

Medium-Level Electrically Conductive Polyethylene Film



+ MEDIUM LEVEL CONDUCTIVITY

+ SURFACE RESISTIVITY BELOW 50,000 Ω /sq

+ POLYETHYLENE BASED FILM



PRODUCT DESCRIPTION

Electrically conductive polyethylene (PE) film loaded with carbon for medium level conductive or antistatic applications.



PRODUCT APPLICATION

Used for large scale and large pressure application pressure sensors, EMI shielding and reducing electrostatic charge.



PRODUCT FEATURES

Black conductive PE film with a surface resistivity ranging between 10,000 Ω /sq and 50,000 Ω /sq and with an excellent chemical and humidity resistance.



PRODUCT DESCRIPTION

CAPLINQ LINQSTAT™ MVCF-Series is a black, carbon-filled, electrically conductive polyethylene plastic film designed to provide both physical and static protection. Having a **surface resistivity of <math>< 50,000 \text{ ohm/sq}</math>, (it offers medium-level static protection which means it effectively avoids accumulation of electric charge on itself and the products which it protects. Its easy-grounding nature makes it ideal for packaging where electrostatic contamination is a problem.**

CAPLINQ LINQSTAT™ MVCF-Series is useful in applications where the **key is to balance cost versus performance**. As a medium-level conductive plastic, the carbon-loading is such that it is low-enough to be cost-effective, while being high enough to meet the electrical requirements of military specification MIL-PRF-81705D Type II and MIL-P-82646A.

CAPLINQ LINQSTAT™ MVCF-Series film and its conductivity are unaffected by humidity and age. The film is heat-sealable, flexible and offers exceptional abrasion resistance. The film gives good thermal stability and has outstanding chemical resistance. It is available in a thickness range between 100µm to 200µm (0.004" to 0.008"). Roll lengths and widths vary depending on thickness and application.

PRODUCT APPLICATION



In sheet form (LINQSTAT MVCF-S Series), the conductive polyethylene is used as a weak **pressure sensor** making it useful for applications that have large surface areas and expect large pressure applications. For more sensitive pressure sensor applications, CAPLINQ recommends LINQSTAT XVCF-Series, which is a more-conductive series of polyethylene plastics.

As **an antistatic packaging plastic**, it is also used as an **antistatic interleaver for Smartcard** (micromodule) applications to separate subsequent layers of smartcard chips in micromodule production. Its antistatic properties make the Linqstat MVCF series films also well suited for EMI and RF shielding applications.

► Applications:

- EMI/RF Shielding
- Faraday Cages
- Pressure Sensors for large surface areas and large pressure applications
- Antistatic packaging applications like antistatic interleavers for smartcards





PRODUCT FEATURES

▶ PRODUCT FEATURES & BENEFITS:

- Volume-conductive plastic
- Black Opaque – Printable
- Provides Anti-Static protection to electronics components
- Groundable
- Humidity independent conductivity
- Meets military specification MIL-P-82646A

▶ CHEMICAL SUSCEPTIBILITY:

- Methanol: Resistant
- Ethanol: Resistant
- Isopropanol: Resistant
- Weak Acids: Resistant
- Ketones (Acetone): Slow Attack
- Weak Alkalines: Slow Attack
- Hydrocarbons: Non-Resistant

	UNIT	TYPICAL VALUE	TEST METHOD
TYPICAL VALUES FOR 4MIL (0.1MM) THICK VERSIONS			
MECHANICAL PROPERTIES			
Tensile strength	Mpa	13,8	ASTM-D882
Elongation			
Machine Direction		330%	ASTM-D882
Transverse Direction		390%	ASTM-D882
Dart Impact Test			ASTM D1709-67
50% Failure Weight	grams	390+/-10	Method B
Heat Seal Strength (% of Tensile Strength)			
Machine Direction		96%	ASTM-D882
Transverse Direction		82%	ASTM-D882
Electrostatic Decay	seconds	<2,0	EIA-Std 541
ELECTRICAL PROPERTIES			
Surface Resistivity (Thickness Independent)			
MVCF-xxBT50Kxx Series Typical Value	ohms/square ohms/square	< 50,000 ~ 40,000	MIL-PRF-81705D Type II
MVCF-xxBT10Kxx Series Typical Value	ohms/square ohms/square	< 10,000 ~ 8,000	MIL-PRF-81705D Type II
Through Sheet Volume Resistance (Thickness Dependent)			
MVCF-4xxxBT50Kxx Series Typical Value	ohms ohms	< 10,000 ~ 8,000	MIL-PRF-81705D Type II
MVCF-8xxxBT50Kxx Series Typical Value	ohms ohms	< 5,000 ~ 2,000	MIL-PRF-81705D Type II
MVCF-4xxxBT10Kxx Series Typical Value	ohms ohms	None None	MIL-PRF-81705D Type II



PRODUCT FEATURES

Nomenclature:

M: Medium Conductive

VCF : Volume Conductive Film

Storage and Handling

LINQSTAT™ MVCF-Series is supplied in rolls and should be kept in a cool (10°C – 25°C) dry place (40% – 75% humidity) away from direct sunlight or temperature extremes. Once removed from packaging it should be protected against dust and other impurities.

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

Data Ranges

The data contained herein may be reported as a typical value and/or range values based on actual test data and are verified on a periodic basis.

The above figures are typical material properties only and are not to be used for product specification purposes. To generate a specification for this product, please contact our Quality Manager and request a copy of the current stock specification. The information and recommendations supplied in this document are believed to be accurate but no guarantee of their accuracy is made; they are for guidance only and should not be construed as a warranty. All implied warranties are expressly disclaimed, including without limitations any warranty of merchantability and fitness for use. It is recommended that purchasers before using this product conduct their own tests to determine whether the product is suitable for their particular purposes under their own operating conditions.



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