

Guidelines For Glass Breakage And Insulated Glass (IG) Unit Seal Failure Limited Warranty Coverage

Film Type	Film-To-Glass Application Ratings					
	Low-E Caution (LEC)	Solar Absorbance	Clear Single Pane	Tinted Single Pane	Clear Double Pane	Tinted Double Pane
<b>Architectural</b>						
<b>Stainless Steel</b>						
Stainless Steel 60		32	1	1	1	1
Stainless Steel 50		44	1	1	1	1
Stainless Steel 35	LEC	48	1	1	1	1
Stainless Steel 30		52	2	2	3	2
Stainless Steel 20		55	2	2	4	4
Stainless Steel 10		55	2	2	4	4
<b>Quantum</b>						
Quantum/Silver/Quantum 20		75	2	2	4	4
Quantum/Silver/Quantum 10		70	2	2	4	4
<b>Solar Bronze</b>						
Solar Bronze 50	LEC	34	1	1	1	1
Solar Bronze 35	LEC	35	1	1	1	1
Solar Bronze 20	LEC	38	1	1	1	1
<b>Aluminum</b>						
Silver 50		35	1	1	1	1
Silver 35		33	1	1	1	1
Silver 20	LEC	35	1	1	1	1
Grey/Silver 20		60	2	2	4	4
Grey/Silver 15		61	2	2	4	4
Bronze/Silver 20		56	2	2	4	4
Bronze/Silver 15		57	2	2	4	4
Gold/Silver 20	LEC	40	1	1	1	1
Blue/Silver 20	LEC	48	1	1	2	2
Green/Silver 20	LEC	50	1	1	2	2
Grey/Silver/Grey 10		63	2	2	4	4
Bronze/Silver/Bronze 10		62	2	2	4	4
<b>Summer/Winter Low-Emissivity</b>						
Silver Ag 25 Low-E		41	1	1	1	1
<b>Safety &amp; Security</b>						
<b>Clear Safety &amp; Security</b>						
2 Mil Clear		9	1	1	1	1
4 Mil Clear		13	1	1	1	1
7 Mil Clear		13	1	1	1	1
8 Mil Clear		9	1	1	1	1
10 Mil Clear		14	1	1	1	1
11 Mil Clear		13	1	1	1	1
14 Mil Clear		15	1	1	1	1
<b>Solar Safety &amp; Security</b>						
4 Mil Stainless Steel 50		46	1	1	1	1
4 Mil Stainless Steel 35	LEC	47	1	1	1	1
4 Mil Stainless Steel 20		56	2	2	4	4
8 Mil Stainless Steel 50		49	1	1	1	1
8 Mil Stainless Steel 35	LEC	52	1	1	1	1
8 Mil Stainless Steel 20		59	2	2	4	4
10 Mil Stainless Steel 50		43	1	1	1	1
10 Mil Stainless Steel 35	LEC	48	1	1	1	1
4 Mil Solar Bronze 35	LEC	39	1	1	1	1
4 Mil Solar Bronze 20	LEC	41	1	1	1	1
4 Mil Silver 20	LEC	37	1	1	1	1
8 Mil Silver 35		40	1	1	1	1
8 Mil Silver 20	LEC	39	1	1	1	1
10 Mil Silver 20	LEC	39	1	1	1	1
<b>Specialty</b>						
Clear Frost		19	1	1	1	1
Black Opaque		95	2	2	4	4
White Opaque		31	1	1	3	3
Rose Red		35	1	1	1	1
Royal Blue		38	1	1	1	1
Emerald Green		37	1	1	1	1
6 Mil Graffitigard		12	1	1	1	1

