



GUIDE SPECIFICATION

# PVDF ROOF COATING

**FLUOROSTAR™ with  
KYNAR AQUATEC®**

A FIELD-APPLIED  
PVDF-BASED TOPCOAT

**SECTION 070150.16**

EVEREST SYSTEMS LLC | 16601 Central Green Blvd., Ste. 100, Houston, TX, 77032



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### Roof Coating Guide Specification

This section specifies field-applied high-performance PVDF roof coating systems manufactured by Everest Systems LLC, 16601 Central Green Blvd. Ste. 100 Houston, TX 77032 ([www.EVERESTSYSTEMSCO.com](http://www.EVERESTSYSTEMSCO.com)). Everest Systems' products are specially formulated to restore the appearance and performance of aging metal, single-ply, and modified bituminous roofs.

Everest Systems' restoration components include:

Specialized primers formulated for specific roof types and conditions, including:

- EverPrime™ Metal rust-inhibiting primer for metal roof substrates.
- EverPrime™ SP a single component, water-based, acrylic primer formulated for thermoplastic roof membranes.
- EverPrep™ Max Primer/Cleaner, a neutral pH cleaner/surfacer formulated for EPDM roof membranes.
- EverPrime™ BleedBlock SS, a water-based, acrylic primer for modified bituminous roof membranes.

Specialized acrylic base coats, including:

- EverCoat™ HT formulated for thermoplastic roof systems.
- EverCoat™ EC, for metal and EPDM roof systems.

High-performance topcoat: FLUOROSTAR™, a PVDF resin based, field-applied, pigmented topcoat for new or aged roofing and façade applications, exclusively formulated with Arkema's Kynar Aquatec® PVDF resin.

Everest Systems is an industry leader in high performance commercial roofing systems. For over 30 years, Everest Systems has provided specific, cost-effective fluid-applied roofing solutions for building owners and facility managers. Everest fluid-applied systems offer watertight performance, energy savings, reduced maintenance costs, and superior long-term performance with its "Composite Technology" approach, which incorporates the latest innovations in polymer and pigment science. By lowering roof surface temperatures by as much as 80 degrees, FLUOROSTAR systems mitigate temperature-related stresses on structural and HVAC systems, resulting in improved building performance and reduced lifecycle costs. Everest Systems' fluid applied membranes and coatings are designed to perform for up to 20 years.

Everest Systems regards its clients and Certified Contractors as partners in its success in the roofing and high-performance coatings industries.

EVEREST SYSTEMS LLC, 16601 Central Green Blvd., Ste. 100, Houston, TX, 77032; [www.EVERESTSYSTEMSCO.com](http://www.EVERESTSYSTEMSCO.com); Phone 800-575-8966.

## SECTION 070150.16 – PVDF ROOF COATINGS

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

Specifier: Edit the following according to the type of roofing to receive roof coatings.

- A. High-performance PVDF coating systems for application over existing [metal roofing] [membrane roofing].
- B. Related Requirements:

Specifier: Edit the following according to the scope of the Project.

- 1. Division 00 Document "Available Information" including the following:
  - a. Roof moisture survey reports.
  - b. Record drawings for the existing building.
  - c. Record information on the existing roof system and active warranties.
- 2. Division 01 requirements for project phasing, restrictions on use of the premises due to Owner or tenant occupancy, temporary facilities and controls, and other administrative procedures.

Specifier: Edit the following according to the scope of the Project.

- C. Related Work Specified Elsewhere:
  - 1. Section 024119 "Selective Demolition" for removal and replacement of [deteriorated superstructure] [and roof deck,] [wet insulation,] [and] [damaged or missing flashing and roofing].
  - 2. Division 07 Section "Fluid-Applied Roofing" for roofing systems incorporating reinforcement with fluid-applied components.
  - 3. Division 07 Sections for metal roof flashings and counterflashings, shop-formed expansion joints, manufactured metal copings, roof edge metal, fascia, and other roof accessories and specialties.
  - 4. Division 22 Sections for roof drains and related piping integrated with roof assemblies.
  - 5. Division 26 Sections for electrical and lightning protection system requirements.

