SD2500/2510 Surface-Applied Film Technical Data Sheet

Signals Defense's patented surface applied window films are the U.S. Government's choice for TEMPEST film protection. Signals Defense window films provide high RF (Radio Frequency) and IR (Infrared) attenuation with high visible light transmittance and low reflectivity resulting in minimal aesthetic impact.

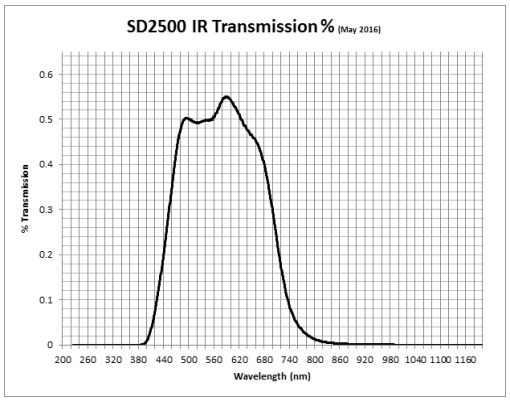
Signals Defense Films are ASTM F3057-16 tested and exceed the RF, IR and VLT standards for the U.S. Intelligence Community. SD Technology is available in Film, Glass, Polycarbonate and Preconstructed Panels.

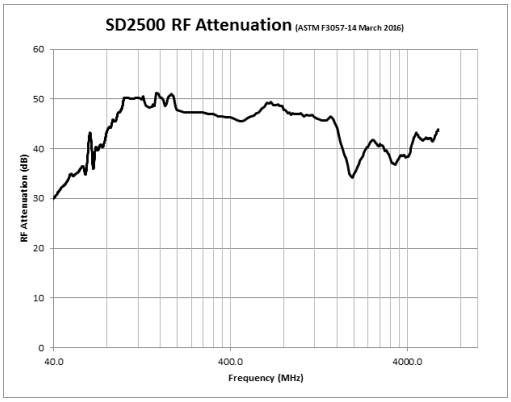
BENEFITS

- Anti-eavesdropping and TSCM (Technical Surveillance Counter-Measure) security
- Added security for WLAN (Wireless Local Area Network) or 802.11 and other wireless technologies
- Energy Savings and possible LEED credits
- Physical Security including glass fragmentation and spall control
- EMI (Electromagnetic Interference) protection and RF Shielding for both people and equipment
- UV (Ultraviolet) protection for fade control and health

PERFORMANCE CHARACTERISTICS (*NFRC Certified)

RF Attenuation (30MHz – 6 GHz)	Avg >40 dB
Infrared Ray Transmission (800 nm)	< 1%
Ultraviolet Transmission (<380 nm)	< 1%
Visible Light Transmission*(400-780 nm)	53%
Visible Light Reflectance (400-780 nm)	13%
Total Solar Energy Rejected	73%
Shading Coefficient	0.32
Solar Heat Gain Coefficient*	0.27
Estimated Thickness	0.002" / 0.010"





PRODUCT OVERVIEW

Standards/Compliance:
ASTM F3057-14
ANSI Z97.1 Impact Test (SD2510)
ICD 705

Patented Technology: US Patent #s 7177075, 7295368, 7405872, 7596850

Intended Use: To provide RF and IR attenuation for mitigating electronic eavesdropping and TSCM (Technical Surveillance Counter-Measure) security

NFRC Certified*
Performance data available upon request

Areas of Application:
SCIF (Sensitive Compartmented Information Facility), Commercial Buildings, RF Sheltering, DAS (Distributed Antenna System) / IBW (In-Building Wireless) system designs, Wi-Fi containment

Made in USA

MATERIAL SAFETY

See film and sealant Material Safety Datasheets (MSDS)

STRUCTURE

Multiple layers of metal and metal oxides, sputter coated on PET surface at the angstrom level. An RF and IR notch filter allows visible light transmission. SD maintains strict guidelines on our RF/IR performance.

Adhesive Type:
Clear Distortion Free (CDF)
Pressure-Sensitive (PS) (SD2510)

APPLICATION

Areas of Application: Interior and exterior glass.

