SynFlex Elektro GmbH
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Kapton® HN polyimide film

The polyimide film Kapton® HN consists of polycondensed aromatic Dianhydrid and aromatic Diamin.

Attributes

Kapton® HN offers a unique combination of properties at the highest level, which are recommended for many applications in numerous branches. This PI films sustains it's excellent physical, electrical and mechanical properties within a wide temperature range. For short time it is also applicable for temperatures from -269 °C to +400 °C and is used in systems of class 240 °C. It has low flamability, is self-extinguishing and has no melting point. This PI-films offers a high chemical resistance - an organic solvent is unknown up to now. It has also a high resistance to beta and gamma radiation.

Application

This polyimide film is especially for applications with high operating temperatures for which other films are not applicable.

Standards

- UL listed, file-number E39505
- UL 94-V-0

Delivery forms

Film thickness in µm:

25, 50, 75, 125

(Thickness 12.5 on request)

Kapton® HN is available:

- in tapes starting with approx. 6 mm width
- in rolls depending on material and thickness on request

Feathering:

- depth approx. 1-12 mm, distance approx. 1-10 mm
- approx. 10 mm up to 240 mm width and 0.25 mm thickness

Base

Polyimide film of polycondensed aromatic Dianhydrid and aromatic Diamin.

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Updated 06/21

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Typical mechanical properties	Unit of measure					Test method
Nominal thickness	µm	25	50	75	125	
Density	g/cm³	1.42	1.42	1.42	1.42	ASTM D-1505-90
Elongation at break longitudinal	%	72	72	78	82	ASTM D-882-91
Shrinkage at 150 °C	%	0.17	0.17	0.17	0.17	ASTM D-5214-91
Tear force	MPa	231	231	231	231	ASTM D-882-91

Typical electrical properties	Unit of measure	
Nominal thickness	µm	25
Dielectric strength short term AC	kV/mm	303
Volume resistivity	Ω x m	1.5 x 10^17
Dielectric constant at 1 kHz		3.4
Dielectric loss factor at 1kHz		0.0018

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Typical electrical properties	Unit of measure				Test method
Nominal thickness	µm	50	75	125	
Dielectric strength short term AC	kV/mm	240	201	154	ASTM D-149-91
Volume resistivity	Ω x m	1.5 x 10^17	1.4 x 10^17	1.0 x 10^17	ASTM D-257-91
Dielectric constant at 1 kHz		3.4	3.5	3.5	ASTM D-150-92
Dielectric loss factor at 1kHz		0.0020	0.0020	0.0026	ASTM D-150-92

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