#### 1.2 ABBREVIATIONS AND DEFINITIONS

- A. CGS: Centipoise unit, a measure of the viscosity of a liquid.
- B. Ku: Krebs Unit, a measure of the viscosity of a liquid.
- C. PVDF: Polyvinylidene fluoride, a class of fluoropolymers, and the primary resin used in roof coatings specified in this Section.
- D. SRI: Solar Reflectance Index.

### 1.3 REFERENCES

Specifier: If retaining this optional Article, edit list below to correspond to those materials and references retained in Part 2 – Products.

- A. Versions of the following standards current as of the issue date of the Project or as required by applicable code apply to the Work of this Section.
- B. ASTM International (ASTM):
  - 1. ASTM C1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
  - 2. ASTM D370 – Standard Practice for Dehydration of Oil-Type Preservatives.
  - 3. ASTM D522 - Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
  - 4. ASTM D562 - Standard Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-Type Viscometer.
  - 5. ASTM D624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
  - 6. ASTM D1644 - Standard Test Methods for Nonvolatile Content of Varnishes.
  - 7. ASTM D1653 - Standard Test Methods for Water Vapor Transmission of Organic Coating Films.
  - 8. ASTM D2136 - Standard Test Method for Coated Fabrics—Low-Temperature Bend Test.
  - 9. ASTM D2370 - Standard Test Method for Tensile Properties of Organic Coatings.
  - 10. ASTM D2457 - Standard Test Method for Specular Gloss of Plastic Films and Solid Plastics.
  - 11. ASTM D3359 Standard Test Methods for Rating Adhesion by Tape Test.
  - 12. ASTM E108 – Standard Test Methods for Fire Tests of Roof Coverings.
  - 13. ASTM E408 - Standard Test Method for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques
  - 14. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
- C. National Roofing Contractors Association (NRCA):
  - 1. Repair Manual for Low-Slope Membrane Roofing Systems.
  - 2. The NRCA Guide to Roof Coatings.
- D. United States Environmental Protection Agency (EPA):
  - 1. Method 24—Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings.
- E. US Department of Labor, Occupational Safety and Health Administration (OSHA):
  - 1. Hazard Communication Standard (HCS).

Specifier: Retain the following optional article if the Project is of sufficient scope and complexity to require a pre-installation meeting.

### 1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Convene a meeting at the site to review methods and procedures related to PVDF roof coating work, including, but not limited to, the following:

1. Condition of existing roof assembly.
  - a. Identify repairs and other preparatory work necessary for compliance with the roof coating manufacturer's substrate requirements.
  - b. Document repairs to be completed prior to scheduled commencement of roof coating work.
2. Construction schedule, availability of materials and installer's personnel, equipment, and facilities needed to maintain the progress of the Work.
3. Coordination with related work specified in other Sections.
4. Approved roof coating manufacturer's on-site technical representation and schedule of inspections.
5. Temporary protection requirements to prevent damage to adjoining building elements, adjacent facilities, and vehicles in the vicinity of the coating work.
6. Protection of indoor air quality, including HVAC shutdowns and protection of supply air vents.
7. Special environmental requirements for control of wet cleaning procedures, equipment maintenance, and disposal of unused coating materials and related construction waste.
8. Methods and procedures related to re-coating preparation. Review the coating manufacturer's written instructions.
9. Management of roof drainage during each stage of roof coating work, including management of existing roof drainage.
10. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect roof coating work.
11. Requirements for insurance and certificates if applicable.
12. Field quality control testing and reporting requirements.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: Manufacturer's technical literature for each product specified.
- B. Manufacturer's Color Charts: Provide full range of available selections.
- C. Samples: Provide finish samples not less than 6 by 6-inches (150 by 150 mm) based on the colors selected prior to fabrication.

