

# Ultem® 1000-7107 PEI Rod

**Grade:** Ultem® 1000-7107

**Formula:** PEI

**Diameter:** 12.3mm

**Length:** 1000mm

**Colour:** Black

**CAS Number:** 61128-46-9

**UOM Code:** 743-791-56

**SKU:** 1000073535-group

**Product Code:** EI31-RD-000108

## Material Properties for Polymers

### Chemical Resistance

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

### Electrical Properties

Element	Value
Dielectric constant @ 1kHz	3.1
Dissipation factor @ 1MHz	0.0013@1
Dielectric strength( kV mm <sup>2</sup> )	30@1.6mm
Surface resistivity( Ohm/sq )	4.10 <sup>13</sup>
Volume resistivity( Ohmcm )	7.10 <sup>14</sup>

### Physical Properties

Element	Value
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Flammability	V-0 @ 0.4mm
Radiation resistance	Good
Resistance to Ultra-violet	Good/Fair
Limiting oxygen index( % )	47
Water absorption - equilibrium( % )	1.3
Water absorption - over 24 hours( % )	0.25
Density( gcm <sup>3</sup> )	1.27

## Mechanical Properties

Element	Value
Hardness - Rockwell	R125
Poisson's ratio	0.44
Elongation at break( % )	60
Compressive modulus( GPa )	2.9
Tensile modulus( GPa )	2.9
Izod impact strength( J m <sup>-1</sup> )	50
Abrasive resistance - ASTM D1044( mg/1000 cycles )	10
Tensile strength( MPa )	85

## Thermal Properties

Element	Value
Heat-deflection temperature - 0.45MPa( C )	200
Heat-deflection temperature - 1.8MPa( C )	190
Upper working temperature( C )	170-200
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	2000
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	0.22@23°C
Coefficient of thermal expansion( x10 <sup>-4</sup> K <sup>-1</sup> )	56

## Pultrusions

Element	Value
Compressive strength( MPa )	140