

# Polybenzimidazole Film

**Formula:** PBI

**Thickness:** 12mm

**Length 1:** 50mm

**Length 2:** 50mm

**Colour:** Black

**UOM Code:** 040-401-54

**SKU:** 1000005458-group

**Product Code:** BI30-SH-000130

## Material Properties for Polymers

### Chemical Resistance

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

### Mechanical Properties

Element	Value
Coefficient of friction	0.19-0.27
Hardness - Rockwell	K115
Poisson's ratio	0.34
Elongation at break( % )	3
Compressive modulus( GPa )	6.2
Tensile modulus( GPa )	5.9
Izod impact strength( J m <sup>2</sup> )	590unnotched
Tensile strength( MPa )	160

## Electrical Properties

Element	Value
Dielectric constant @1MHz	3.2
Dielectric strength( kV mm <sup>-1</sup> )	21
Volume resistivity( Ohmcm )	8x10 <sup>12</sup>

## Physical Properties

Element	Value
Flammability	Does not burn
Radiation resistance	Good
Limiting oxygen index( % )	58
Water absorption - over 24 hours( % )	0.4
Density( gcm <sup>-3</sup> )	1.3

## Thermal Properties

Element	Value
Heat-deflection temperature - 0.45MPa( C )	435
Upper working temperature( C )	260-400
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	0.41@23°C
Coefficient of thermal expansion( x10 <sup>-6</sup> K <sup>-1</sup> )	23

## Pultrusions

Element	Value
Compressive strength( MPa )	400