Film Type	Film-To-Glass Application Ratings					
	Low-E Caution (LEC)	Solar Absorbance	Clear Single Pane	Tinted Single Pane	Clear Double Pane	Tinted Double Pane
<b>Automotive High Performance</b>						
<b>HP Quantum</b>						
HP Quantum 52		44	1	1	2	1
HP Quantum 37		55	2	2	4	4
HP Quantum 28		61	2	2	4	4
HP Quantum 19		65	2	2	4	4
HP Quantum 14		70	2	2	4	4
<b>HP True Grey</b>						
HP True Grey 50	LEC	37	1	1	2	2
HP True Grey 38	LEC	49	1	1	2	2
HP True Grey 28		55	2	2	4	4
HP True Grey 18		60	2	2	4	4
HP True Grey 6		71	2	2	4	4
<b>HP Charcoal</b>						
HP Charcoal 50	LEC	40	1	1	2	2
HP Charcoal 43	LEC	46	1	1	2	2
HP Charcoal 38		52	2	2	4	4
HP Charcoal 32		53	2	2	4	4
HP Charcoal 22		58	2	2	4	4
HP Charcoal 13		64	2	2	4	4
HP Charcoal 6		67	2	2	4	4
<b>HP Titanium</b>						
HP Titanium 33		55	2	2	4	4
HP Titanium 26		62	2	2	4	4
HP Titanium 16		65	2	2	4	4
HP Titanium 6		68	2	2	4	4
<b>HP Bronze</b>						
HP Bronze 33		53	2	2	4	4
HP Bronze 22		58	2	2	4	4
<b>Automotive Non-Reflective</b>						
<b>NR Charcoal</b>						
NR Charcoal 70		17	1	1	1	1
NR Charcoal 54		28	1	1	1	1
NR Charcoal 35		37	1	1	1	1
NR Charcoal 23		42	1	1	1	1
NR Charcoal 17	LEC	44	1	1	2	2
NR Charcoal 7		54	2	2	4	4
<b>NR Grey</b>						
NR Grey 32		39	1	1	1	1
NR Grey 22		39	1	1	1	1
NR Grey 12	LEC	48	1	1	2	2
NR Grey 6		54	2	2	4	4
<b>Film-To-Glass Application Ratings</b>						
#1 Pre-approved for glass breakage and IG unit seal failure coverage at no extra charge.						
#2 Not pre-approved for glass breakage and IG unit seal failure coverage, although coverage may be attainable with a film-to-glass application checklist and a fee.						
#3 No IG unit seal failure coverage available, although glass breakage coverage may be attainable with a film-to-glass application checklist and a fee.						
#4 Neither glass breakage nor IG unit seal failure warranty coverage available.						
<b>Notes</b>						
1. All solar performance values are based on the film installed on the inside surface of 1/8" (3mm) thick, clear glass.						
2. The film-to-glass application chart refers to the four most common types of glass. Additional film-to-glass application guidance, disclaimers, and information about installations over 2,500 square feet and/or Low-E caution (LEC) is located on the reverse side of this document.						
3. These film-to-glass application ratings are risk assessments based on the specific spectral characteristics of each unique film type. They are not based solely on total solar energy absorbance. The latter technique is not accurate for proper prediction of thermal induced glass breakage because it gives no information as to the precise wavelength actually being transmitted, absorbed and/or reflected.						

**FILM-TO-GLASS APPLICATION DISCLAIMERS**

Single pane clear and tinted tempered glass are automatically pre-approved for limited glass breakage warranty coverage, except as described below. Arched windows are automatically pre-approved, provided that proper film-to-glass application guidelines are adhered to. In addition round, bent or laminated glass may be approved, although a film-to-glass application checklist (Catalog #0322) must be submitted and written approval received to ensure glass breakage and insulated glass (IG) unit seal failure warranty coverage. However, this limited warranty is NOT AVAILABLE when film-to-glass applications include any of the following:

1. Textured, wired or skylight glass;
2. Any glass with more than one window film applied;
3. Any window where light can be seen between the glass and the framing system;
4. Any plastic or polycarbonates;
5. Triple or quadruple pane insulated glass (IG) units;
6. Glass with paint, lettering, vinyl graphics or other ornamentation;
7. Glass with any single edge dimension greater than 10 feet;
8. Any single glass pane greater than 100 square feet total;
9. Any single IG unit greater than 40 square feet total;
10. Any single pane with partial film installation. Film must be installed edge to edge;
11. Glass 3/8 inch or thicker;
12. Damaged, chipped, cracked or scratched glass;
13. Glass with concrete framing;
14. Glass with metal framing that has no gaskets or seals;
15. Glass with framing sealant or gaskets that are no longer resilient;
16. Broken glass or IG unit/s with seal failure prior to installation of the film;
17. Any building that has a history of glass breakage and/or seal failure problems; or
18. When 25 percent or less of the glass is shaded and when that shading equals 25 percent of the perimeter of the glass.

**FILM-TO-GLASS APPLICATION CHECKLIST**

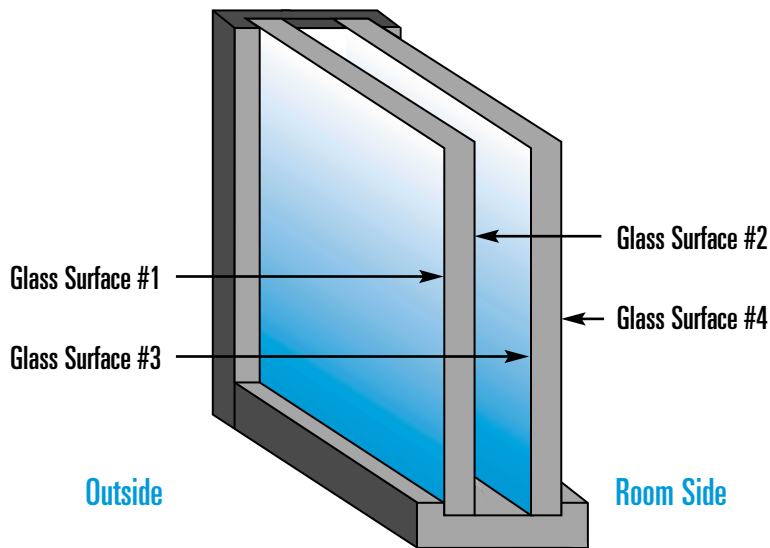
This document provides film-to-glass application guidance for the most common glass types, although not all applications are covered. If you are not sure about a film-to-glass application, dealers may submit to their regional BSF service center a film-to-glass application checklist (Catalog #0322) to ensure glass breakage and IG unit seal failure warranty coverage.

