

# PI Laminate

**Formula:** PI

**Thickness:** 0.4mm

**Length 1:** 300mm

**Length 2:** 300mm

**Backing Material:** 0.38mm DuPont™ Nomex®

**Polymer Thickness:** 0.025mm

**CAS Number:** 60842-76-4

**UOM Code:** 002-840-60

**SKU:** 1000000396-group

**Product Code:** IM30-LM-000150

## Material Properties for Polymers

### Chemical Resistance

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

### Mechanical Properties

| Element                                   | Value  |
|---|--------|
| Coefficient of friction                   | 0.42   |
| Hardness - Rockwell                       | E52-99 |
| Elongation at break( % )                  | Aug-70 |
| Tensile modulus( GPa )                    | 02-Mar |
| Izod impact strength( J m <sup>21</sup> ) | 80     |
| Tensile strength( MPa )                   | 70-150 |

## Electrical Properties

| Element                                    | Value            |
|--|------------------|
| Dielectric constant @ 1MHz                 | 3.4              |
| Dissipation factor @ 1kHz                  | 0.0018           |
| Dielectric strength( kV mm <sup>-1</sup> ) | 22               |
| Surface resistivity( Ohm/sq )              | 10 <sup>12</sup> |
| Volume resistivity( Ohmcm )                | 10 <sup>12</sup> |

## Physical Properties

| Element                               | Value   |
|---------------------------------------|---------|
| Flammability                          | V0      |
| Radiation resistance                  | Good    |
| Refractive index                      | 1.66    |
| Resistance to Ultra-violet            | Poor    |
| Limiting oxygen index( % )            | 53      |
| Water absorption - over 24 hours( % ) | 0.2-2.9 |
| Density( gcm <sup>-3</sup> )          | 1.42    |

## Thermal Properties

| Element   | Value         |
|---|---------------|
| Heat-deflection temperature - 1.8MPa( C )                             | 360           |
| Lower working temperature( C )  | -270          |
| Upper working temperature( C )  | 250-320       |
| Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )                   | 1090          |
| Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )             | 0.1-0.35@23°C |
| Coefficient of thermal expansion( x10 <sup>-6</sup> K <sup>-1</sup> ) | 30-60         |