



ASWF Safety & Security Window Film

Product Features & Benefits:

- Optically clear, 4-mil, , 7-mil, 8-mil , 11 mil , 12 mil , 14 mil, 16 mil, 18 mil, 21 mil 18 mil NSN 25 & 24 mil thick film for application to interior glass surfaces.
- Provides shatter resistance to protect from broken glass hazards caused by glass breakage and other low force impact events.
- Exhibits strong adhesion to glass and shock absorbing properties.
- Protective hardcoat provides scratch resistance and cleanable / durable surface.
- Protect from the harmful effects of UV light and reduces fading of interior furnishings.
- Easily cleaned with typical window cleaning solutions.

Product Performance & Technical Data

Film Properties	Single Pane 1/4" Clear Glass	4 mil Safety	8 mil Safety	11 mil Safety	18 mil Safety	21 mil Safety	18 mil NSN 25 Safety
Solar Heat Gain Coefficient	0.82	0.82	0.82	0.82	0.82	0.82	0.27
Visible Light Transmitted	89%	87%	87%	86%	85%	85%	28%
Visible Light Reflected Interior	9%	8%	8%	8%	8%	8%	44%
Visible Light Reflected Exterior	8%	8%	8%	8%	8%	8%	66%
U Value	1.03	1.03	1.03	1.03	1.03	1.03	1.00
UV Block	38%	99%	99%	99%	99%	99%	99%
Total Solar Energy Rejected	19%	19%	19%	19%	19%	19%	73%
Glare Reduction	NA	1%	1%	1%	1%	1%	69%

Table 1. Product Solar Performance Data

Specifications – Safety & Security Window Film

1.0 Scope

This specification is for an optically clear or tinted glass shatter resistant and abrasion resistant window film which, when applied to the interior surface, will help hold broken glass together and reduce the ultra-violet light that would normally enter through the window. This is a basic safety and security window film that may be useful as in increased measure of protection against low force impact situations, general glass fragment retention, spontaneous glass breakage, and limited safety glazing situations.

Important

The information provided in this report is believed to be reliable; however, due to the wide variety of intervening factors, ASWF does not warrant that the results will necessarily be obtained. This data is provided for informational purposes only.



2.0 Applicable Documents

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

The 1985 American Society for Heating, Refrigeration, and Air Conditioning Engineers (ASHRE) Handbook of Fundamentals.

The American Society for Testing and Materials (ASTM):

- ASTM E-308 Standard Recommended Practice for Spectrophotometry and Description of Color in CIE 1931 System.
- ASTM E-903 Standard Methods of Test for Solar Absorbance, Reflectance and Transmittance of Materials Using Integrating Spheres
- ASTM D-882 Standard Test Method for Tensile Properties of Thin Plastic Sheet
- ASTM D-1044 Standard Method of Test for Resistance of Transparent Plastics to Surface Abrasion

Windows 4.1 A computer Tool for Analyzing window thermal performance, Lawrence Berkley Laboratory

3.0 Requirements of the Film

3.1 Film Material: The film material shall consist of an optically clear polyester film with a durable abrasion resistant coating over one surface, and a UV stabilized pressure sensitive adhesive on the other.

3.2 Product Physical Properties (nominal) See Table 2.

Product	Tensile Strength	Break Strength	Puncture Strength	Elongation	Peel Strength
4 Mil clear	32,000 PSI Avg. MD/TD	110 lb/in (PLI)	>65 lb	>100%	>5 lb/in (PLI)
7 Mil clear	32,000 PSI Avg. MD/TD	195 lb/in (PLI)	>100 lb	>100%	>5 lb/in (PLI)
8 Mil clear	32,000 PSI Avg. MD/TD	220 lb/in (PLI)	>125 lb	>150%	>5 lb/in (PLI)
11 Mil clear	32,000 PSI Avg. MD/TD	300 lb/in (PLI)	>175 lb	>150%	>5 lb/in (PLI)
12 Mil clear	32,000 PSI Avg. MD/TD	330 lb/in (PLI)	>215 lb	>200%	>5 lb/in (PLI)
14 Mil clear	32,000 PSI Avg. MD/TD	385 lb/in (PLI)	>235 lb	>200%	>5 lb/in (PLI)
16 Mil clear	32,000 PSI Avg. MD/TD	440 lb/in (PLI)	>275 lb	>200%	>5 lb/in (PLI)
18 Mil clear	32,000 PSI Avg. MD/TD	495 lb/in (PLI)	>285 lb	>200%	>5 lb/in (PLI)
21 Mil clear	32,000 PSI Avg. MD/TD	585 lb/in (PLI)	>300 lb	>200%	>5 lb/in (PLI)
24 Mil clear	32,000 PSI Avg. MD/TD	650 lb/in (PLI)	>335 lb	>200%	>5 lb/in (PLI)

Table 2. Product Physical Properties

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3.3 Solar Performance Properties: Film applied to ¼" thick clear glass (see Table 1.)

3.4 Adhesive System: The film shall be supplied with a pressure sensitive weatherable acrylate adhesive applied uniformly over the surface opposite the abrasion resistant coated surface. The adhesive shall be essentially optically flat and shall meet the following criteria:

- a) Viewing the film from a distance of 10 feet at angles up to 45 degrees from either side of the glass, the film itself shall not appear distorted .

4.0 Requirements of the Manufacturer

4.1 The manufacturer will insure proper quality control during production, shipping and inventory, clearly identify and label each film core with the product designation and lot number.

4.2 Materials shall be manufactured by:

Erickson International LLC
3135 Marco St.
Las Vegas, NV 891

5.0 Application

5.1 Examination: Examine glass surfaces to receive new film and verify that they are free from defects and imperfections, which will affect the final appearance. Correct all such deficiencies before starting the film application process.

5.2 Preparation

- a) The window and window framing will be cleaned thoroughly with a neutral cleaning solution. The inside surface of the window glass shall be scraped with a stainless steel razor blade with a clean, sharp edge to ensure the removal of any foreign contaminants without damage to the glass surface.
- b) To minimize waste, the film will need to be cut to specification utilizing a sharp razor blade neatly and square at a uniform distance of 1/16" (1.6 mm) of the window-sealing device.
- c) Film shall be wet applied using clean water and slip solution to facilitate positioning of the film onto the glass.
- d) To ensure efficient removal of excess water from the underside of the film and to maximize bonding of the pressure sensitive adhesive, a stiff polyurethane squeegee will be utilized.
- e) Upon completion, the film may have a dimpled appearance from residual moisture. Said moisture shall, under reasonable weather conditions, dry flat with no moisture dimples within a period of 30 days when viewed under normal viewing conditions. =

6.0 Cleaning

The film may be washed using common window cleaning solutions. Metallized constructions shall be cleaned with window cleaning solutions that are free of ammonia products. Abrasive type cleaning agents and bristle brushes, which could scratch the film, must not be used.

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