

# PET Rod

**Formula:** Polyester, PET, PETP

**Diameter:** 10mm

**Length:** 1000mm

**Structure:** Semi Crystalline

**Colour:** Opaque White

**CAS Number:** 25038-59-9

**UOM Code:** 086-001-94

**SKU:** 1000012330-group

**Product Code:** ES30-RD-000110

## Material Properties for Polymers

### Chemical Resistance

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

### Mechanical Properties

Element	Value
Coefficient of friction	0.2-0.4
Hardness - Rockwell	M94-101
Poisson's ratio	0.37-0.44
Tensile modulus( GPa )	02-Apr
Izod impact strength( J m <sup>2</sup> )	13-35
Tensile strength( MPa )	80, for biax film 190-260

## Electrical Properties

Element	Value
Dielectric constant @ 1MHz	3
Dissipation factor @ 1kHz	0.002
Dielectric strength( kV mm <sup>-1</sup> )	17
Surface resistivity( Ohm/sq )	10 <sup>13</sup>
Volume resistivity( Ohmcm )	>10 <sup>12</sup>

## Physical Properties

Element	Value
Flammability	HB
Radiation resistance	Good
Refractive index	1.58-1.64
Resistance to Ultra-violet	Fair?
Limiting oxygen index( % )	21
Water absorption - equilibrium( % )	0.7
Water absorption - over 24 hours( % )	0.1
Density( gcm <sup>-3</sup> )	1.3-1.4

## Thermal Properties

Element	Value
Heat-deflection temperature - 0.45MPa( C )	115
Heat-deflection temperature - 1.8MPa( C )	80
Lower working temperature( C )	20
Upper working temperature( C )	115-170
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	1200-1350
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	0.15-0.4@23°C
Coefficient of thermal expansion( x10 <sup>-5</sup> K <sup>-1</sup> )	20-80