[Specifier: Retain the following paragraph for projects requiring documentation of sustainable design. Sourcing of Raw Materials is provided as an example from LEED BD+C: New Construction - LEED v4.1](#)

#### D. Sustainable Design Submittals:

1. Sourcing of Raw Materials (Recycled Content).

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data documenting requirements specified in Quality Assurance Article.
- B. Manufacturer's installation instructions.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Executed warranty according to the terms specified in this Section.

- B. Manufacturer's maintenance instructions.

Specifier: Extra materials add cost to the project and require storage space, but the benefits and convenience of having a supply of extra materials on the premises may be of significant benefit to the Owner if immediate repairs are needed. The quantity given in the text below is an example only. Adjust it to suit the Project.

#### 1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged for storage and identified with labels describing contents.

- 1. Coatings: [1 gal. (3.8 L)] of each primer and topcoat applied.

#### 1.9 QUALITY ASSURANCE

- A. Manufacturer Qualifications:

- 1. A manufacturer of PVDF roof coating materials of the type and extent required for the Project with a documented history of successful in-service performance, and:
    - a. Has been in continuous operation for a period of not less than five years, and:
    - b. Has the production capacity to service the Project.
    - c. Is an authorized licensee of Arkema for use of its Kynar Aquatec PVDF resin formulations.

- B. Installer Qualifications: A firm experienced in installing roof coating systems of the type and extent required for the Project with a record of successful in-service performance and which is certified by Everest Systems.

- C. Manufacturer's Technical Representative: A technical representative of the roof coating manufacturer who is experienced in the installation and maintenance of the specified roof coating system, is qualified to monitor installation, and perform the specified field quality control procedures and is approved by the manufacturer to issue warranty certification. The technical representative shall be one of the following:

- 1. An authorized full-time technical employee of the manufacturer.
  - 2. An independent party certified as a Registered Roof Observer by IIBEC, retained by the Contractor or the manufacturer.

- D. Testing Agency Qualifications: A qualified agency with documented credentials and experience in performing the specified adhesion testing procedures and making the necessary evaluations based on the test results.

- E. Product Labeling: Identify containers of roof coating primers and topcoats with labels identifying contents in compliance with OSHA Hazard Communication Standards (HCS).

#### 1.10 PROJECT CONDITIONS

- A. Do not apply roof coating under the following conditions:

- 1. When the ambient temperature is below 50°F.
  - 2. When forecasted to fall below 32°F (0° C) within 24 hours of application.

3. Within five degrees of the dew point.

#### 1.11 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's requirements for receipt of product delivered, inspection, storage, and handling.
- B. Inventory and inspect the condition of materials upon delivery. Reject damaged products and arrange for replacement.
- C. Comply with the manufacturer's instructions for storage prior to installation. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
  1. Maintain containers in clean condition, free of foreign materials and residue.
  2. Remove rags and waste from storage areas daily.

#### 1.12 WARRANTY

Specifier: To qualify for its warranty program, Everest Systems requires the installed system to be composed of an approved primer and base coat in addition to the high-performance Fluorostar topcoat. In addition, the adhesion tests specified in Part 3 must be performed with successful results.

- A. Special Manufacturer's Warranty: Provide the manufacturer's written agreement to repair or replace PVDF roof coating systems that exhibit defects within the specified warranty period.
  1. Systems are warranted to be free of defects in workmanship and materials under normal use not attributable to misuse, not attributable to neglect or mishandling, not attributable to installation method not approved by the manufacturer, and not the result of uncontrollable natural forces. Refer to the manufacturer's published warranty for a full list of warranty terms and conditions.
  2. Warranty Period: One year from the Date of product delivery.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURER

- A. Basis of Design: FLUOROSTAR PVDF fluoropolymer coating system formulated with Arkema Kynar Aquatec® PVDF resin and manufactured by EVEREST SYSTEMS LLC, 16601 Central Green Blvd., Ste. 100, Houston, TX, 77032; [www.EVERESTSYSTEMSCO.com](http://www.EVERESTSYSTEMSCO.com); Phone 800-575-8966.

