

## Notice

Since the production of this document, Solar Gard has been purchased by Saint-Gobain Performance Plastics Corporation. Solar Gard is now a subsidiary of Saint-Gobain. All references within this document to Bekaert, Bekaert Specialty Films or Bekaert Specialty Films LLC, including but not limited to legal notes, copy and or copyrights are null and void. All rights and responsibilities expressed or written within this document have been transferred from Bekaert Specialty Films, LLC to Saint-Gobain.

The company name in the following report could not be retroactively changed from Bekaert to Solar Gard. Although the test report is expired it can still be used to demonstrate the films ability and the integrity of the product represented in the test has not changed.

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**ASTM E 1886 / ASTM E 1996 AND  
ASTM E 283, ASTM E 330, ASTM E 331  
TEST REPORT**

**Rendered to:**

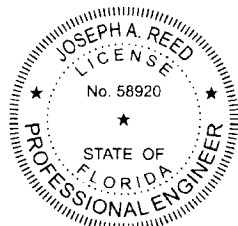
**BEKAERT SPECIALTY FILMS, LLC**

**SERIES/MODEL: Solar Gard Armorcoat 8-mil Film  
PRODUCT TYPE: Fixed Window with Applied Film**

**This report contains in its entirety:**

**Cover Page: 1 page  
Report Body: 10 pages  
Sketches: 4 pages  
Drawings: 5 pages**

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*Joseph A. Reed*

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**Report No.: 85700.01-401-44  
Revision 1: 10/03/08  
Test Date: 09/18/08  
Report Date: 10/01/08  
Expiration Date: 09/18/12**

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**ASTM E 1886 / ASTM E 1996 AND ASTM E 283, ASTM E 330, ASTM E 331**  
**TEST REPORT**

Rendered to:

BEKAERT SPECIALTY FILMS, LLC  
8575-A Somerset Drive  
Largo, Florida 33773

Report No.: 85700.01-401-44  
Revision 1: 10/03/08  
Test Date: 09/18/08  
Report Date: 10/01/08  
Expiration Date: 09/18/12

**Project Summary:** Architectural Testing, Inc. was contracted by Bekaert Specialty Films, LLC to perform testing on three Series/Model Solar Gard Armorcoat 8-mil Film, fixed window with applied film. The samples tested met the performance requirements set forth in the referenced test procedures for a  $\pm 2394$  Pa ( $\pm 50.0$  psf) Design Pressure with missile impacts corresponding to Missile Level C and Wind Zone 2. Test specimen description and results are reported herein. The samples were provided by the client.

**Test Procedures:** The test specimens were evaluated in accordance with the following:

*ASTM E 283-04, Test Method for Determining Rate of Airflow Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen*

*ASTM E 330-02, Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference*

*ASTM E 331-00, Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference*

*ASTM E 1886-02, Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.*

*ASTM E 1996-02, Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Wind Borne Debris in Hurricanes.*

**Test Specimen Description:**

**Series/Model:** Solar Gard Armorcoat 8-mil Film

**Product Type:** Fixed Window with Applied Film

**Overall Size:** 1308 mm (4' 3-1/2") wide by 2540 mm (8' 4") high

**Daylight Opening Size:** 1181 mm (3' 10-1/2") wide by 2400 mm (7' 10-1/2") high

**Finish:** All aluminum was mill finish.

**Glazing Details:** The glass was comprised of one sheet of 4.76 mm (3/16") clear tempered glass and an 8-mil (0.008") thick applied film on the interior side of the glass. The glass was exterior glazed onto a bed of Dow 995 silicone sealant, cap sealed and secured from the exterior perimeter with a vinyl wedge gasket.

**Weatherstripping:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Custom snap-in vinyl molding	1	Exterior perimeter of the fixed lite

**Frame Construction:** The frame was constructed of extruded aluminum members with straight-cut and butted corners. The corners were sealed and secured with two #8 x 1-1/4" Philips head screws per corner through the jambs into the head and sill.

**Hardware:** No hardware was utilized.

**Drainage:** No drainage was utilized.

**Reinforcement:** No reinforcement was utilized.

**Installation:** The fixed window was installed into a 2 x 10 Spruce-Pine-Fir #2 wood test buck. The aluminum window frame was secured to the interior perimeter with #14 x 3-1/2" wood screws spaced 6" from the ends and 22" on center securing the frame members to the buck. The exterior was sealed with silicone.

**Test Results:**

The results are tabulated as follows:

<u>Test Method</u>	<u>Title of Test</u>	<u>Results</u>
ASTM E 283	Air Infiltration	
	1.60 psf (25 mph)	0.09 cfm/ft <sup>2</sup>
	6.27 psf (50 mph)	0.19 cfm/ft <sup>2</sup>
ASTM E 331	Water Resistance	
	7.52 psf	No leakage
ASTM E 330	Uniform Load Deflection	
	(Deflections reported were taken on the aluminum frame between fasteners with a 22" span)	
	(Loads were held for 10 seconds)	
	2400 Pa (50.16) psf (positive)	<0.01"
	2400 Pa (50.16) psf (negative)	0.01"
ASTM E 330	Uniform Load Structural	
	(Permanent sets reported were taken on the aluminum frame between fasteners with a 22" span)	
	(Loads were held for 10 seconds)	
	3600 Pa (75.24) psf (positive)	<0.01"
	3600 Pa (75.24) psf (negative)	<0.01"