

High-Level Electrically Conductive Polyethylene Film



+ **HIGH LEVEL CONDUCTIVITY**

+ **SURFACE RESISTIVITY BELOW 1000 Ω /sq**

+ **POLYETHYLENE BASED FILM**



PRODUCT DESCRIPTION

Electrically conductive polyethylene (PE) film loaded with carbon for high level conductive applications.



PRODUCT APPLICATION

Used for sensitive pressure sensor applications, high level EMI and RF shielding and medical applications like ECG and TENS electrodes.



PRODUCT FEATURES

Black conductive PE film with a surface resistivity ranging between 1000 Ω /sq and 200 Ω /sq and with an excellent chemical and humidity resistance.



PRODUCT DESCRIPTION

CAPLINQ LINQSTAT™ XVCF-Series is highly conductive volume conductive polyethylene film similar to our standard VCF-Series film but with a higher electrically conductive carbon loading in the polymer mix. Having a **surface resistance of less than 1000 ohms per square (10E3 Ω/sq)** and in some cases as low 200 ohms per square (2.0E2 Ω/sq) this extra loading makes the XVCF-Series more conductive than our standard film and allows it to be used in applications that require a lower resistivity.

CAPLINQ LINQSTAT™ XVCF-Series conductive films are thin, lightweight and relatively inert. Furthermore, they are well suited for applications requiring electrochemical reactions, high conductivity or charge storage including but not limited to electrodes (ECG, TENS, Defibrillation and Iontophoresis), batteries (flat-cell zinc/manganese dioxide (MnO₂), Lithium Ion and Lithium polymer), and digital (electronic) white boards.

CAPLINQ LINQSTAT™ XVCF-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 has a standard thickness range from 76µm to 100µm (3 mil to 4 mil) and is available in various lengths, widths and thicknesses.

PRODUCT APPLICATION



Given its low surface resistivity, **LINQSTAT XVCF-Series** films have been successfully used as a **pressure sensor** making it useful for applications that require more conductivity to be able to detect more subtle pressure differences. For less-sensitive pressure sensor applications or applications that have large surface areas and/or higher application pressures, CAPLINQ **LINQSTAT MVCF-Series** may be sufficient. Examples of applications that use the material as a pressure sensor is in **the manufacture of digital whiteboards**.

Due to its low-resistivity and its resistance to a range of chemicals and alcohols, LINQSTAT XVCF-Series films are suitable for use in **medical electrodes**. Its matte finish allows it to be printed on, and the low material thickness makes it flexible to adapt well to a range of contours.



► Applications:

- ECG electrodes
- TENS electrodes
- Defibrillation electrodes
- Digital white boards
- Lithium ion / polymer battery
- Flat-cell MnO₂ battery



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			
<i>Specific Gravity</i>			
3.5 mil XVCF-200 Series	g/cm ³	1.163	
3 mil XVCF-500 Series	g/cm ³	1.163	
ELECTRICAL PROPERTIES			
<i>Surface Resistivity (Thickness Independent)</i>			
XVCF-200 Series Typical Value	ohms/square ohms/square	< 200	MIL-PRF-81705D Type II
XVCF-500 Series Typical Value	ohms/square ohms/square	< 500	MIL-PRF-81705D Type II
<i>Volume (Bulk) Resistivity (Thickness Dependent)</i>			
3.5 mil XVCF-200 Series Typical Value	ohms ohms	< 25	MIL-PRF-81705D Type II
3 mil XVCF-500 Series Typical Value	ohms ohms	< 50	MIL-PRF-81705D Type II



PRODUCT FEATURES

Nomenclature:

X: eXtra Conductive

VCF : Volume Conductive Film

Storage and Handling

LINQSTAT™ XVCF-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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