

# ULTEM™ 1000B Film

## PRODUCT DATASHEET

### DESCRIPTION

ULTEM™ 1000B film is a high performance thermoplastic Polyetherimide material. The combination of high temperature resistance, flame resistance, low moisture absorption and excellent dielectric properties makes ULTEM film a good candidate for a broad range of electrical and electronic applications. ULTEM film products are thermo-formable and can be heat-sealed to a wide variety of materials.

### TYPICAL PROPERTY VALUES ◆

| PROPERTY                                | TEST METHOD | UNITS     | VALUE                  |
|---|-------------|-----------|------------------------|
| <b>Mechanical</b>                       |             |           |                        |
| Tensile Modulus                         | ISO R527    | MPa       | 3000                   |
| Tensile Strength @ Yield                | ISO R527    | MPa       | 100                    |
| Tensile Elongation at @ Yield           | ISO R527    | %         | 6.5                    |
| Tensile Strength @ Break                | ISO R527    | %         | 60                     |
| Tear Strength Initiation @75 µm         | ASTM D1004  | N/mm      | 360                    |
| Tear Strength Propagation @75 µm        | ASTM D1938  | N/mm      | 3.5                    |
| <b>Thermal</b>                          |             |           |                        |
| Coefficient of Thermal Expansion        | IPC-TM-650  | ppm/°C    | 52                     |
| Shrinkage @ 170°C EXT. DIR.             | IPC-TM-650  | %         | 0.33                   |
| Shrinkage @ 170°C CROSS. DIR.           | IPC-TM-650  | %         | 0.24                   |
| Glass Transition Temperature            | DMA         | °C        | 217                    |
| Thermal Conductivity                    | ASTM C177   | W/m°C     | 0.22                   |
| <b>Physical</b>                         |             |           |                        |
| Specific Gravity                        | ISO 1183    | g/cc      | 1.27                   |
| Water Absorption, immersion,23°C, 24 hr | ASTM D570   | %         | 1.25                   |
| Water Absorption, 50%RH,23°C, 24 hr.    | ASTM D570   | %         | 0.48                   |
| <b>Electrical</b>                       |             |           |                        |
| Dielectric Strength @ 125 µm oil        | ASTM D149   | Volts/mil | 3,650                  |
| Dielectric Constant                     | IPC-TM-650  |           | 3.2                    |
| Dissipation Factor                      | IPC-TM-650  |           | 0.005                  |
| Volume Resistivity                      | ASTM D257   | M 'Ω-cm   | 2.5 x 10 <sup>15</sup> |
| Surface Resistivity                     | ASTM D257   | M 'Ω      | 1.9 x10 <sup>16</sup>  |
| <b>Flammability</b>                     |             |           |                        |
| UL Performance (75 - 175 µm)            | UL94        |           | VTM-0                  |

- ◆ These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local SABIC representative or the SABIC Quality Services Department.
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## PRODUCT AVAILABILITY

|                     |  |
|---------------------|--|
| Standard gauges     | : 75 µm (0,003") +/-5% - 175 µm (0,020") +/-5% |
| Standard roll width | : 1270 mm (50")                                |
| Texture             | : Smooth / fine matte                          |
| Color code          | : 1000   |
| Color               | : Natural amber                                |

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