Specifier: Retain one of the following two paragraphs.

1. Substitutions: Not permitted.
2. Substitutions: Submit request for substitution according to [Bidding Requirements] [and] Division 01 General Requirements.

#### 2.2 SYSTEM DESCRIPTION

- A. Roof Coating System: A high-performance coating system consisting of water-based acrylic primer, base coat, and water-based PVDF topcoat for restoration of existing roofing.

## 2.3 SYSTEM PERFORMANCE REQUIREMENTS

- A. Material Compatibility: Provide roof coating system materials that are compatible with one another as documented by the system manufacturer based on testing and in-place product performance.
- B. Exterior Fire-Test Exposure: Provide roof coating systems with installed fire performance that is not less than that of the existing roof system prior to restoration according to ASTM E 108.

Specifier: [Edit the following Article by retaining the appropriate primer for the existing roof substrate.](#)

## 2.4 PRIMERS

- A. Primer for Metal Roofing: Rust-inhibiting primer for spray, brush, or roller application, and as follows:
  - 1. Basis of Design Product: [EverPrime Metal manufactured by Everest Systems LLC.](#)
  - 2. Wet Film Thickness: 8 mils @ 1 gallon/200 square feet (0.20 liters /square meter).
  - 3. Dry Film Thickness (DFT): 3.6 mils.
  - 4. Color: Dark Red.
  - 5. Solids Content (by Volume):
    - a. Test method: ASTM D1653.
    - b. Result: 41 percent (+/- 3 percent).
  - 6. Viscosity: 800 cP.
  - 7. VOC Content:
    - a. Test Method: EPA Method 24.
    - b. Result: 0.54 lbs/gal (65 g/L).
- B. Primer for Thermoplastic Roof Membrane: Plasticizer free, single component, water-based, acrylic primer for spray, brush, or roller application, and as follows:
  - 1. Basis of Design Product: Everprime SP manufactured by Everest Systems LLC.
  - 2. Dry Film Thickness (DFT): 7.5 mils.
  - 3. Color: [Clear] [Ivory] [Black].
  - 4. Solids Content (by Volume):
    - a. Test method: ASTM D1653.
    - b. Result: 45 percent (+/- 2 percent).
  - 5. Solids Content (by Weight):
    - a. Test method: ASTM D1644.
    - b. Result: 50 percent (+/- 2 percent).
  - 6. Viscosity:
    - a. Test Method: ASTM D562.
    - b. Result: 100 ku (1700 cgs).
  - 7. Tensile Strength:



- a. Test Method: ASTM D2370.
  - b. Result: 75 psi (0.52 MPa).
- 8. Elongation:
  - a. Test Method: ASTM D2370.
  - b. Result: 300 percent.
- 9. VOC Content:
  - a. Test Method: EPA Method 24.
  - b. Result: 0.40 lbs/gal (49 g/L).
- C. Primer for EPDM Roof Membrane: Neutral pH cleaner/surfacer for spray, brush, or roller application on EPDM membranes, and as follows:
  - 1. Basis of Design Product: Everprep Max Primer/Cleaner manufactured by Everest Systems LLC.
  - 2. VOC Content:
    - a. Test Method: EPA Method 24.
    - b. Result: 0 lbs/gal (0 g/L).

Specifier: Edit the following Article by retaining the appropriate base coat for the existing roof substrate. Not all substrates require base coats, in which case the entire Base Coats article should be deleted.

## 2.5 BASE COATS

- A. Base Coat for Metal Roofing: Single component, water-based, 100% acrylic elastomeric coating for spray, brush, or roller application and as follows:
  - 1. Basis of Design Product: Evercoat EC manufactured by Everest Systems LLC.
  - 2. Application Rate: 1 gallon/100 sq. ft. (3.78 liters per 9.2 sq. m.).
  - 3. Dry Film Thickness (DFT): 8.8 mils.
  - 4. Color: [White] [Gray] [Tan].
  - 5. Solids Content (by Volume):
    - a. Test method: ASTM D1653.
    - b. Result: 55 percent (+/- 2 percent).
  - 6. Solids Content (by Weight):
    - a. Test method: ASTM D1644.
    - b. Result: 65.4 percent (+/- 2 percent).
  - 7. Viscosity
    - a. Test Method: ASTM D562.
    - b. Result: 110 Ku (1870 cgs).
  - 8. Tensile Strength:
    - a. Test Method: ASTM D2370.

