UBE Polyimide Film Exhibits Industry Leading Heat Resistance

UPILEX®

ユーピレックス®

Super-heat resistant polyimide film produced from UBE's exclusive "BPDA (Biphenyl tetracarboxylic dianhydride)" monomers.
This formulation is unique to UBE and exhibits outstanding dimensional stability, low water absorption and very high chemical resistance.

Improved adhesion for sputtering, plating

UPILEX®-SGA

"UPILEX®-SGA" is a polyimide film having improved adhesion properties created by a special process to both sides of the "UPILEX®-S". It is suitable for sputtering or plating processes because of high surface adhesion.
It offers a flexible base for high-performance electronic circuits.
In addition, it can also be used as an adhesive tape base material for LOC packaging.

- In sputtering or plating, a flexible base for electronic circuits that does not use any adhesives can be obtained.
- Peel strength is high, surface smoothness is very high.
- Superior mechanical property, with low water absorption, excellent dimensional stability and high heat resistance comparable to "UPILEX®-S".

■■ Grades and Area factor of "UPILEX®-SGA" ■■

Type	Grade	Thickness (μm)	Width* (mm)	Area factor (m^2/kg)
UPILEX®-SGA	25SGA	25	508	27.2
	50SGA	50	508	13.6

*For custom widths, please contact us

(1) Mechanical properties

Property	Unit	Standard value		Measurement Method
		UPILEX-25SGA	UPILEX-50SGA	
Tensile strength	MPa	490	490	ASTM D882
Elongation	%	40	45	ASTM D882
Tensile modulus	GPa	10	9.7	ASTM D882
Density	$\times 10^3$kg/m^3	1.47	1.47	ASTM D-1505

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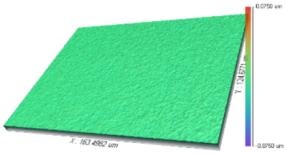
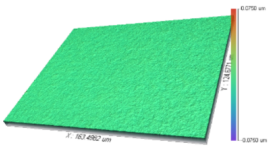
■■ Surface morphology of “UPILEX®” ■■

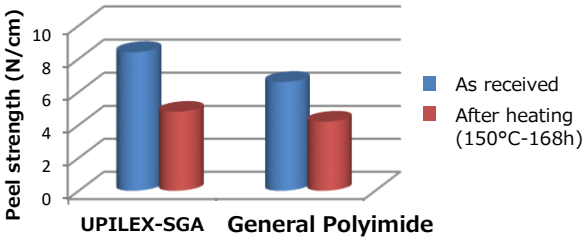


UPILEX®-S



UPILEX®-SGA

■■ Peel strength of “UPILEX®-SGA” ■■



(2) Electrical properties

Property	Unit	Standard value		Measurement condition	Measurement Method
		UPILEX-25SGA	UPILEX-50SGA		
Dielectric strength	kV	6.4	10.6	60Hz	ASTM D149
Dielectric constant	-	3.4	-	1GHz	IPC-TM650 2.5.5.9
Dissipation factor	-	0.003	-	1GHz	IPC-TM650 2.5.5.9
Volume resistivity	Ω·m	$>10^{14}$	$>10^{14}$	DC 100V	ASTM D257
Surface resistivity	Ω	$>10^{16}$	$>10^{16}$	DC 100V	ASTM D257

(3) Thermal properties

Property	Unit	Standard value		Measurement condition	Measurement Method
		UPILEX -25SGA	UPILEX -50SGA		
Thermal linear expansion coefficient (50-200°C)	ppm/°C	13	14	-	Fine linear dilatometer
Heat shrinkage	%	0.06	0.06	200°C, 2h	ASTM D1204

(4) Chemical property

Property	Unit	Standard value		Measurement Method
		UPILEX -25SGA	UPILEX -50SGA	
Water absorption	%	1.2	1.4	ASTM D570

Packing and handling precautions

(1) Packing example

(2) Handling precautions

- When handling “UPILEX®” at high temperatures attention should be paid to ventilation. This is because DMAC, which “UPILEX®” contains traces of, produces carbon monoxide at temperatures over 300°C and at high temperatures, in excess of 500°C, “UPILEX®” generates pyrolytic products.
  Ventilation should be adequate to ensure that concentrations of DMAC and carbon monoxide are kept to safe levels (10ppm and 100ppm). In addition, breathing safety equipment, such as organic gasmasks, should be used to prevent the inhalation of fumes.

- Please refer to Safety Data Seat (SDS) before use.

(3) Content Statement

The content provided is based on materials, data and information currently available and no guarantee is given with regard to content, physical properties or hazardous and harmful effects.
Furthermore, handling precautions relate to normal handling. In unique situations requiring special handling, please use safety measures appropriate for the application and process.

UBE Corporation

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