

# PEEK Rod

**Formula:** PEEK

**Diameter:** 6mm

**Length:** 300mm

**Structure:** Semi Crystalline

**Colour:** Opaque Grey

**CAS Number:** 29658-26-2

**UOM Code:** 313-036-70

**SKU:** 1000076102

**Product Code:** EK30-RD-000106

## Material Properties for Polymers

### Chemical Resistance

| Element                  | Value     |
|--------------------------|-----------|
| Acids - concentrated     | Good-Poor |
| Acids - dilute           | Good      |
| Alcohols                 | Good      |
| Alkalis                  | Good      |
| Aromatic hydrocarbons    | Good      |
| Greases and Oils         | Good      |
| Halogenated Hydrocarbons | Good      |
| Halogens                 | Good-Poor |
| Ketones                  | Good-Poor |

### Mechanical Properties

| Element                                   | Value  |
|-------------------------------------------|--------|
| Coefficient of friction                   | 0.18   |
| Hardness - Rockwell                       | M99    |
| Poisson's ratio                           | 0.4    |
| Elongation at break( % )                  | 50     |
| Tensile modulus( GPa )                    | 3.7-4  |
| Izod impact strength( J m <sup>21</sup> ) | 85     |
| Tensile strength( MPa )                   | 70-100 |

## Electrical Properties

| Element                                    | Value                              |
|--------------------------------------------|------------------------------------|
| Dielectric constant @1kHz                  | 3.2-3.3@50Hz-10Khz                 |
| Dissipation factor @ 1MHz                  | 0.003                              |
| Dielectric strength( kV mm <sup>-1</sup> ) | 190@50μm                           |
| Volume resistivity( Ohmcm )                | 10 <sup>12</sup> -10 <sup>13</sup> |

## Physical Properties

| Element                               | Value       |
|---------------------------------------|-------------|
| Flammability                          | V-0 @ 1.5mm |
| Radiation resistance                  | Good        |
| Resistance to Ultra-violet            | Fair        |
| Limiting oxygen index( % )            | 35          |
| Water absorption - equilibrium( % )   | 0.5         |
| Water absorption - over 24 hours( % ) | 0.1-0.3     |
| Density( gcm <sup>-3</sup> )          | 1.26-1.32   |

## Thermal Properties

| Element                                                               | Value     |
|-----------------------------------------------------------------------|-----------|
| Heat-deflection temperature - 0.45MPa( C )                            | 260       |
| Heat-deflection temperature - 1.8MPa( C )                             | 160       |
| Upper working temperature( C )                                        | 250       |
| Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )                   | 1340      |
| Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )             | 0.25@23°C |
| Coefficient of thermal expansion( x10 <sup>-5</sup> K <sup>-1</sup> ) | 47-108    |