



UBE Polyimide Film Exhibits Industry Leading Heat Resistance

UPILEX[®]

ユ-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.

Molding grade

UPILEX[®]-RN

"UPILEX[®]-RN" has many excellent physical characteristics, including molding process-ability and environmental resistance. Therefore "UPILEX[®]-RN" can be used in embossing, speaker diaphragms, aerospace applications, etc..

- "UPILEX[®]-RN" has excellent tolerance not only to acids and organic solvents, but also to alkalis.
- "UPILEX[®]-RN" has excellent heat resistance, electrical properties, and radiation resistance.
- Since it has excellent elongation through heating and pressing, it is easy to make solid components using drawing process. Molded articles have excellent strength characteristics.
- "UPILEX[®]-RN" can form an excellent insulating layer by ribbon winding to a conductor such as a coil, due to its low modulus and high flexibility compared to "UPILEX[®]-S".



Grades and Area factor of "UPILEX[®]-RN"

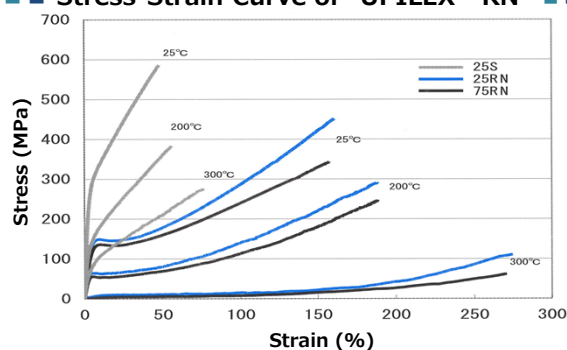
Type	Grade	Thickness (μm)	Width* (mm)	Area factor (m ² /kg)
UPILEX [®] -RN	25RN	25	508	28.8
	50RN	50	508	14.4
	75RN	75	508	9.6
	125RN	125	508	5.8

*For custom widths, please contact us

(1) Mechanical properties

Property	Unit	Standard value		Measurement Method
		UPILEX-25RN	UPILEX-75RN	
Tensile strength	MPa	390	380	ASTM D882
Elongation	%	160	150	ASTM D882
Tensile modulus	GPa	3.9	3.9	ASTM D882
Density	×10 ³ kg/m ³	1.39	1.39	ASTM D-1505-03

Stress-Strain Curve of "UPILEX[®]-RN"



(2) Electrical properties

Property	Unit	Standard value		Measurement condition	Measurement Method
		UPILEX-25RN	UPILEX-75RN		
Dielectric strength	kV	7.1	13.9	60Hz	ASTM D149
Dielectric constant	-	3.4	3.5	1MHz	ASTM D150
Dissipation factor	-	0.007	0.007	1MHz	ASTM D150
Volume resistivity	$\Omega \cdot m$	$>10^{14}$	$>10^{14}$	DC 100V	ASTM D257
Surface resistivity	Ω	$>10^{15}$	$>10^{16}$	DC 100V	ASTM D257

(3) Thermal properties

Property	Unit	Standard value		Measurement condition	Measurement Method
		UPILEX-25RN	UPILEX-75RN		
Heat life (Tensile strength)	°C	270	270	20,000h	Fixed temperature method
Flammability	-	V-0	V-0	-	UL94

(4) Chemical property

Property	Unit	Standard value		Measurement Method
		UPILEX-25RN	UPILEX-75RN	
Water Absorption	%	1.4	1.7	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 Sheet (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
UBE Corporation
Polyimide Business
Department

Seavans North Bldg, 1-2-1, Shibaura, Minato-Ku,
Tokyo, Japan, 105-8449
TEL : +81(3)5419-6180
FAX : +81(3)5419-6258
<URL> <https://www.ube.com/upilex/en/>