- b. Result: 273 psi (1.88 MPa).
  - 9. Elongation:
    - a. Test Method: ASTM D2370.
    - b. Result: 233 percent.
  - 10. VOC Content:
    - a. Test Method: EPA Method 24.
    - b. Result: 0.408925 lbs/gal (49 g/L).
- B. Base Coat for Thermoplastic Membranes: Single component, water-based, 100% acrylic elastomeric coating for spray, brush, or roller application and as follows:
- 1. Basis of Design Product: Evercoat HT manufactured by Everest Systems LLC.
  - 2. Application Rate: 1.5 gallons per 100 sq. ft. (5.67 liters/9.2 sq. m.).
  - 3. Dry Film Thickness (DFT): 13.2 mils.
  - 4. Color: [White] [Gray] [Tan].
  - 5. Solids Content (by Volume):
    - a. Test method: ASTM D1653.
    - b. Result: 55 percent (+/- 2 percent).
  - 6. Solids Content (by Weight):
    - a. Test method: ASTM D1644.
    - b. Result: 66 percent (+/- 2 percent).
  - 7. Viscosity
    - a. Test Method: ASTM D562.
    - b. Result: 110 ku (1870 cgs).
  - 8. Tensile Strength:
    - a. Test Method: ASTM D2370.
    - b. Result: 500 psi (3.45 MPa).
  - 9. Elongation:
    - a. Test Method: ASTM D2370.
    - b. Result: 600 percent.
  - 10. VOC Content:
    - a. Test Method: EPA Method 24.
    - b. Result: 0.40 lbs/gal (49 g/L).
- C. Base Coat for EPDM Membranes: Single component, water-based, 100% acrylic elastomeric coating for spray, brush, or roller application and as follows:
- 1. Basis of Design Product: Evercoat EC manufactured by Everest Systems LLC.

2. Application Rate: 1 gallon/100 sq. ft. (3.78 liters per 9.2 sq. m.).
  3. Dry Film Thickness (DFT): 8.8 mils.
  4. Color: [White] [Gray] [Tan].
  5. Solids Content (by Volume):
    - a. Test method: ASTM D1653.
    - b. Result: 55 percent (+/- 2 percent).
  6. Solids Content (by Weight):
    - a. Test method: ASTM D1644.
    - b. Result: 65.4 percent (+/- 2 percent).
  7. Viscosity
    - a. Test Method: ASTM D562.
    - b. Result: 110 Ku (1870 cgs).
  8. Tensile Strength:
    - a. Test Method: ASTM D2370.
    - b. Result: 273 psi (1.88 MPa).
  9. Elongation:
    - a. Test Method: ASTM D2370.
    - b. Result: 233 percent.
  10. VOC Content:
    - a. Test Method: EPA Method 24.
    - b. Result: 0.40 lbs/gal (49 g/L).
- D. Base Coat for Smooth-Surface Modified Bituminous Roof Membrane: Plasticizer free, single component, water-based, acrylic primer for spray, brush, or roller application, and as follows:
1. Basis of Design Product: EverPrime BleedBlock SS manufactured by Everest Systems LLC.
  2. Dry Film Thickness (DFT): 8.8 mils.
  3. Color: [White] [Gray] {Tan}.
  4. Solids Content (by Volume):
    - a. Test method: ASTM D1653.
    - b. Result: 55 percent (+/- 3 percent).
  5. Solids Content (by Weight):
    - a. Test method: ASTM D1644.
    - b. Result: 68.4 percent (+/- 3 percent).
  6. Viscosity
    - a. Test Method: ASTM D562.
    - b. Result: 75 Ku (1275 cgs).

