

**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes factory-applied fluoropolymer coating system and, at Contractor's option, thermosetting polyester coating for interior locations where noted and as required to complete the work of other sections of Divisions 5 through 32 which require these coatings.
- B. Related Requirements:
1. Division 1 Section "Sustainable Design Requirements" for all interior coatings.

**1.3 QUALITY ASSURANCE**

- A. The work of this section shall be performed by a company which specializes in the type of high-performance architectural coatings required for this Project, licensed in writing by coating supplier, with a minimum of 10 years of documented successful experience and shall be performed by skilled workmen thoroughly experienced in the necessary crafts.
1. Work shall be performed in compliance with Owner's insurance underwriters' requirements.
- B. Manufacturer shall specialize in manufacturing the type of high-performance architectural coatings specified in this section, with a minimum of 10 years of documented successful experience, and have the facilities capable of meeting all requirements of Contract Documents as a single-source responsibility and warranty.
- C. Before starting the high-performance architectural coating operation:
1. Each applicator shall coordinate and certify in writing that the color formulas prepared by the applicator are identical for the purpose of achieving identical colors with the color formulas of other applicators to be approved by Architect.

**1.4 SUBMITTALS**

- A. Submit the following according to Conditions of the Construction Contract and Division 1 Specification Sections.
- B. Product Data: Shall be clearly marked to indicate all technical information which specifies full compliance with requirements of this section and Contract Documents, including manufacturer's the following:
1. Detailed description of the quality of each type of coating system.
  2. Type of touch-up coating.
  3. Information indicating compliance with AAMA 2605.
- C. LEED Submittals:
1. Credit IEQ 4.2 – Product Data for architectural coatings used inside of the Weatherproofing system, including printed statement of VOC content.

- D. Samples:

Item No.	Quantity	Size	Description
S1	5	3"x5"	Color choices.
S2	5	8"x8"	Each selected color on specified substrate.

- E. Certificate of Approval: Required from coating supplier indicating applicator is licensed by coating supplier.
- F. Hazardous Materials Notification: In the event no product or material is available that does not contain asbestos, PCB or other hazardous materials as determined by the Owner, a "Material Safety Data Sheet" (MSDS) equivalent to OSHA Form 20 shall be submitted for that proposed product or material prior to installation.
- G. Asbestos and PCB Certification: After completion of installation, but prior to Substantial Completion, Contractor shall certify in writing that products and materials installed, and processes used, do not contain asbestos or polychlorinated biphenyls (PCB), using format in Article 3 of General Conditions.

**1.5 DELIVERY, HANDLING, STORAGE**

- A. Comply with General Conditions and Division 1 Section "Product Requirements".

**1.6 WARRANTY**

- A. Comply with General Conditions and Division 1 Section "Product Requirements", except extend to 20 years, agreeing to repair or replace specified materials or Work that has failed within the warranty period.
- B. For Fluoropolymer Coating:
1. Fading and Chalking: Any change in color during warranty period shall not exceed 10% or a value of max. 5 fade and max. 8 chalk, whichever is greater, of acceptable color range as selected by the Architect.
  2. Non-Uniformity of Colors: Any non-uniform fading during warranty period.
    - a. Adjacent wall components shall not have a color range greater than the original Architect accepted color sample expressed in same color measurement specified above.
  3. Pitting or Corrosion, Cracking and Peeling: No pitting or any other type of corrosion discernible from a 10' distance resulting from natural elements in a normal atmosphere.
  4. AAMA 2605 forms a part of this warranty.
- C. For Thermosetting Polyester Coating:
1. Fading and Chalking: Any change in color during warranty period shall not exceed 10% or a value of max. 8 fade and max. 6 chalk, whichever is greater, of original limits of acceptable color range as selected by the Architect.
  2. Non-Uniformity of Colors: Any non-uniform fading during warranty period.
    - a. Adjacent wall components shall not have a color range greater than the original Architect accepted color sample expressed in same color measurement specified above.
  3. AAMA 2603 forms a part of this warranty.

