

Plamide HF Non-Shrink Tube

FEP coated polyimide protective and resistive tube for high temperature (Class H) insulation.



Key Benefits

- DuPont™ Kapton® core provides excellent mechanical properties and performance at high temperatures
- DuPont™ Teflon FEP® coating resists moisture, chemical and solvent attack
- Maintains dielectric strength and dimensional stability at high temperatures
- Construction is suitable for Class H applications and temperatures up to 200°C



FEP and polyimide perform in demanding applications

Plamide HF Non-Shrink Tube is a precision-wound protective tube and insulator made from DuPont™ Kapton® film, coated with Teflon FEP®. Teflon FEP® coated Kapton® Tube maintains its electrical resistivity, dimensional stability and strength at high temperatures and in the most demanding applications.

Plamide HF Non-Shrink Tube is particularly suitable for use where very thin sections of insulating tube must maintain high dielectric and mechanical strength at operating temperatures of up to 200°C and where resistance to moisture is needed. Glueless welded construction ensures that only FEP and polyimide are present in the product.

It is widely used for protecting critical electrical systems of all kinds in the harshest environments.

More features

- Available with internal diameters from 1.60 mm, with wall thicknesses as fine as 0.075mm
- Entirely constructed from UL recognised materials
- No-glue construction is chemically stable and will not precipitate material into its environment, regardless of temperature or moisture
- Tubes of any diameter and length can be supplied with a variety of film and coating thicknesses to match detailed requirements for physical properties

Plamide HF Non-Shrink Tube is a robust, precision wound and easy to apply lamination of two layers of coated film. Each lamina can be supplied in a variety of thicknesses of base film and FEP coating, depending on the requirements of the application.

Plamide HF Non-Shrink Tube is also available as an Endcap, with an FEP welded closure.



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TUBULAR TECHNOLOGY

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Technical Data

Film Construction Properties Kapton® FN

Electrical Properties

	Thickness Kapton® HN mm	0.0127	0.0254	0.0508	0.0508
Property	Thickness FEP mm	0.0127	0.0127	0.0127	0.0254
Dielectric Strength					
Total volts			6,300	4,000	11,400
volts/mil		4,000	4,200		3,800
Dissipation Constant		-	3.0	-	3.1
Dissipation Factor		-	.0014	-	.0011
Volume Resistivity (ohm-cm.)					
25°C		10 ¹⁷	10 ¹⁸	7x10 ¹⁷	8x10 ¹⁷
200°C		-	10 ¹⁴	-	9x10 ¹³

Physical Properties

	Thickness Kapton® HN mm	0.0127	0.0254	0.0508	0.0508
Property	Thickness FEP mm	0.0127	0.0127	0.0127	0.0254
Ultimate Tensile Strength (MD) (psi)					
25°C		15,000	17,000	25,000	17,000
200°C		10,000	11,000	16,000	11,000
Yield Point (MD) at 3% (psi)					
25°C		6,000	7,300	10,000	7,300
200°C		5,000	4,000	8,000	4,000
Stress at 5% Elongation (MD) (psi)					
25°C		-	9,000	-	9,000
200°C			5,500		5,500
Ultimate Elongation (MD)					
25°C		50%	75%	80%	>80%
200°C			85%		
Tensile Modulus (MD) (psi)					
25°C		-	320,000	-	320,000
200°C			173,000		173,000
Impact Strength at 25°C					
Kg/cm		-	7	-	14
Kg/cm/mil			4.6		4.6
Tear Strength - Propagating (Elmendorf)					
g			20		-
g/mil		7	13.5	12	
Tear Strength - Initial (Graves)					
g		-	650	-	-
g/mil			435		
Weight % Polyimide		40	57	73	57
Weight % FEP		60	43	27	43
Density		1.79	1.67	1.57	1.67

Chemical Properties

	Thickness Kapton® HN mm	0.0254	0.0508	0.0508
Property	Thickness FEP mm	0.0127	0.0127	0.0254
Moisture Absorption at 25°C				
(25°C) 50% R.H		0.8%	0.8%	0.8%
98% R.H		1.7%	1.7%	1.7%
Water Vapor Permeability				
gm./(100 in. ²) (24hrs.)		0.57	-	-
gm./(100 in. ²) (24hrs.)/mil		0.85		