7. Tensile Strength:
    - a. Test Method: ASTM D2370.
    - b. Result: 310 psi (2.13 MPa).
  8. Elongation:
    - a. Test Method: ASTM D2370.
    - b. Result: 315 percent.
  9. VOC Content:
    - a. Test Method: EPA Method 24.
    - b. Result: 0.40 lbs/gal (49 g/L).
- E. Base Coat for Granulated-Surface Modified Bituminous Roof Membrane: Plasticizer free, single component, water-based, acrylic primer for spray, brush, or roller application, and as follows:
1. Basis of Design Product: EverPrime BleedBlock SS manufactured by Everest Systems LLC.
  2. Dry Film Thickness (DFT): 8.8 mils.
  3. Color: [White] [Gray] [Tan].
  4. Solids Content (by Volume):
    - a. Test method: ASTM D1653.
    - b. Result: 55 percent (+/- 3 percent).
  5. Solids Content (by Weight):
    - a. Test method: ASTM D1644.
    - b. Result: 68.4 percent (+/- 3 percent).
  6. Viscosity:
    - a. Test Method: ASTM D562.
    - b. Result: 75 ku (1275 cgs).
  7. Tensile Strength:
    - a. Test Method: ASTM D2370.
    - b. Result: 310 psi (2.13 MPa).
  8. Elongation:
    - a. Test Method: ASTM D2370.
    - b. Result: 315 percent.
  9. VOC Content:
    - a. Test Method: EPA Method 24.
    - b. Result: 0.40 lbs/gal (49 g/L).

## 2.6 PVDF TOPCOAT

A. PVDF Topcoat: High gloss, single component, water based, PVDF coating for spray application and as follows:

1. Basis of Design Product: [FLUOROSTAR formulated with Arkema Kynar Aquatec® PVDF resin and manufactured by Everest Systems LLC.](#)
2. Dry Film Thickness (DFT): 6.1 mils.
3. Color: [White] [As selected].
4. Solids Content (by Volume):
  - a. Test method: ASTM D1653.
  - b. Result: 40 percent (+/- 2 percent).
5. Solids Content (by Weight):
  - a. Test method: ASTM D1644.
  - b. Result: 53 percent (+/- 2 percent).
6. Viscosity
  - a. Test Method: ASTM D562.
  - b. Result: 100 Ku (1700 cgs).
7. Tensile Strength:
  - a. Test Method: ASTM D2370.
  - b. Result: 1000 psi (6.89476 MPa).
8. Elongation:
  - a. Test Method: ASTM D2370.
  - b. Result: 300 percent (+/- 50 percent).
9. Permeability:
  - a. Test Method: ASTM D1653.
  - b. Result: 3 (+/- 1).
10. VOC Content:
  - a. Test Method: EPA Method 24.
  - b. Result: 0.408925 lbs/gal (49 g/L).
11. Gloss:
  - a. Test Method: ASTM D2457
  - b. Result (60 Degree): 69 percent.
12. Flexibility at Low Temperatures:
  - a. Test Method: ASTM D2136

- b. Test Conditions: -15 degrees F (-26.1111 C), 1/2-inch (12.7 mm) mandrel, 1000 hrs. weathering.
  - c. Result: Pass
- 13. Solar Reflectance:
  - a. Test Method: ASTM C1549.
  - b. Result: 88 percent.
- 14. Thermal Emittance:
  - a. Test Method: ASTM E408.
  - b. Result: 0.89
- 15. Solar Reflectance Index:
  - a. Test Method: ASTM 1980
  - b. Result: SRI 110.
- 16. Color Retention:
  - a. Test Method: ASTM G154.
  - b. Result: After 4000 hours of QUV-B exposure per ASTM G154 cycle 2 with UVB-313 lamps and a minimum irradiance of 0.67 W/m<sup>2</sup>/nm, or a modified cycle 2 with UVB-313 lamps, 8 hours UV at 140<sup>0</sup> F (60° C) black panel temperature; 4 hours condensation at 122<sup>0</sup> F (50° C) black panel temperature and a minimum irradiance of 0.67 W/m<sup>2</sup>/nm, the exposed coating deterioration does not exceed the following criteria:
    - 1) Color fading exceeding 5 Delta E Hunter units per ASTM D 2244.
    - 2) Peeling, checking, or cracking of coating adhesion to substrate.
    - 3) Chalking exceeding No. 6 (whites) or No. 8 (colors) when tested per ASTM D 4214.

