

# Polycarbonate Film

**Formula:** PC

**Thickness:** 3mm

**Length 1:** 150mm

**Length 2:** 150mm

**Colour:** Clear

**CAS Number:** 25766-59-0

**UOM Code:** 031-726-32

**SKU:** 1000004056-group

**Product Code:** CT30-SH-000120

## Material Properties for Polymers

### Physical Properties

Element	Value
Abbe number	34
Flammability	V0-V2
Radiation resistance	Fair
Refractive index	1.584-6
Resistance to Ultra-violet	Fair
Limiting oxygen index( % )	25-27
Water absorption - equilibrium( % )	0.35
Water absorption - over 24 hours( % )	0.1
Density( gcm <sup>3</sup> )	1.2

### Chemical Resistance

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

Element	Value
Ketones	Poor

## Mechanical Properties

Element	Value
Coefficient of friction	0.31
Hardness - Rockwell	M70
Poisson's ratio	0.37
Elongation at break( % )	100-150
Tensile modulus( GPa )	2.3-2.4
Izod impact strength( J m <sup>2</sup> )	600-850
Abrasive resistance - ASTM D1044( mg/1000 cycles )	Oct-15
Tensile strength( MPa )	55-75

## Electrical Properties

Element	Value
Dielectric constant @ 1MHz	2.9
Dissipation factor @ 1MHz	0.01
Dielectric strength( kV mm <sup>2</sup> )	15-67
Surface resistivity( Ohm/sq )	10 <sup>12</sup>
Volume resistivity( Ohmcm )	10 <sup>12</sup> -10 <sup>14</sup>

## Thermal Properties

Element	Value
Heat-deflection temperature - 0.45MPa( C )	140
Heat-deflection temperature - 1.8MPa( C )	128-138
Lower working temperature( C )	-135
Upper working temperature( C )	115-130
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	1200
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	0.19-0.22@23°C
Coefficient of thermal expansion( x10 <sup>-6</sup> K <sup>-1</sup> )	66-70

## Pultrusions

Element	Value
Compressive strength( MPa )	>80