

## About Madico

Headquartered in Tampa Bay, Florida, Madico, Inc. innovates, manufactures, and distributes a broad range of protective, functional and decorative materials-based solutions including films, coatings and laminates for various industries worldwide from automotive and architecture to healthcare and aerospace. Since 1903, Madico has pioneered industry-first products with an unrivaled commitment to quality and dedication to its customers. Madico is a fully-owned subsidiary of Lintec USA Holdings, Inc. For more information, visit www.madico.com.







AIA Continuing Education **Provider** 





## The Clear Choice for Premium Architectural Film

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# Film Installation Guide For Preventing Glass Failure

7/2C





## Sunscape Film Installation Guide

	Solar Properties*					Single Pane										Dual Pane																
Film	Total Solar Energy Rejected	Visible Light Transmitted	Visible Light Reflected (Exterior)	Total Solar Energy Reflected	Total Solar Energy Absorbed	Clear Annealed Monolithic		Tinted Annealed Monolithic		Low-E Annealed Monolithic		H/S or Tempered Single Pane Clear or Tinted		Laminated Monolithic		Clear Annealed Both Lites		Outboard Lite Tinted		Low-E #2 Surface	Low-E Low-E #2 Surface #3 Surface		Inboard I	Inboard Lite Tinted		r ed Laminated Dua		Pane Clear		Laminated Dual Pane Exterior Tinted		
						Up To 3/8″ 1 - 40 sq ft	Up To 3/8″ 40 - 100 sq ft	Up To 3/8″ 1 - 40 sq ft	Up To 3/8″ 40 - 100 sq ft	Up To 3/8″ 1 - 40 sq ft	Up To 3/8″ 40 - 100 sq ft	Up to 1/2″ 1 - 150 sq ft	Over 1/2" Any Size	.030 PVB Up to 1/2"	.060 PVB Up To 1/2"	H/S Tempered Laminated	Up To 3/8″ 1 - 40 sq ft	Up To 3/8″ 40 - 100 sq ft	Up To 3/8″ 1 - 40 sq ft	Up To 3/8″ 40 - 100 sq ft	Up To 3/8″ 1 - 40 sq ft	Up To 3/8″ 1 - 40 sq ft	Up to 3/8″ 1 - 40 sq ft	Up To 3/8″ 1 - 40 sq ft	Up To 3/8″ 40 - 100 sq ft	All Sizes	.030 PVB Up To 1/2″	.060 PVB Up To 1/2″	H/S Tempered Laminated	.030 PVB Up To 1/2″	.060 PVB Up To 1/2″	H/S Tempered Laminated
Designer Grey 55	36%	59%	8%	8%	42%	0	0	0	0	0	۲	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Designer Grey 45	46%	49%	12%	12%	49%	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0
Designer Grey 35	54%	38%	15%	15%	54%	0	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	1	0
Duralite 40	51%	39%	19%	19%	44%	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	Δ	0	1	1	0	0	1	0
Duralite 30	56%	28%	21%	21%	50%	0	0	0	1	0	Â	0	1	1	1	0	0	Â	0	0	0	1	1	1	0	0	1	1	0	1	1	0
Duralite 20	66%	19%	29%	30%	51%	0	0	0	1	0	Â	0	1	1	1	0	0	Â	0	0	0	1	1	1	0	0	1	1	0	1	1	0
Duralite 10	69%	9%	19%	31%	54%	0	0	1	0	1	0	0	1	1	0	0	0	0	0	1	0	1	1	1	0	0	1	0	0	1	0	0
Softlite 35	62%	35%	18%	24%	52%	0	0	0	1	0	Â	0	1	1	1	0	0	1	0	0	0	1	1	1	0	0	<u> </u>	1	0	1	1	0
Softlite 25	71%	23%	28%	33%	53%	0	0	0	1	0	Â	0	1	<u>^</u>	0	0	0	0	0	0	0	1	<u>^</u>	1	$\otimes$	0	1	0	۲	1	$\otimes$	0
Starlite 38	53%	40%	18%	17%	53%	0	0	0	0	0	۲	0	4	<u>^</u>	0	0	0	1	0	0	0	0	0	0	1	0	<u>1</u>	0	0	0	1	0
Starlite 28	64%	29%	31%	28%	51%	0	0	0	1	0	Â	0	1	1	0	0	0	0	0	0	0	1	1	1	$\otimes$	0	1	0	0	0	0	0
Starlite 18	69%	17%	37%	32%	52%	0	0	1	$\otimes$	<u>^</u>	0	0	4	<u>^</u>	0	0	0	0	0	1	0	1	<u>^</u>	1	$\otimes$	0	<u>1</u>	$\otimes$	0	1	$\otimes$	0
Starlite 8	80%	8%	55%	45%	49%	0	0	1	1	1	Â	0	1	1	0	0	0	0	0	<u>^</u>	0	1	1	1	$\otimes$	0	1	0	0	1	0	0
Advanced Ceramic 5000	44%	53%	12%	11%	49%	0	0	0	0	0	0	0	1	1	1	0	0	Δ	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Advanced Ceramic 4000	50%	46%	14%	14%	53%	0	0	0	1	0	Â	0	1	1	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	1	0
Advanced Ceramic 3000	58%	35%	17%	17%	58%	0	0	1	0	1	0	0	1	1	0	0	0	0	0	1	0	1	1	1	0	0	<u> </u>	$\otimes$	0	1	0	0
Purelite 60	44%	60%	10%	8%	52%	0	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	1	0
Purelite 40	54%	39%	15%	15%	56%	0	0	0	1	0	Â	0	1	1	0	0	0	0	0	0	0	1	1	1	$\otimes$	0	1	1	0	0	1	0
Designer Grey 45, 8 Mil	51%	43%	14%	14%	52%	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	1	1	0	1	0	1	1	0	0	0	0
Designer Grey 35, 8 Mil	55%	36%	15%	15%	57%	0	0	0	1	0	Â	0	1	1	$\otimes$	0	0	$\otimes$	0	0	0	1	1	1	$\otimes$	0	1	1	0	0	1	0

