SECTION 08 87 00

SUN CONTROL WINDOW FILM

PART 1 - GENERAL

1.1 SUMMARY

  A. Section Includes:

    1. Abrasion-resistant, solar control, reflective window film.

1.2 SYSTEM DESCRIPTION

  A. Performance Requirements:

    1. Provide reflective films that comply with the following:

<u>Scope (Night Vision)</u>	<u>NV-25</u>
Thickness	
(mils)	2.5
(inches)	0.0020
Emissivity	0.72
U Value	1.05
Visible Light Transmission	25%
Visible Reflection	
Interior	13%
Exterior	29%
Ultraviolet Transmission	<1%
Shading Coefficient	0.39

  B. Film Attributes: The following attribute information is based upon 1/4 inch (6 mm) clear glass unless indicated otherwise:

    1. Adhesive System: Pressure sensitive, weatherable, acrylate adhesive applied uniformly over surface opposite abrasion resistant coated surface.

        a. Viewing film from a distance of 10 feet (3 m) at angles up to 45 degrees from either side of glass, film shall not appear distorted.

    2. Flammability: Class A Interior Finish for Buildings Materials for both Flame Spread Index and Smoke Development Values per ASTM E84.

    3. Abrasion Resistance: Surface coating resistant to abrasion, with less than 5 percent increase of transmitted light haze resulting per ASTM D1044 using 100 cycles, 500 grams of weight, and CS10F Calbrase Wheel.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data including installation instructions and cleaning methods.

B. Warranty: Manufacturer's standard limited warranty indicating warranty coverage.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Manufacturer will ensure proper quality control during production, shipping, and inventory, clearly identify and label each film core with product designation and run number.

B. Deliver materials to Project site with manufacturer's labels intact and legible.

1.5 QUALITY ASSURANCE

A. Dealer and Applicator Qualifications: Provide documentation that dealer and applicator are authorized by manufacturer of window film to install window films.

1. Provide reference list of 5 projects of similar size on which applicator has installed window films. Include on the list the following:

    a. Name of building.

    b. Name and telephone number of management contact.

    c. Type of glass.

    d. Type of film.

    e. Amount of film installed.

    f. Date of completion.

1.6 WARRANTY

A. Warrant materials and workmanship for 12 years against defects after completion and final acceptance of Work.

1. Repair defects from faulty materials or workmanship developed during guarantee period, or replace with new materials, at no expense to Owner.

2. Warranty covers the following:

    a. Film will maintain solar reflective properties without cracking, crazing, delaminating, peeling, or discoloration.

    b. Glass failure due to thermal shock fracture of glass (maximum value $500.00 per window) provided film is applied to recommended types of glass and failure occurs within 60 months from start of application. Glass failures shall reviewed by film manufacturer prior to replacement.

PART 2 - PRODUCTS

2.1 MATERIALS

    A.   Film Material: Film material consists of an optically clear metallized polyester film which may be laminated to a clear polyester film. Provide films with acrylic abrasion-resistant coating over surface of film for enhanced durability.

        1.   Film Color: Derived from metal coating and/or components, and product will not contain conventional dyed polyester.

        2.   Provide uniform film, without noticeable pin holes, streaks, thin spots, scratches, banding, or other optical defects. Variation in total transmission across width, at any portion along length, shall not exceed 2 percent over average. Density of film across web is not to exceed plus or minus 2 percent. Provide film with no evidence of coating voids.

PART 3 - EXECUTION

3.1 EXAMINATION

    A.   Examine glass surfaces to receive film and verify that they are free from defects and imperfections, which will affect final appearance. Correct and note such deficiencies to Project Engineer prior to commencing film application.

3.2 PREPARATION

    A.   Use protective tarps and drop cloths to cover interior finishes near window.

    B.   Turn off or cover heating and air conditioning ventilation ducts.

    C.   Clean window and window framing thoroughly with cleaning solution consisting of 90 percent water and 10 percent ammonia. Blade inside surface of window glass with industrial razors to insure removal of foreign contaminants.

    D.   Place towel or other absorbent material on window sill or sash to absorb moisture accumulation generated by film application.

    E.   Thoroughly rinse glass from top to bottom with pressure spray tank.

    F.   Squeegee entire glass surface.

    G.   Dry glass edges and window frames using a lint-free towel.

3.3 INSTALLATION

A. Install window films per manufacturer's written instructions.

1. Cut film edges neatly and square at a uniform distance of 1/8 inch (3 mm) to 1/16 inch (1.5 mm) of window sealant. Use new blade tips after 3 to 4 cuts.

2. Spray manufacturer's recommended slip solution on window glass and adhesive to facilitate proper positioning of film.

3. Apply film to glass and lightly spray film with slip solution.

4. Squeegee to remove water. Squeegee from top to bottom of window.

5. Spray slip solution to film and squeegee a second time.

6. Bump film edge with lint-free towel wrapped around edge of a 5-way tool.

7. Wipe frame edge dry

8. Inspect installation to insure proper application.

9. Upon completion of film application, allow 30 days for moisture from film installation to dry thoroughly, and to allow film to dry flat with no moisture dimples when viewed under normal viewing conditions.

3.4 CLEANING

A. After application of film, wash film using common window cleaning solutions, including ammonia solutions, 30 days after application. Do not use abrasive type cleaning agents and bristle brushes to avoid scratching film. Use synthetic sponges or soft cloths.

B. After installation, remove left over material and debris from Work area. Use necessary means to protect film before, during, and after installation.

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