

## PRODUCT DATASHEET

# ULTEM™ 1000 - 1000 Film

### DESCRIPTION

ULTEM™ 1000 - 1000 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	Unit	Value
<b>Physical</b>			
Specific Gravity	DIN 53479		1.27
Water Absorption, 24 hours	ASTM D570	%	0.25
Pencil Hardness	ASTM D3363		B
<b>Mechanical</b>			
Tensile Strength	ASTM D882		
at yield		N/mm <sup>2</sup>	110
at break		N/mm <sup>2</sup>	115
Elongation at break	ASTM D882	%	50
Tensile Modulus	ASTM D882	N/mm <sup>2</sup>	2500
Tear Strength			
Initiation	ASTM D1004	kN/m	365
Propagation	ASTM D1922	kN/m	8
Coefficient of static friction	ASTM D1894	-	0.72
Coefficient of kinetic friction	ASTM 1894	-	0.65
Poisson's ratio	ASTM D132-61	-	0.42
<b>Thermal</b>			
Tensile Heat Distortion, 0.35 N/mm <sup>2</sup>	ASTM D1637	°C	210
DTUL, 1.8 N/mm <sup>2</sup>	ASTM D648	°C	200
Vicat Softening Temperature, B	ASTM D1525	°C	215
Coefficient of Thermal Expansion	ASTM D696	m/m.°C	5.0x10 <sup>-5</sup>
Thermal Conductivity	ASTM C177	W/m.°C	0.22
Strain Relief, 135°C	ASTM D1204	%	0.14/200oC
<b>Electrical</b>			
Dielectric Strength, 23°C	ASTM D149	kV/mm	254/25μ
in oil, short term, Relative ermittivity	ASTM D150		
at 50 KHz			2.9
at 1 KHz			3.15
at 1 MHz			2.9
Dissipation factor	ASTM D150		
at 60 Hz			0.0005
at 1 KHz			0.0023
at 1 MHz			0.006
Volume resistivity	ASTM D257	Ohm.m	5.3x10 <sup>15</sup>
Surface resistivity	ASTM D257	Ohm.m	1.6x10 <sup>16</sup>
Arc Resistance, Tungsten	ASTM D495	s	54
<b>Flammability</b>			
Oxygen index	ASTM D2683	%	47
UL Flammability	UL94		VTM-0, 0.0125 mm
FMVSS 302	ASTM D618		pass
NFPF 258-NBS	ASTM E662	D(4)	0
Smoke Chamber Test (0.25 mm)		D(max)	0

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- ◆ 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 Quality Services Department.

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