

# PES Granules

**Formula:** PES

**Nominal Granule Size:** 3mm

**Weight:** 2000g

**Molecular Weight:** 58,000 g/mol

**Melt Volume Rate:** 35 (360°C/10 Kg), cc/10min

**Viscosity:** Medium Viscosity

**Type:** Injection Moulding

**Colour:** Clear Amber

**UOM Code:** 142-741-76

**SKU:** 1000045145-group

**Product Code:** SU30-GL-000111

## 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-Fair
Halogenated Hydrocarbons	Good
Halogens	Fair-Poor
Ketones	Good

### Electrical Properties

Element	Value
Dielectric constant @ 1MHz	3.7
Dissipation factor @ 1MHz	0.003
Dielectric strength( kV mm <sup>2</sup> )	16
Volume resistivity( Ohmcm )	10 <sup>12</sup>

### Physical Properties

<b>Element</b>	<b>Value</b>
Flammability	V-0 @ 0.4mm
Radiation resistance	Good-Fair
Refractive index	1.65
Resistance to Ultra-violet	Fair
Limiting oxygen index( % )	34-41
Water absorption - equilibrium( % )	2.2
Water absorption - over 24 hours( % )	0.4-1
Density( gcm <sup>3</sup> )	1.37

## **Mechanical Properties**

<b>Element</b>	<b>Value</b>
Hardness - Rockwell	M88
Poisson's ratio	0.4
Elongation at break( % )	40-80
Tensile modulus( GPa )	2.4-2.6
Izod impact strength( J m <sup>-1</sup> )	85
Abrasive resistance - ASTM D1044( mg/1000 cycles )	6
Tensile strength( MPa )	70-95

## **Thermal Properties**

<b>Element</b>	<b>Value</b>
Heat-deflection temperature - 0.45MPa( C )	260
Heat-deflection temperature - 1.8MPa( C )	203
Lower working temperature( C )	-110
Upper working temperature( C )	180-220
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	0.13-0.18@23°C
Coefficient of thermal expansion( x10 <sup>-5</sup> K <sup>-1</sup> )	55