NEVERFADE®

FAÇADE RESTORATION COATINGS

WITH

KYNAR AQUATEC® TECHNOLOGY

GUIDE SPECIFICATIONS

FAÇADE COATING & RESTORATION

HIGH PERFORMANCE LATEX COATINGS

SECTION 09 96 00
FIELD-APPLIED FLUOROPOLYMER HIGH PERFORMANCE LATEX COATINGS FOR FAÇADE RESTORATION
(PART 3 EXECUTION ONLY)

This specification is written according to CSI SectionFormat™

For the latest updates, please visit NeverFadeCoatings.com

To speak with an APV Representative, contact sales@apvcoatings.com

APV ENGINEERED COATINGS, INC.
1390 Firestone Parkway
Akron, Ohio 44301
1.800.772.3452
sales@apvcoatings.com
www.apvcoatings.com

POWERED BY:

APV®
ENGINEERED COATINGS
BRINGING THE CHEMISTRY
SINCE 1878

SECTION 099600 - HIGH PERFORMANCE LATEX COATINGS

Disclaimer - Please consult Arkema's disclaimer regarding the use of Arkema's products on http://www.arkema.com/en/products/product-safety/disclaimer/index.html

Kynar®, Kynar 500®, and Kynar Aquatec® are registered trademarks of Arkema Inc.

NeverFade® is a registered trademark of APV Engineered Coatings.

The paint systems specified in this Section are based on the use of NeverFade® with Kynar Aquatec® latex based coatings as the basis of design.

Kynar Aquatec® latex is an innovative platform of emulsions used in NeverFade® Exterior Coating formulations. Coatings formulated with these emulsions can provide the durability and performance of traditional Kynar 500® resin based coatings. They can easily be applied to a variety of substrates, including metals, plastics, wood, concrete, masonry, fiber cement, stucco and previously painted surfaces.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

NeverFade® with Kynar® and Kynar Aquatec® are emulsion-based, field-applied, fluoropolymer liquid coating systems for new or existing exterior surfaces that comply with the following performance criteria:

After 4000 hours of QUV-B exposure per ASTM G154 cycle 2 with UVB-313 lamps and a minimum irradiance of 0.67 W/m2/nm, or a modified cycle 2 with UVB-313 lamps, 8 hours UV at 60 (+/- 3) °C black panel temperature; 4 hours condensation at 50 (+/- 3) °C black panel temperature and a minimum irradiance of 0.67 W/m2/nm, the exposed coating deterioration does not exceed the following criteria:

- Color fading exceeding 5 Delta E Hunter units per ASTM D 2244.
- Peeling, checking, or cracking of coating adhesion to substrate.
- Chalking exceeding No. 6 (whites) or No. 8 (colors) when tested per ASTM D 4214

Note to Specifier To meet the performance criteria of NeverFade® with Kynar® and Kynar Aquatec® coating systems, these coatings must contain 35% to 70% of PVDF resin solids based on the total amount of resin solids in the paint formulation. Select one or more of the following products according to the substrates required for the project. If selecting more than one system, clearly indicate the limits of each system and identify each system on the drawings.

Product A: NeverFade® Original with FMA-12 Kynar Aquatec® emulsion-based, field-applied, water-based, fluoropolymer liquid coating system on new or existing exterior surfaces including:

- Stucco, Masonry, and Fiber Cement

- Cement (cured for a minimum of 30 days)
- Vinyl

Product B: NeverFade® Metal Restoration with ARC Kynar Aquatec® emulsion-based, field-applied, water-based, fluoropolymer liquid coating system on new or existing exterior surfaces including:

- Aluminum
- Stainless and various grades of Steel surfaces
- Coated metal surfaces

B. Related Requirements:

Note to Specifier The list of related sections below is only an example. If including the Related Section paragraph, be sure to delete section from the list below that are not part of the project, and add sections which are part of the project but not listed. Verify section titles.

1. Division 01 Section "Sustainable Design Requirements".
2. Division 03 Section "Tilt-Up Concrete".
3. Division 04 Section "Unit Masonry".
4. Division 05 Section "Decorative Metal Panels".
5. Division 06 Section "Rough Carpentry".
6. Division 06 Section "Plastic Fabrication".
7. Division 07 Section "Metal Wall Panels".
8. Division 07 Section "Sheet Metal Flashing and Trim".
9. Division 08 Section "Louvers and Vents".
10. Division 09 Section "Cement Plastering".
11. Division 13 Section "Metal Building Systems".

1.2 DEFINITIONS

A. The Kynar Aquatec® platform of emulsions:

1. Kynar Aquatec® ARC latex: Hybrid dispersion containing 35% to 70% by weight Kynar® PVDF resin and proprietary acrylic resin.

