DuPont™ Kapton® XC

BLACK ANTI-STATIC POLYIMIDE FILM

Technical Data Sheet

DuPont™ Kapton® XC polyimide films are electrically conductive films, which are precisely loaded with conductive carbons to produce films with tightly controlled surface resistivities. The resistive property is throughout the bulk of the film, so it cannot be cracked, rubbed off or otherwise easily damaged, as is often the case with surface coatings or metallizations. XC film has proven performance in numerous satellite applications where it provides both thermal and anti-static control. XC film retains all the outstanding inertness, radiation and temperature resistance of other Kapton® polyimide films, which make them ideal for use in space or other extreme environments.

Characteristics

- Black matte surface
- Electrically conductive
- Durable from -270°C to 240°C
- Thermally durable to 325°C in oxygen-free environments

Constructions

100XC10E7 is our standard offering for anti-static applications. It is a one mil film with a nominal surface resistivity of 5 mega ohm/sq. Two grades are available as described in **Table 2**. Custom constructions are also available, and can be produced in thickness from 1 to 5 mil, and with surface resistances from 90 to 10^9 ohms/sq.

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Table 1
Physical Properties of Kapton® 100XC10E7 and 100XC10E5 Polyimide Film

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)

Table 2
Electrical Properties of Kapton® 100XC10E7 and 100XC10E5 Polyimide Film

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.	.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	

For more information on DuPont™ Kapton® or other High Performance Materials, please contact your local representative, or visit our website for additional regional contacts:

Americas
DuPont High Performance Materials
U.S. Rt. 23 & DuPont Road
Circleville, OH 43113
Tel: 800-967-5607

Europe
DuPont de Nemours (Luxembourg) S.A.R.L.
Rue General Patton
L-2984 Luxembourg
Tel: 352-3666-5935

Asia
DuPont Taiwan
No. 45, Hsing-Pont Road
Taoyuan, Taiwan, R.O.C.
Tel: 886-3-3773668

Japan
DuPont-Toray Co., Ltd.
5-6 Nihonbashi Honcho 1-chome
Chuo-ku, Tokyo 103-0023 Japan
Tel: 81-3-3245-5061

kapton.dupont.com

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