

# PEN Disk

**Formula:** PEN

**Thickness:** 0.05mm

**Diameter:** 6mm

**Structure:** Biaxially Oriented

**Transparency:** Transparent

**Colour:** Clear

**CAS Number:** 24968-11-4

**UOM Code:** 105-584-35

**SKU:** 1000018711-group

**Product Code:** ES36-FM-000150

## Material Properties for Polymers

### Chemical Resistance

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

### Mechanical Properties

| Element                  | Value            |
|--------------------------|------------------|
| Coefficient of friction  | 0.27- biax film  |
| Elongation at break( % ) | 60- biax film    |
| Tensile modulus( GPa )   | 5-5.5- biax film |
| Tensile strength( MPa )  | 200- biax film   |

### Electrical Properties

| Element | Value |
|---------|-------|
|---------|-------|

Dielectric constant @ 1MHz 3.2@10KHz  
 Dissipation factor @ 1kHz 0.005  
 Dissipation factor @ 1MHz 0.0048@10KHz  
 Dielectric strength( kV mm<sup>-1</sup> ) 160@0.075mm  
 Surface resistivity( Ohm/sq ) 10<sup>12</sup>?  
 Volume resistivity( Ohmcm ) 10<sup>12</sup>?

## Physical Properties

| Element                      | Value                 |
|------------------------------|-----------------------|
| Flammability                 | VTM-2 - UL94, 0.075mm |
| Resistance to Ultra-violet   | Fair                  |
| Optical transmission( % )    | 84@0.075mm            |
| Water absorption( % )        | 0.4                   |
| Density( gcm <sup>-3</sup> ) | 1.36                  |

## Thermal Properties

| Element                                                               | Value            |
|-----------------------------------------------------------------------|------------------|
| Upper working temperature( C )                                        | 155              |
| Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )             | 0.15@23°C        |
| Coefficient of thermal expansion( x10 <sup>-6</sup> K <sup>-1</sup> ) | 20-21- biax film |