Surface Preparation: The glass surface to which the window film is to be applied should be clean and free of paint, foreign compounds, smears, and spatters.

Sealant: Dow Corning 995
Curing Period: SD2500 (7-60 days)
SD2510 (7-90 days)

STORAGE

Store in a cool, dry place. Keep packages closed to prevent contamination.

CARE AND MAINTENANCE

For best results, clean windows with a soft, clean, rubber squeegee, cotton, or microfiber cloth and common household-strength liquid glass cleaner such as Windex®, GlassPlus®, or silicone cleaner/ polisher specifically made for window films.

WARRANTY

Signals Defense™ signal protection film is warranted against crazing, cracking, peeling, demetalizing, bubbling and delaminating, for a period of 3-10 years from the date of original installation, subject to existing glass conditions. Additional extended warranty available upon request and with prior approval. Full terms, conditions, and warranty information is available upon request.

ASTM Testing

Signals Defense SD2500 Film has been tested to ASTM F3057-16 and provides an average >40dB of attenuation from 30 MHz to 6GHz. The ASTM F3057-14 is the only test method specifically designed for the evaluation of glass, coatings, and films, with respect to Electromagnetic Shielding Effectiveness of Glazings. This test method specifies a larger, more applicable aperture size, and hundreds of test points; compared to previous test methods such as IEEE-299 and ASTM 04935 which are not applicable to glazing materials, and allow very small sample sizes and as few as 6 test points.

IR Testing

SD2500 film has been 3rd party tested by multiple independent authorities, most recently with the Bomem MB Series Spectrometer with measurements taken at 2nm. SD2500 has been tested from 250nm through 2500nm, and while it provides >50% Visible Light Transmission, it also provides <1% transmission (over 99% rejected) from 800nm through 2500nm.

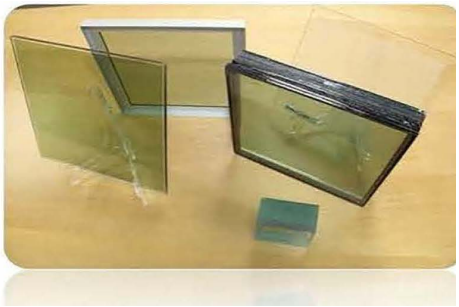
Safety/Glass-Fragmentation

Signals Defense SD2510 Film meets GSA Minimum Anti-Terrorism requirements. SD2510 achieves a minimum of GSA level 3b rating when applied to Y.i" annealed glass. When applied to dual-pane tempered glass, test results show as high as GSA level 2 performance. Additional physical properties of the S02510 include:

Architectural Shielding

Since 2000, Signals Defense's patented surface applied window films and glass products have been the U.S. Government's choice for TEMPEST film protection. Signals Defense window technology provides high Radio Frequency (RF) and Infrared (IR) attenuation with high visible light transmittance and low reflectivity resulting in minimal aesthetic impact. As a result of the high attenuation provided by SD Technology, existing buildings fitted with windows may be converted to Sensitive Compartmented Information Facilities (SCIF) ICD 705 standards. SD Technology is available in Film, Glass, and Polycarbonate. Mesh and foil architectural shielding materials are also available.

From a TSCM (Technical Surveillance Counter-Measure) perspective, Signals Defense Films is the least expensive method to mitigate the largest amount of eavesdropping and espionage techniques.



About Us

Signals Defense technology is the de facto written standard for the US Government and organizations desiring to properly secure locations handling sensitive and/or classified information. Signals Defense helps shield a building and protect enterprise data: sensitive files and emails; confidential customer, patient and employee data; financial records; strategic and product plans; and other intellectual property.

In addition, our film technology offers an element of security that no one else can currently provide helping to protect from inside and outside leakage of sensitive materials and information. Our company has expanded to offer other RF and IR shielding materials to include rFoil and paints. We also offer shades and blinds that are designed to shield against harmful UV/solar energy and provide additional privacy.

We serve industry leaders in many sectors including financial services, healthcare, government, public, industrial, insurance, energy and utilities, consumer and retail, education, media and entertainment, and technology.

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