



ABF-300™ ESD Control Film Static Dissipative Adhesive-Backed Polyester Film

Description

ABF-300™ ESD Control Film composite is a clear, adhesive-backed film product designed to control static electricity for a wide range of end uses. Suitable for application on smooth, flat, non-porous surfaces, it is a high tensile, high tear strength polyester film surfaced with SciCron Technologies proprietary, clear, C-300™ static dissipative surfacing. This unique technology prevents charge generation on the film surface, thereby controlling particulate attraction and preventing electrostatic discharge (ESD) events. This performance is permanent and totally independent of humidity. **ABF-300 ESD Control Film** is made with a high shear strength pressure sensitive adhesive for maximum performance and application versatility. The product exhibits excellent clarity, toughness, chemical resistance, surface hardness, mar resistance, dimensional stability, and UV light screening properties.

Applications

ABF-300 ESD Control Film resists tribocharging under all circumstances and cannot generate a charge when properly grounded. This makes it ideal for use in manufacturing and assembly operations for charge sensitive electronic components where it can help prevent both immediate and latent ESD caused defects. Since it resists charge build-up it does not attract contaminants, so it can also help prevent contamination-related rejects in ultra-clean manufacturing operations. Consequently, it is used in the semi-conductor, electronic, and micro-manufacturing, industries. It is ideally suited for application to glass cleanroom glazing to prevent surface charge generation. Other uses include application to: machine covers and enclosures; work station and wall panel surfaces; various insulative surfaces like cabinets, boxes, drawers, and melamine laminates; CRT screens; die cut parts for OEM made devices and assemblies; and plastic panels and parts which are in ESD sensitive areas.

Installation

ABF-300 ESD Control Film is applied to glass or any other smooth surface like a conventional adhesive-backed window film or security film. It can be cut to size with simple tools like utility knives and scissors. **Note:** *Once the release film backing has been removed to expose the adhesive, the product can be easily ruined if it is allowed to fold over on itself causing adhesive to touch adhesive. Even if this contact is momentary, it is very unlikely that the film can be restored to its original flat condition.* For more

information on handling and installation refer to SciCron Technologies Technical Information Bulletin No. FP-01.

Features and Benefits

- *Cannot be tribocharged when properly grounded*
Prevents build-up of static charge and accumulation of harmful contamination.
- *Electrostatic decay in less than 0.05 second per Federal Test Standard 101C, Method 4046.1*
Results in rapid static dissipation without arcing.
- *Surface resistivity of $10^6 - 10^8$ ohms per square*
Provides for ESD control without the need for ionization.
- *Permanence in static dissipation performance*
Avoids cost of application of temporary topical anti-stats.
- *Humidity independent static charge control*
Avoids inconvenience of maintaining high levels of humidity and damage caused by such humidity.
- *Advanced technology, uniform surface treatment*
Avoids charged "hot spots" often found with non-uniform temporary topical anti-stats.
- *Superior optical properties*
High clarity polyester film with C-300 surfacing means optimum use of available light in glazing applications.
- *90% UV light screen*
Reduces UV exposure for light sensitive materials and processes.
- *High tear and tensile strength polyester film*
Adds impact and shatter resistance to glass windows for added facility security and personnel protection.
- *Hard, mar resistant, durable surface*
C-300 surface reduces risk of mechanical surface damage.
- *Superior chemical resistance*
Reduces risk of solvent or chemical surface damage.

Availability

ABF-300 ESD Control Film composite is available as a clear 4.0 mil film with a 1.0 mil release film backing which is removed prior to installation.

Standard roll size: 48" x 96"

Other roll sizes and film thicknesses are available upon request.

Made in USA

The information and statements contained herein are believed to be accurate, however, users should perform their own testing and verification to determine the durability, applicability and suitability of the products for their own purposes. NOTHING CONTAINED HEREIN SHALL BE CONSTRUED AS A REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, or as permission, inducement, or recommendation to practice any patented invention without license. IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXCLUDED. While SciCron Technologies' surface is more mar resistant than the original substrate, the term "Permanent" or "Permanence" is not intended as a guarantee of durability in any particular application. It is used to distinguish SciCron Technologies' surface from topical anti-stats which must be reapplied on a regular basis.

ABF-300™ ESD Control Film

Typical Physical Properties (Typical but not guaranteed values for 4 mil film)

Property	Test Method	Units	ABF-300 ESD Control Film
Mechanical			
Tensile Strength	ASTM D882	psi	25,000
Break Strength	ASTM D882	lbs/inch	110
Peel Strength	ASTM D882	lbs/inch	5
Thermal			
U Factor	ASHREA Handbook Methods	BTU/ft ² /hr°F	1.02 - 1.13
Total Solar Energy Reflected	ASTM E903	%	10
Total Solar Energy Transmitted	ASTM E903	%	82
Total Solar Energy Absorbed	ASTM E903	%	8
Total Solar Energy Rejected	ASHREA Handbook Methods	%	17
Shading Coefficient	ASHREA Handbook Methods	---	0.94
Optical			
Light Transmittance Total UV	ASHREA Handbook Methods	%	10
Total Visible	ASTM D1003	%	87
Haze	ASTM D1003	%	6.0
Electrical			
Surface Resistivity	ASTM D257	ohms/sq	10 ⁶ - 10 ⁸
Surface Resistance	EOS/ESD S11.11	ohms	10 ⁵ - 10 ⁷
Electrostatic Decay	FTS 101C, Method 4046.1*	sec	Less than 0.05

* Federal Test Standard 101C, Method 4046.1 as described in EIA-541, Appendix F, Measurement of Electrostatic Decay Properties of Dissipative Planar Materials

Chemical Resistance ASTM D543

Samples immersed in the specified chemicals for 24 hours at room temperature and visually examined.

Chemical	Surface Attack	Visual Evaluation
Deionized Water	None	Clear
30% Sodium Hydroxide	None	Slight Change
30% Sulfuric Acid	None	Clear
30% Nitric Acid	None	Clear
Methanol	None	Clear
Ethanol	None	Clear
Isopropyl Alcohol	None	Clear
Acetone	None	Clear
Methylene Chloride	None	Clear

Precautions:

1. Polyester is a combustible thermoplastic. Avoid exposure to flame and excessive heat. Observe fire precautions appropriate for comparable forms of wood and paper.
2. Clean with soap and water. Do not use abrasives. Avoid inappropriate contact with solvents.