

# PTFE Rod

**Formula:** PTFE

**Diameter:** 5mm

**Length:** 500mm

**CAS Number:** 9002-84-0

**UOM Code:** 013-875-93

**SKU:** 1000001777-group

**Product Code:** FP30-RD-000125

## Material Properties for Polymers

### Chemical Resistance

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

### Mechanical Properties

Element	Value
Coefficient of friction	0.05-0.2
Hardness - Rockwell	D50-55 - Shore
Poisson's ratio	0.46
Elongation at break( % )	400
Tensile modulus( GPa )	0.3-0.8
Izod impact strength( J m <sup>2</sup> )	160
Tensile strength( MPa )	Oct-40

### Electrical Properties

<b>Element</b>	<b>Value</b>
Dielectric constant @ 1MHz	2-2.1
Dissipation factor @ 1MHz	0.0003-0.0007
Dielectric strength( kV mm <sup>-1</sup> )	50-170
Surface resistivity( Ohm/sq )	10 <sup>12</sup> ?
Volume resistivity( Ohmcm )	10 <sup>12</sup> ?-10 <sup>14</sup> ?

## **Physical Properties**

<b>Element</b>	<b>Value</b>
Flammability	V0
Radiation resistance	Poor
Refractive index	1.38
Resistance to Ultra-violet	Excellent
Limiting oxygen index( % )	95
Water absorption - over 24 hours( % )	0.01
Density( gcm <sup>-3</sup> )	2.2

## **Thermal Properties**

<b>Element</b>	<b>Value</b>
Heat-deflection temperature - 0.45MPa( C )	120
Heat-deflection temperature - 1.8MPa( C )	54
Lower working temperature( C )	-260
Upper working temperature( C )	180-260
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	1000
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	0.25@23°C
Coefficient of thermal expansion( x10 <sup>-4</sup> K <sup>-1</sup> )	100-160