

APICAL® 150AF019



APICAL® Polyimide possesses an excellent balance of Physical, thermal, electrical and chemical properties over a wide range of temperature (-269°C to 400°C). More precise thickness control, superior web flatness, plus improved adhesion and excellent dimensional stability are standard features with APICAL Polyimide. This Laminated version of Apical has a thermal stability up to 200°C.

Characteristics

Improved Bond/Peel Strengths
Optimal Flexibility
Excellent Dielectric Properties
Ideal Elongation

Applications

Aircraft Wire and Cable
Traction Equipment
Down Hole Motors
Magnet Wire
Mining Equipment

Construction

Items	Mils	Microns
Nominal Thickness	1.50	38.1
FP	0.50	12.7
PI	1.00	25.4

Mechanical Properties

Items	Typical Values	Test Method
Tensile Strength MD, kpsi (MPa)	21 (144)	ASTM D882
Tensile Strength TD, kpsi (MPa)	21 (144)	ASTM D882
Tensile Modulus MD, kpsi (GPa)	243 (1.7)	ASTM D882
Tensile Modulus TD, kpsi (GPa)	243 (1.7)	ASTM D882
Elongation MD (TD), %	113 (109)	ASTM D882

Thermal Properties

Items	Typical Values	Test Method
Heat Shrinkage MD %	0.12	200°C – 2 hrs
Heat Shrinkage TD %	0.02	200°C – 2 hrs
Heat Seal Strength, FEP-FEP, g/inch (g/cm)	1400 (551)	350°C, 20sec, 20psi

Electrical Properties

Items	Units	Test Method
Dielectric Strength, kV/mil	5.2	ASTM D149
Dielectric Constant, 1kHz	2.7	ASTM D150
Dissipation Factor, 1kHz	0.0012	ASTM D150
Volume Resistivity, Ohm-cm	>1E+16	ASTM D257

Physical Properties

Items	Units	Test Method
Water Absorption, %	1.6	IPC-TM650-2.6.2
Coefficient of Humidity Expansion Typical, ppm/%RH	9	HMA
Density, g/cm ³	1.67	ASTM D1505
Yield, ft ² /lb (m ² /kg)	78 (16)	

The data noted in these technical data sheets are given as examples and are not intended to be read as guaranteed values .

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