# PEEK Rod

**Formula:** PEEK
**Diameter:** 50mm
**Length:** 300mm
**Structure:** Semi Crystalline
**Colour:** Opaque Grey
**CAS Number:** 29658-26-2
**UOM Code:** 338-296-49
**SKU:** 1000076244
**Product Code:** EK30-RD-000150

## 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?¹ ) | 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?¹ ) | 190@50μm |
| Volume resistivity( Ohmcm ) | 10¹?-10¹? |

## 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?³ ) | 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?¹ kg?¹ ) | 1340 |
| Thermal conductivity( W m?¹ K?¹ ) | 0.25@23°C |
| Coefficient of thermal expansion( x10?? K?¹ ) | 47-108 |