**PART 2 PRODUCTS****2.1 UNAUTHORIZED MATERIALS**

- A. Materials and products required for work of this section shall not contain asbestos, polychlorinated biphenyls (PCB) or other hazardous materials identified by the Owner.

**2.2 ACCEPTABLE MANUFACTURERS**

- A. General: For the purpose of establishing the minimum functional, aesthetic and quality standards required for work of this section, products of the following manufacturer are specified:
1. PPG Industries Inc/Pittsburgh, Pennsylvania.
- B. Other Manufacturers: The following are acceptable only after full compliance with requirements of this section, Contract Documents and Architect's approval.
1. Valspar Architectural Coatings Group/Garland, Texas.
- C. Substitutions: Comply with General Conditions using form in Division 1 Section "Substitution Request Form".
- D. VOC Content: Paints and coatings used inside the waterproofing system and applied onsite shall have VOC content equal to or less than the applicable VOC limits. Refer to Section 01 81 13 / Sustainable Design Requirements for additional information.

**2.3 FLUOROPOLYMER COATING – ALUMINUM SUBSTRATE**

- \* A. Type: PPG's "Duranar XL" fluoropolymer three-coat coating system and PPG's "Duranar" fluoropolymer two-coat coating system containing at least 70% by weight Kynar 500 (polyvinylidene fluoride, PVF2) resin, factory-applied, oven-baked, meeting all requirements of AAMA 2605, developed by Elf Atochem, Inc., supplied by PPG Industries.
1. Primer Coat: Inhibitive type, 0.20 to 0.30 mil dry film thickness (DFT).
  2. Color Coat: 0.70 to 0.80 mil DFT.
  3. Clear Top Coat: 0.30 to 0.40 mils DFT.
  - \* 4. Total Dry Film Thickness: 1.20 to 1.50 mils for "Duranar XL", and 0.90 to 1.10 mils for "Duranar" ASTM D1400.
  5. Color: As scheduled.

- \* B. Physical Properties:
1. 60° Gloss: 25-35, ASTM D523.
  2. Pencil Hardness: F-2H, Min. F, ASTM D3363, (NCCA 11-12).
  3. Flexibility: 0-2 with T-bend and no pick-off, ASTM D4145.
  4. Adhesion: No adhesion loss when reverse impacted with 1/16" crosshatch, ASTM D3359.
  5. Reverse Impact: No cracking or loss of adhesion, ASTM D2794, (NCCA 11-6).
- C. Abuse Tolerance:
1. Abrasion/Falling Sand Test: 50-80 l/mil of film, ASTM D968.
  2. Abrasion/Transit Test: No disfigurement when panels were tested face-to-backside.
  3. Mortar Resistance: No effect with 24-hour PAT TEST, AAMA 2605/Test #7.7.2.
  4. Detergent Resistance: No effect with 3% detergent, 100°F, 72 hour immersion, ASTM D2248.
  5. Graffiti Resistance: No effect after removing spray paint and various marking pens.
- D. Corrosion, Chemical and Pollution Resistance:
1. Acid Pollutants: No effect when tested with 10% muriatic acid for 15 minutes, ASTM D1308 Proc. 6.2.
  2. Acid Pollutants: No effect when tested with 20% sulfuric acid for 18 hours, ASTM D1308 Proc. 6.2.
  3. Acid Pollutants: Less than 5 units color change; tested with 70% nitric acid vapors for 30 minutes, AAMA 2605/Test #7.7.3.1.
  4. Alkali Resistance: No effect when tested with 10% and 25% sodium hydroxide for 1 hour, ASTM D1308 Proc. 5.2 & 5.3.
  5. Salt Fog: Passes 3000 hours when tested with 5% salt fog at 95°F, ASTM B117, (NCCA II-2).
  6. Humidity: Passes 4000 hours when tested in 100% relative humidity at 95°F, ASTM D2247 and ASTM D714.
- E. Weathering Properties:
1. Color Retention: Passes 5000 hours when tested with Atlas Weatherometer, ASTM D2244 and ASTM D4214.
  2. Chalk Resistance: Maximum rating of 8 when tested in Florida exposure for 10 years at 45°S, ASTM D4214.
  3. Film Erosion Rate: Less than or equal to 0.01 mils per year when tested in Florida exposure for 10 years at 45°S, ASTM D4214.
- F. Touch-Up Coating: Shall be of equal quality approved by coating manufacturer, delivered to site, ready to use.

