

# RIBS MVTR

## Reactive Intercept™ Barrier System



### Description:

RIBS MVTR is a combination of two inventions that provides a reusable package with permanent electrostatic protection (ESD and EMI Shielding), full MVTR protection, and a self contained de-ionizer for corrosive gases. This heavily metallized laminated co-extruded film contains a single layer of two distinctly different properties. One side of the extruded film is a matrix of polymer and conductive carbon. The inside layer of the film is a static dissipative, non-sloughing, polymer with a backbone of reactive Copper that provides a membrane over the carbon layer. The resulting film provides 4 functions:

- (1) A pathway for electrical charges to flow through the membrane to the conductive layer.
- (2) A pathway for free organic ions to flow through the membrane to be absorbed by the carbon.
- (3) A pathway for free inorganic ions to react with and be neutralized by the Copper in the membrane
- (4) Metallized polyester to provide EMI and ESD shielding and moisture barrier protection.

### Physical Properties

Physical Properties	Test Method	Specification
Color		Silver / Copper
Thickness	PST #001	3.5 mil
Yield	PST# 002	7500 Sq in./Lb
Tensile Strength	ASTM D-882	25 Lb/in.
Puncture Resistance	FTMS 101C Method 2065	> 19 Lbs.
Tear Initiation	ASTM D-1004	> 2.5 Lbs
Mullen Burst	ASTM D-774	100 Lbs
Seam Strength	ASTM D-882	> 14Lbs
Optical Density		Photo Opaque
Heat Seal		375°F .05 sec 60 PSI
Blocking	None	None

### Electrical Properties

Electrical Properties	Test Method	Specification
Surface Resistivity (PET Metal layer)	ANSI/ESD STM11.11	PE <10 <sup>9</sup> Ω (inside) PET<10 <sup>11</sup> Ω (outside)
Energy Test	ESD S11.31	< 5 nJ
Charge Retention	20,000 volts applied	< 5 volts measured
MVTR	24 hrs at 40 °C after flex testing per condition “E” ASTM F 392. The WVTR is measured using ASTM F 1249.	< .02 gms / 100 in2 > 45 dB between
EMI Shielding	(mil 81705 Rev C)	

### Chemical Properties

Chemical Properties	Test Method	Specification
Contact Corrosivity	FTMS 101C Method 3005	Pass – No Corrosion
Total Organic outgassing	Dynamic Headspace	< 220 ug/g
Total Inorganic outgassing	Dynamic Headspace	non detectable
NVR (Total Residue)	< .5 ug/cm <sup>2</sup>	Std Method 2540C

### Material Cleanliness

Material Cleanliness	Values	Test Method
Ammonium	< 30 ng/cm <sup>2</sup>	Ion Test
Bromide	< 30 ng/cm <sup>2</sup>	ASTM D 5542-94
Calcium	< 30 ng/cm <sup>2</sup>	
Chloride	< 30 ng/cm <sup>2</sup>	
Fluoride	< 30 ng/cm <sup>2</sup>	
Lithium	< 30 ng/cm <sup>2</sup>	
Magnesium	< 30 ng/cm <sup>2</sup>	
Nitrate	< 30 ng/cm <sup>2</sup>	
Nitrite	< 30 ng/cm <sup>2</sup>	
Phosphate	< 30 ng/cm <sup>2</sup>	
Potassium	< 30 ng/cm <sup>2</sup>	
Sodium	< 30 ng/cm <sup>2</sup>	
Sulfate	< 30 ng/cm <sup>2</sup>	

**Note: Can be made to be clean level 100**