



March 1, 2006

Dear MJR Enterprises Corp. customer:

Re: SecurShield ANTISPSLL ST-3099

MJR Enterprises Corp. is pleased to provide you with this data sheet and processing guide for our ST-3099 SecurShield ANTISPALL product. This two-layer polyurethane/PET film is specifically engineered to prevent spalling of glass fragments when subjected to high energy impacts such as high velocity windborne, physical and ballistic impacts.

SecurShield ST-3099 has been field tested in countless extreme applications and is backed by over three decades of manufacturing and technical expertise.

MJR Enterprises Corp. is here to supply all of your lamination needs and technical support.

Sincerely,

A handwritten signature in black ink that reads "James M. Touchette". The signature is fluid and cursive, with a large initial "J" and "T".

James M. (Jim) Touchette  
President

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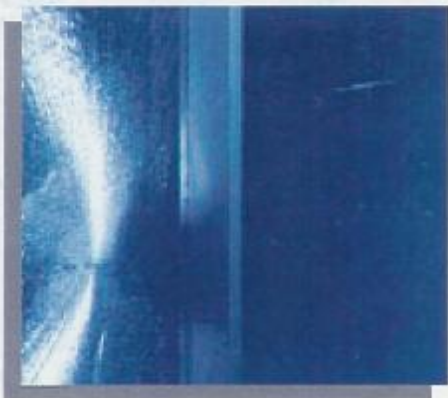
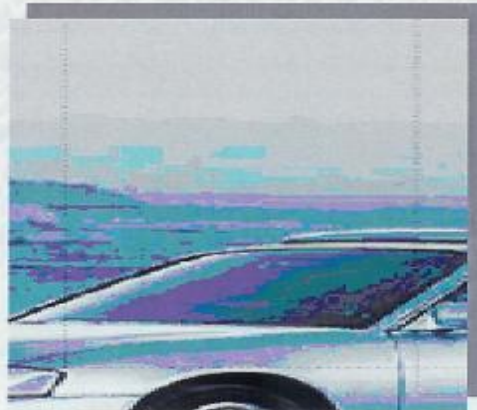
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## ***SECURSHIELD ST-3099 ANTISPALL FILM***

SecurShield ST-3099 is a bi-layer antispall film. Comprised of PET (.007" – 0.18mm) and optical aliphatic polyurethane interlayer (.015" – 0.38mm)

SecurShield is designed to prevent shattering and falling of glass fragments when subjected to high energy impacts such as high velocity wind borne, physical and ballistic impacts.



### **Process recommendations:**

SecurShield is bonded to the surface of glass and/or plastics such as polycarbonate or acrylic.

Precautions must be taken to insure there are absolutely no contaminants between the SecurShield and whatever is being used as a press plate.

We highly recommend the use of LDPE between the SecurShield and a press plate. Using this procedure allows contaminants to be absorbed into the LDPE rather than pressed into the SecurShield product.

Observe all proper laminating techniques when laminating SecurShield to insure complete and intimate contact between SecurShield and the substrate. Any voids will result in the loss of the laminate.

**Please see the reverse side of this document for product and processing information.**

Contact: Tim Graham, Product Manager  
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**STEVE'S POLYURETHANE-POLYESTER SECURITY FILM ST-3099**

**POLYMERS: AG 8451 POLYETHER POLYURETHANE extruded onto PET FILM**

**DESCRIPTION: 0.015" ( 0.38mm ) 80A polyether aliphatic polyurethane extruded onto 0.007" ( 0.18 mm ) coated scratch-resistant, optically clear polyester film**

<b>Product Designation Typical Applications</b>	<b>Transportation</b>	<b>Architectural</b>	<b>UV Package</b>	<b>Adhesion Enhanced</b>	<b>Lamination Temperature</b>	<b>Roll Width</b>	<b>Average Roll Length</b>
<b>ANTISPALL</b>	Yes	Yes	Yes	Yes	80-150°C 176-302°F	60" only 1524mm	250 feet (76 m)

**GENERAL PROPERTIES-POLYESTER FILM**

	<b>Specifications</b>	<b>Units</b>	<b>Values</b>
<b>Total Solar Energy:</b> Transmitted Reflected Absorbed			<b>76%</b> <b>10%</b> <b>14%</b>
<b>Visible Light:</b> Transmitted Reflected Absorbed			<b>84%</b> <b>10%</b> <b>6%</b>
<b>Thickness:</b>			<b>0.007" (175 microns)</b>
<b>Tensile Strength:</b>			<b>25,000 psi</b>
<b>Break Strength:</b>			<b>175 PLI</b>
<b>Scratch Resistance of Coated Side:</b>	D1044-85, CS10 Wheel/500 gm. load		<b>1.8% more haze</b>
<b>Chemical Resistance:</b> Alcohols, Aldehydes Hydrocarbons, Chlorinated Solvents, Dilute Acids and Alkalis Food, Chemicals, Medicinal Satins Automotive Boil Test Laminate at 250F/150 psi/60 min; Condition at STP for 24 hr. Weather-O-Meter Testing Boil 2 hours / condition 24 hrs STP	ASTM 3167		<b>Resistant</b>  <b>pass</b>
<b>Cleaning:</b>			<b>Non-abrasive, ok</b>