**LOW-E CAUTION (LEC) WARRANTY COVERAGE PARAMETERS**

The following three scenarios outline the necessary warranty coverage parameters when installing a Low-E caution (LEC) film to an IG unit. The Low-E caution (LEC) indicates possible glass breakage and IG unit seal failure warranty coverage ineligibility, due to an increased risk when an LEC film is installed on an IG unit with a Low-E feature.

- #1 Any LEC window film installed on an IG unit, that has a Low-E coating on surface #2 (see diagram) **is pre-approved** for glass breakage and IG unit seal failure warranty coverage.
- #2 Any LEC window film installed on an IG unit, that has a Low-E coating on surface #3 (see diagram) and a shading coefficient (SC) less than .70, **is pre-approved** for glass breakage and IG unit seal failure warranty coverage.
- #3 Any LEC window film installed on an IG unit, that has a Low-E coating on surface #3 (see diagram) and a shading coefficient (SC) of .70 or greater, **is not pre-approved** for glass breakage and IG unit seal failure warranty coverage. When these factors are present, glass breakage and IG unit seal failure may be attainable, although a film-to-glass application checklist (Catalog #0322) and fee will be required.

**Side View Of Dual Pane Insulated Glass (IG) Unit**



**INSTALLATIONS OVER 2,500 SQUARE FEET**

The glass breakage and IG unit seal failure warranty coverage **is not automatically pre-approved** for #1 film-to-glass application rating on installations over 2,500 square feet. All installations over 2,500 square feet will require a film-to-glass application checklist (Catalog #0322) and written approval to ensure warranty coverage. Any fees for glass breakage and IG unit seal failure warranty coverage will apply.

**FEE SCHEDULE AND WARRANTY COST**

All #1 film-to-glass application ratings **are automatically pre-approved** for glass breakage and IG unit seal failure warranty coverage at no additional charge. If attainable, the cost for the glass breakage and IG unit seal failure warranty coverage is based on a cost per square foot of the film installed. There is a \$50 minimum installation fee per installation. A fee schedule and warranty cost calculation example for this optional warranty coverage is located below.

**FEE SCHEDULE**

1 sq. ft. to 333 sq. ft.	\$50 Minimum Charge
334 sq. ft. to 3,500 sq. ft.	\$0.15 per sq. ft.
3,501 sq. ft. to 5,000 sq. ft.	\$0.12 per sq. ft.
5,001 sq. ft. to 10,000 sq. ft.	\$0.10 per sq. ft.
10,001 sq. ft. to 20,000 sq. ft.	\$0.08 per sq. ft.
20,001 sq. ft. and over	\$0.06 per sq. ft.

**WARRANTY COST CALCULATION EXAMPLE**

Job Square Footage	651
Per Square Foot Charge	x .15
Warranty Cost	\$97.65

**WARRANTY APPLICATION PROCEDURES**

Applications for glass breakage and IG unit seal failure warranty coverage can be submitted up to 30 days after the installation completion date, however the warranty coverage does not begin until the BSF warranty service department provides written approval. In the event that an application for coverage is denied, BSF will refund the warranty application fee.

**BSF reserves the right to reject any glass breakage and IG unit seal failure limited warranty coverage application for any reason which it deems, in its sole opinion, to be appropriate and reasonable.**

To apply for the glass breakage and IG unit seal failure warranty coverage, BSF requires the following items:

1. The window manufacturer's IG unit seal failure warranty.
2. A work sheet indicating the number and location of all windows proposed for BSF film installation. Indicate on the work sheet, which specific windows are covered by the manufacturer's IG unit seal failure warranty.
3. Photos of all windows to be filmed.
4. All parts of a completed film-to-glass application checklist (Catalog #0322) for approval.
5. An application fee check made out to Bekaert Specialty Films, LLC.

**If the installation has been completed please include the following 3 items with the above 5:**

1. The yellow copy of the completed product warranty certificate.
2. A copy of the BSF product warranty.
3. A copy of the dealer's proof of purchase invoice.

**Send Warranty Application Materials To:**

Bekaert Specialty Films, LLC, Warranty Service Department, 13770 Automobile Blvd., Clearwater, Florida 33762-3818

A representative from Bekaert Specialty Films will respond within 2 working days of receipt of the application materials. The glass breakage and IG unit seal failure warranty coverage will commence at time of approval and verification of coverage will be returned to the applicant.