

# High Purity PMMA Film

**Grade:** High Purity

**Formula:** PMMA, Acrylic

**Thickness:** 3mm

**Length 1:** 150mm

**Length 2:** 150mm

**Production Method:** Cast

**Type:** Free from UV Absorber

**CAS Number:** 9011-14-7

**UOM Code:** 080-457-37

**SKU:** 1000011526-group

**Product Code:** ME30-SH-000131

## Material Properties for Polymers

### Physical Properties

Element	Value
Abbe number	57.2
Flammability	HB
Radiation resistance	Fair
Refractive index	1.49
Resistance to Ultra-violet	Good
Limiting oxygen index( % )	17-20
Water absorption - over 24 hours( % )	0.2
Density( gcm <sup>3</sup> )	1.19

### Chemical Resistance

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

<b>Element</b>	<b>Value</b>
Halogens	Poor
Ketones	Poor

## **Electrical Properties**

<b>Element</b>	<b>Value</b>
Dielectric constant @ 1MHz	2.6
Dissipation factor @ 1MHz	0.014
Dielectric strength( kV mm <sup>-1</sup> )	15
Surface resistivity( Ohm/sq )	10 <sup>12</sup>
Volume resistivity( Ohmcm )	2-14 x 10 <sup>12</sup>

## **Mechanical Properties**

<b>Element</b>	<b>Value</b>
Hardness - Rockwell	M92-100
Poisson's ratio	0.35-0.4
Elongation at break( % )	2.5-4
Tensile modulus( GPa )	2.4-3.3
Izod impact strength( J m <sup>-1/2</sup> )	16-32
Tensile strength( MPa )	80

## **Thermal Properties**

<b>Element</b>	<b>Value</b>
Heat-deflection temperature - 0.45MPa( C )	105
Heat-deflection temperature - 1.8MPa( C )	95
Lower working temperature( C )	-40
Upper working temperature( C )	50-90
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	1400-1500
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	0.17-0.19@23°C
Coefficient of thermal expansion( x10 <sup>-5</sup> K <sup>-1</sup> )	70-77