## 2.7 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials recommended by the roof coating manufacturer which are compatible with existing roofing system and the roof coating system.
- B. Joint Sealant: Elastomeric joint sealant recommended by the roof coating, with movement capability appropriate for the applications indicated.

Specifier: Retain the following sealant products for repairing and restoring seams in metal roofs prior to applying primer or base coats in restoration projects.

- C. Elastomeric Seam Sealant:
  - 1. Product: Everest, Everseal.
  - 2. Description: High-performance self-leveling siliconized urethane roof sealant.
  - 3. Tensile Strength: 200 psi (1.38 MPa).
  - 4. Elongation at break: 500 percent.
  - 5. Hardness Shore A 25 (5-day ambient cure).
  - 6. Slump Zero Slump

7. Application Temperature 13 to 200<sup>0</sup> F (-10.6 to 93.30C).
8. Low Temp Flex -200 F (-28.90 C).
9. Service Temp -40 to 200<sup>0</sup> F (-40 to to 93.3 <sup>0</sup> C).

D. Fiber-Reinforced Seam Sealant: Pumpable Fibered Seam Sealant, and as follows:

1. Product: Everest, Fiberflash.
2. Description: Plasticizer free, water-based, 100% acrylic, fiber-reinforced, low-modulus seam sealer for preparing seams in roof seams.
3. Cured Thickness: 44 mils.
4. Elongation (ASTM D370): 275 percent (+25 percent).
5. Tensile Strength (ASTM D2370): 525 psi (+25 percent)
6. Perms (ASTM D1653): 7.
7. Solids by Volume (ASTM D1644): 55 percent (+/- 2 percent).
8. Solids by Weight (ASTM D370): 65 percent (+/-2 percent).
9. VOC Content (ASTM D624): 0.42 lbs/gal. (<50 g/Liter.
10. Temperature Limits: 0 to 185<sup>0</sup> F (-17.8 to 85<sup>0</sup> C).
11. Low Temp Flexibility (ASTM D522) Passes 180<sup>0</sup> Flex over 1/2 Mandrel @15<sup>0</sup> F (9.44 <sup>0</sup>C).

E. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer for conditions encountered.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. With roof coating Installer and manufacturer's Technical Representative present, examine the existing roof for overall condition and compliance with the roof coating manufacturer's instructions.
- B. Document non-complying conditions and submit report to [the Owner] [the Contractor] for correction.
- C. Proceed with installation after out-of-tolerance substrates and other deficient conditions are corrected.

### 3.2 TEMPORARY PROTECTIONS

- A. Install and maintain temporary protections to control debris, cleaning water, and roof coating products during construction operations to prevent damage or injury to the building, Owner's personnel, the public, and adjacent properties.
- B. Shut down air intake equipment in the vicinity of the Work in coordination with the Owner's operations. Cover air intake louvers before proceeding with coating work that could affect indoor air quality or activate smoke detectors in the ductwork.
- C. Maintain roof drains in functioning condition to restore roof drainage at end of each workday or shift. Keep roof drains and conductors free of debris throughout the construction period.
  1. Do not permit water to enter into or under existing roofing system components that are to remain.

Specifier: Retain the following Preparation of Seams Article for metal roofs that require seam preparation prior to application of coating systems.

