resistance to tracking (CTI)   | Platin electrode, 23°C,<br>50% r.h., solvent A | 125              | V                                | DIN EN 60112         |  |
| <b>Other properties</b>        | <b>parameter</b>                               | <b>value</b>     | <b>unit</b>                      | <b>norm</b>          | <b>comment</b>   |
| Water absorption               | 24h / 96h (23°C)                               | 0.02 /<br>0.03   | %                                | DIN EN ISO 62        | 1)<br>(1) Ø ca. 50mm, h=13mm<br>(2) + good resistance<br>(3) - poor resistance |
| Resistance to hot water/ bases | +  |                  | -                                |                      | 2)   |
| Resistance to weathering       | -  |                  | -                                |                      | 3)   |
| Flammability (UL94)            | listed (value at 1.5mm)                        | V0               |                                  | DIN IEC 60695-11-10; |  |