## 2.4 THERMOSETTING POLYESTER COATING

- A. Type: PPG Industries "POLYCRON III" polyester based coating of quality complying with AAMA 2603.
1. Total Thickness: Minimum 1.0 dry mils.
  2. Color: As scheduled.
- B. Physical Properties:
1. Pencil Hardness: H minimum.
  2. Adhesion-Crosshatch 1/16" Wet and Dry: No removal.
- C. Abuse Tolerance:
1. Direct Impact 1/10" Distortion: No removal.
  2. Acid Resistance: No effect when tested with 10% muriatic acid spot test for 15 minutes.
  3. Alkali Resistance: No effect when tested by mortar pat test at 100% relative humidity at 100°F (38°C).
  4. Detergent Resistance: No effect when tested at 3% immersion at 100°F (38°C).
  5. Humidity Resistance: Few #8 blisters maximum 1000 hours exposure at 100% relative humidity at 100°F (38°C).
  6. Salt Spray Resistance: Passes 1000 hours when tested with 5% salt spray at 100°F (38°C).
- D. Weathering Properties:
1. Adhesion and Color Retention: Passes 1000 hours when tested with Atlas Weatherometer.
- E. Touch-Up Coating: Shall be of equal quality approved by coating manufacturer, delivered to site, ready to use.

**PART 3 EXECUTION**

**3.1 APPLICATION**

- A. Each type of special coating shall be factory-applied and shall not be started before the requirements specified in this section under "Quality Assurance" are approved by Architect.
  - 1. "DURANAR" coating system shall meet the requirements of AAMA Spec. No. 2605.
  - 2. "POLYCRON III" coating system shall meet the requirements of AAMA No. 2603.
- B. Aluminum substrate shall be processed and cleaned in accordance with ASTM B449.
  - 1. Pretreatment follows ASTM D1730.
- C. "Rack" or "gripper" marks on exposed aluminum surfaces caused by the finishing process will not be accepted.
- D. Surfaces shall be coated to the minimum required thicknesses.
- E. Upon completion and approval of the Work, coated surfaces shall be cleaned in accordance with coatings manufacturer's published instructions.
- F. Touch-Up: Each user of coating shall touch-up unacceptable mars and as required by Architect.

**PART 4 COLOR SCHEDULE**

**4.1 SCHEDULE**

<b>DRAWING DESIGNATION</b>	<b>COLOR</b>
* Alum. Color AL-1	PPG's "DURANAR" UC Custom Color: Pearl-White to match Architect's sample.
* Alum. Color AL-2	PPG's "DURANAR" to match Alum. Color No. 1
* Alum. Color AL-3	PPG's "DURANAR" UC Custom Color: Light/Medium Gray to match Architect's sample.
Alum. Color AL-4	PPG's "DURANAR XL" UC Custom Color: TBD.
* Alum. Color AL-5	PPG's "DURANAR" UC Custom Color: TBD.
* Alum. Color AL-6A	PPG's "DURANAR" UC Custom Color: TBD.
* Alum. Color AL-6B	PPG's "DURANAR" UC Custom Color: TBD.
* Alum. Color AL-7	PPG's "DURANAR" UC Custom Color: Medium/Dark Gray to match Architect's sample.

NOTE: All colors to be determined in review of visual mockups.

**END OF SECTION**