Table Key

Approved for application

1 Pre-approval required

Not covered under any circumstances

How to Use This Chart:

Use the table to find your glass type at the top, then move down to see what films are compatible with that glass type.

Madico recommends using this table to make sure the product chosen for the installation will be safe for the type of glass being filmed. If you have any questions about this chart or encounter additional film and glass combinations not shown here, please contact the Madico Technical Services department at 727-388-2105.

Please refer to the Sunscape warranty (part# \$955007) for any additional applications which require preapproval or are prohibited.

PRE-APPROVAL IS REQUIRED FOR ANY FILM AND GLASS COMBINATION WITH A CAUTION SYMBOL, IF PRE-APPROVAL IS NOT OBTAINED, A WARRANTY CLAIM COULD BE DENIED.

## What Causes Glass Breakage?

Glass breakage is caused by stress on the glass. There are five types of stress which may cause glass to break.

- 1. Thermal Stress from absorption of solar radiation
- 2. Tensile Stress from the weight of the glass itself
- 3. Mechanical Flexing Stress from wind pressure
- 4. Impact Stress from flying objects such as hail or storm debris
- 5. Twisting Stress from a building or window frame sagging or settling

The first type, thermal stress, is the only type affected by the installation of window film. The use of window film will increase thermal stress on sunlit glass. However, there are other factors which increase thermal stress such as partial shading of windows from overhangs, tightly fitted drapes or blinds, signs and decals on windows, and heating or cooling vents directed at glass. In addition, different types of glass (annealed or tempered, clear or tinted) have different solar absorption rates and will withstand differing degrees of thermal stress.

#### \*Solar performance measurements are read in accordance with National Fenestration Rating Council (NFRC) standards on 6mm clear glass.

com for the latest reported performance measurements.

Specification Use Statement - Reported values are typical properties and should not be used as a specification. Since the user is aware of the specific conditions in which the product is to be used, it is the user's responsibility to determine whether the product is suitable for intended use. If you need verification regarding specific use or additional information, please contact Madico or your local Madico Authorized Dealer. Since there can be variations in published data between printed materials, please visit madico.