HIGH-PERFORMANCE BLACK KAPTON® TAPE

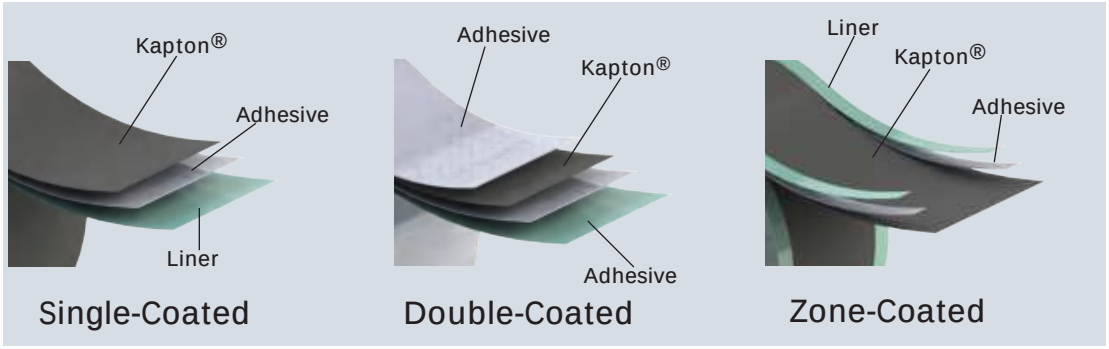
Technical Data Sheet

Kapton®high-performance tape is manufactured with DuPont™ Kapton® XC lm. In addition to the superior thermal and radiation resistance featured with Kapton polyimide lms, this lm is electrically conductive and is black in color. It is loaded with conductive carbons that provide tightly controlled surface resistivities, which are distributed throughout the lm. This ensures that cracking, rubbing o or other damage cannot occur as it does with metallizations or surface coatings. These features enable SDK tape to perform in satellite and related applications where both anti-static and thermal control are required. This tape provides high mechanical integrity and is RoHS compliant. SDK tape is available with your choice of adhesives to best fit your requirements.

Applications

- Electrical insulation
- Mechanical/structural connections
- Flexible circuit bonding
- Thermal management
- Masking and protection
- Gaskets and seals

ADHESIVE CONFIGURATIONS



Film Properties (Kapton® XC)

PHYSICAL

Property	Typical Value	Test Method
Mechanical		
Tensile Strength, Kpsi	17	ASTM D-882-91, A
Tensile Modulus, Kpsi	480	ASTM D-882-91
Elongation to break, %	27	ASTM D-882-91
Tear Strength, initial, lb/mil	1.8	ASTM D-1505-90
Density, g/cc	1.41	ASTM D-1505-90
Optical		
Solar Absorbance	0.93	
Emissivity at 77°F	0.84 normal 0.78 hemispherical	
Light Transmission	opaque	
Thermal		
Meltpoint, polyimide, °C	none	ASTM E-794-85 (1989)

ELECTRICAL

Property	Typical Value	Test Method
Film Type 100XC10E7		
Surface Resistivity Aim, mega ohm/sq.	5	ETS 870 electrometer at 100V
Resistivity Range, avg, mega ohm/sq.	0.5-50	
Film Type 100XC10E5		
Surface Resistivity Aim, mega ohm/sq.	5	ETS 870 electrometer at 100V
Resistivity Range, mega ohm/sq.	0.1-1000	

Adhesives - Pressure-Sensitive

Adhesive ID #	A	B	C	D	E	F
Temp range Min/Max	-40°F (-40°C) to 450°F (232°C)	-40°F (-40°C) to 450°F (232°C)	-40°F (-40°C) to 500 °F (260 °C)	-40°F (40°C) to 203°F (95°C)	Up to 400°F (204°C)	-100°F (-38°C) to 500°F (260°C)
Adhesive Material	Acrylic	Acrylic	Acrylic	Acrylic	Silicone	Silicone
Adhesive Thickness	2 mil	1 mil	2 mil	2 mil	4 mi	2 mil
Key Features	Exceptional shear values Low outgassing	Exceptional shear values Low outgassing	UV and solvent resistant	Anisotropically electrically conductive Good adhesion to common PCB substrates	Low surface energy Isotropcally electrically conductive Performs at high temperatures	Electrically Conductive in the Z axis Excellent bond strength Chemically resistant Temperature extremes

Ordering Information

Part Numbering System: FRT1003-XX-YY.YYY-Z-Type

Sample Part Number: FRT1003-1.6-5.5-2-B

Film Part Number	X.X = Film Thickness	YY.YYY = Width of roll	Z = Location of Adhesive	Type = Adhesive Material
FRT1003	Specify in mils	Specify in inches	0 - No Adhesive 1 - Adhesive one side only 2 - Adhesive both sides 3 - Custom (i.e. zone coating)*	A B C D E F ZZ - Other (Specify on PO)
	Thickness available: from 1.0, 1.6, 2.0, and 2.75.	Width: available from 0.5" to 50". If outside of this range please contact Fralock.		

*Custom zone coating: Please specify areas for coating

Standard length is 100 ft. roll. Custom lengths available.