

# UHMWPE Film

**Formula:** UHMW PE

**Thickness:** 0.5mm

**Length 1:** 150mm

**Length 2:** 150mm

**CAS Number:** 9002-88-4

**UOM Code:** 000-054-87

**SKU:** 1000000017-group

**Product Code:** ET30-FM-000200

## Material Properties for Polymers

### Chemical Resistance

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

### Mechanical Properties

Element	Value
Coefficient of friction	0.1-0.2
Hardness - Rockwell	R50-70
Poisson's ratio	0.46
Elongation at break( % )	500
Tensile modulus( GPa )	0.2-1.2
Izod impact strength( J m <sup>2</sup> )	1000
Tensile strength( MPa )	20-40

## Electrical Properties

Element	Value
Dielectric constant @ 1MHz	2.3
Dissipation factor @ 1MHz	1-10x 10 <sup>-4</sup>
Dielectric strength( kV mm <sup>-1</sup> )	28
Surface resistivity( Ohm/sq )	10 <sup>13</sup>
Volume resistivity( Ohmcm )	10 <sup>17</sup>

## Physical Properties

Element	Value
Flammability	HB
Radiation resistance	Fair
Resistance to Ultra-violet	Poor
Limiting oxygen index( % )	17
Water absorption - over 24 hours( % )	0.01
Density( gcm <sup>-3</sup> )	0.94

## Thermal Properties

Element	Value
Heat-deflection temperature - 0.45MPa( C )	69
Heat-deflection temperature - 1.8MPa( C )	42
Upper working temperature( C )	55-95
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	1900
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	0.42-0.51 @ 23°C
Coefficient of thermal expansion( x10 <sup>-5</sup> K <sup>-1</sup> )	130-200