



# Safety & Security Window Films

Optically clear films that protect glazing and people



Safety

More than three decades of experience lie behind the development and manufacture of Avery Dennison® multi-laminate Safety and Security Window Films. The portfolio offers a convenient solution to protecting people and property against flying glass shards from a wide variety of hazards and threats.

All films also provide excellent UV block, protecting people and property from damaging ultraviolet rays. The portfolio supports building codes and insurance policies that demand glazing meeting certain safety standards - such as impact-resistant glass in schools, and protection against break-ins or blast protection at retail locations.

Suitable for either interior or exterior application, the films offer outstanding transparency - using top-grade polyester and a unique proprietary transparent adhesive.

**SF Clear i™** films feature exceptional clarity, low reflectance and high levels of UV rejection. They are available in thicknesses of 4, 7, 8 and 12 mil for appropriate protection levels. **SF Clear X™** films for exterior installation offer similar benefits, and are available in thicknesses of 4 and 7 mil.

## Features and Benefits

- > Increased protection from shattered glass
- > Protection against impact, blast, crime or natural disaster
- > Solution for spontaneous breakage of tempered glass (e.g. balcony glass, using **SF Clear X** film)
- > Superb optical clarity, for no-compromise appearance
- > Up to 99% UV block, reducing fading and sun damage



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Optical and Solar Properties*	SF Clear™ 4 mil i EC	SF Clear i™ 4 mil	SF Clear i™ 7 mil	SF Clear i™ 8 mil	SF Clear i™ 12 mil	SF Clear X™ 4 mil	SF Clear X™ 7 mil
Pane	Single	Single	Single	Single	Single	Single	Single
Visible Light Transmitted	89%	89%	88%	88%	87%	88%	88%
Visible Light Reflected (Interior)	10%	10%	11%	11%	11%	10%	11%
Visible Light Reflected (Exterior)	10%	10%	11%	11%	11%	10%	11%
Ultra Violet Block	97%	97%	99%	99%	99%	99%	99%
Mechanical Properties							
Thickness (mil)	4	4	7	8	12	4	7
Tensile Strength at Break (PSI)	28,500	28,500	26,000	28,500	28,500	28,500	26,000
Break Strength (lb/inch)	112	112	180	224	336	112	180
Elongation at Break (%)	125	125	140	125	125	125	140
Peel Strength (lb/inch)	7	7	7	7	7	7	7
Safety Testing							
Fire							
DIN EN 13501-1: 2010 B-s1, d0		√	√	√	√	√	√
Impact							
ANSI Z97.1 18" pendulum fall		√					
ANSI Z97.1 48" pendulum fall			√	√			
CPSC 1201 Cat 1 18" pendulum fall		√					
CPSC 1201 Title 16 48" pendulum fall		√	√	√			
BS 6206 B		√					
EN 12600 2B2		√	√	√		√	
EN 12600 1B1			√	√			√
EN 356 P2A					√		
DIN 52290 Part 4, A1					√		
Shock Tube Test****							
GSA: 3A, ISO: C, ASTM: Minimal Hazard				√			

\*Performance results are calculated on 3 mm glass using NFRC methodology and LBNL Window 5.2 software, and are subject to variations in process conditions within industry standards. Performance calculations should only be used for estimating purposes.

\*\*Complies with Shock Tube Test Standards: GSA+TS01-2003, ISO 16934 & ASTM F 1642-12

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