### 3.3 PREPARATION OF SEAMS

- A. Prepare existing seams according to the manufacturer's instructions and as follows.
- B. Replace missing fasteners. Tighten and/or replace missing and worn-out fasteners. Add stitch screws to ensure there are no gaps over 1/16-inch (1.57 mm).
- C. Clean and prime rusted metal with Everprime Metal at the specified application rate.
- D. Apply EverSeal or FiberFlash to all seams according to the manufacturer's recommendations.

### 3.4 SURFACE PREPARATION

- A. General: Surfaces to be coated are considered satisfactory when they are dry, free of dust, dirt, oil, loose granules, gravel, peeling coating and other foreign matter that inhibit proper adhesion of roof coating system.
- B. Pressure Washing:
  - 1. Ensure that there are no breaches in the existing roof prior to pressure washing to prevent bulk water intrusion into the system. Document and notify the [Owner] [Architect] if breaches in the existing roofing system are discovered following commencement of the Work.
  - 2. All roofing surfaces shall be free of loose material, grease, soft asphalt, and other materials that could inhibit adhesion. Wash with a minimum of 3500 psi (24.13 MPa) pressure water spray.
    - a. Severe contamination may require industrial cleaning products according to the approved coating manufacturer's recommendations."
- C. Allow roof surfaces to dry thoroughly dry following pressure washing procedures.

### 3.5 MATERIALS PREPARATION

- A. Prepare coating materials and accessory materials according to the manufacturer's instructions.

### 3.6 ADHESION TESTING

- A. Arrange for a qualified testing agent to perform substrate adhesion testing according to ASTM D3359 and the Method specified below. Do not proceed with coating system application until the coating passes according to the selected test method's prescribed procedures.

Specifier: Select either Method A (X-cut) or Method B (Cross-cut) depending on the prescribed thickness of the coating being tested and based on selections made in Part 2 - PRODUCTS. Test Method A is primarily intended for use on coatings/coating systems over 5 mils (125 µm), while Method B is generally used on coatings/coatings systems less than 5 mils thick.

- 1. Method A (X-Cut); 5A Rating (No peeling or removal).
- 2. Method B (Cross Cut); 5B Rating (Edges of the cuts are smooth; none of the squares of the lattice is detached).



- B. Testing Frequency: As recommended by the testing agency based on Project conditions.
- C. Reporting: The testing agent will record and submit adhesion test reports to the Contractor and the Owner's Representative.
- D. Correction and Retesting: Correct conditions determined by the testing agent to be the cause of adhesion failure and perform retesting until acceptable test results are achieved. Corrections and retesting are at no additional cost to the Owner.

### 3.7 INSTALLATION

- A. Comply with the manufacturer's recommendations and referenced NRCA guidelines for application of system primer and finish coats.
  - 1. Apply coatings at the manufacturer's recommended application rates for the substrates indicated and as otherwise necessary for obtaining complete coverages and the specified dry film thicknesses.
  - 2. Allow coatings to fully cure before applying subsequent coats according to the manufacturer's recommendations.
- B. Do not apply roof coatings with spray equipment when winds exceed 8 mph (12.8 km/hr.).

### 3.8 FIELD QUALITY CONTROL

- A. Schedule interim and final inspections of the work with the manufacturer's technical representative. Inspections will include but are not limited to verification of compliance with the specified requirements for dry film thickness, adhesion, cohesion, and uniformity of color and sheen.
- B. Adhesion Testing: Perform adhesion testing at areas selected by the [Owner] [Architect] according to ASTM D5541.
- C. Prepare inspection reports identifying areas that fail to comply with the specifications.

### 3.9 CLEANING AND PROTECTION

- A. Remove temporary facilities and controls, construction debris, tools, equipment, and extra materials from the site when work and subsequent inspections are complete.
- B. Remove overspray from adjacent areas and surfaces not scheduled to receive roof coating.
- C. Protect roof coating work from damage caused by other construction operations until final acceptance.

END OF SECTION

**DRAWING SUGGESTIONS:** Show the following information on Drawings:  
Extent of roof coating work.  
Details at penetrations and vertical surfaces.