Note to Specifier Kynar Aquatec® ARC latex is a hybrid dispersion containing, on polymer solids, 35-70% by weight Kynar® PVDF resin and proprietary acrylic and urethane resin. This ratio is similar to those used in baked metal finishes based on Kynar 500® PVDF, which have over a 50-year track record of superb weatherability in architectural applications. After 17 years south Florida exposure, waterborne coatings based on prototype versions of Kynar Aquatec® ARC latex are confirming weathering performance comparable to 70% Kynar 500® PVDF finishes.

2. Kynar Aquatec® FMA-12 Latex: Fluorine Modified Acrylic Resin

Note to Specifier Kynar Aquatec® FMA-12 latex is a hybrid dispersion containing, on polymer solids, 50% by weight Kynar® PVDF resin, and 50% proprietary acrylic resin. Accelerated weathering results confirm superior durability of FMA-12 latex compared to premium grade acrylics. Kynar Aquatec® FMA-

12 latex paints with a latex minimum film formation temperature (MFFT) in the 10-12°C range are designed for field-applied elastomeric roofing, building restoration and premium architectural coatings. Coatings based on this product show excellent adhesion on numerous substrates including PVDF coated metal roofing.

B. The NeverFade® platform of topcoats:
   1. NeverFade® Original: FMA-12 based chemistry for stucco, concrete, EFIS, masonry, fiber cement, and wood
   2. NeverFade® Metal Restoration: ARC based chemistry for ferrous and non-ferrous metals.

C. DMT: Direct to Metal.

D. PVDF Latex: Polyvinylidene Fluoride.

E. LEED®: Leadership in Energy and Environmental Design (LEED®) is a sustainable (green) building rating systems developed by U.S. Green Building Council (USGBC).

F. VOC: Volatile Organic Compounds.

1.3 REFERENCE STANDARDS

A. ASTM International (ASTM)
   1. ASTM B 117 – Practice for Operating Salt Spray (Fog) Apparatus.
   2. ASTM D 610 - Standard Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces.
   3. ASTM D 714 - Standard Test Method for Evaluating Degree of Blistering of Paints.
   4. ASTM D 1654 – Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
   5. ASTM D 2244 – Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.
   6. ASTM D 4214 – Test Methods for Evaluating Degree of Chalking of Exterior Paint Films.
   7. ASTM D 4587 - Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings.
   8. ASTM G 154 - Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.

1.4 PREINSTALLATION MEETINGS

A. Section [**013000 - Administrative Requirements**] <**insert section number and title**>: Requirements for coordination.

B. Convene minimum one week prior to commencing Work of this Section.
   1. Attendees: Contractor, installer, and manufacturer, APV Engineered Coatings
   2. Review installation instructions and conditions at Site.

1.5 SUBMITTALS

A. Section [**013300 - Submittal Procedures**] <**insert section number and title**>: Requirements for submittals.

Note to Specifier Product data sheets and samples are available from APV Engineered Coatings and can be accessed through the following web site: http://www.NeverFadeCoatings.com or sales@apvcoatings.com.

B. Product Data: Submit data on finishing products and coatings.
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations
   3. Installation methods.

Note to Specifier Color or colors may actually be specified in other Sections based on various materials and products being painted. Cross reference these Sections.

C. Samples for Initial Selection:
   1. Submit **two 6 by 6 inches (150 by 150 mm)** in size illustrating color, gloss, and texture for each color selected and each material to be coated.

D. Samples for Verification:
   1. Submit **two 6 by 6 inches (150 by 150 mm)** in size illustrating color, gloss, and texture for each color selected and each material to be coated.

Note to Specifier Kynar Aquatec® emulsion is a copolymer of vinylidene fluoride. NeverFade® Coating Systems based on Kynar Aquatec® emulsion are formulated by Kynar Aquatec® trademark licensees and contain, in addition to Kynar Aquatec® emulsion, high quality pigments, and performance additives. According to the licensing agreement between APV Engineered Coatings and Arkema, a minimum of 35 percent by weight of Kynar Aquatec® resin solids is required. These high quality coating systems have a proven history when exposed to severe ultraviolet radiation for more than 15 years. Request certificates of analysis from APV Engineered Coatings to ensure that coatings contain Kynar Aquatec® emulsion manufactured by Arkema Inc. at the proper percent of PVDF solids.

E. Certificates: Certify coatings are manufactured with minimum 35 percent, by weight, Kynar Aquatec® resin and meet or exceed specified requirements of this Section.

F. Test and Evaluation Reports:
   1. Submit preconstruction adhesion test report.

G. Manufacturers' Instructions: Submit manufacturer's installation instructions.

H. Field Quality Control Submittals:
   1. Submit manufacturer's field service report.

I. Sustainable Design Submittals:
   1. Section [018113 - Sustainable Design Requirements - LEED® V4] <insert section number and title>: Requirements for sustainable design submittals.
   2. Manufacturer's Certificate: Certify products meet or exceed specified sustainable design requirements.

Note to Specifier The following are for LEED V4.

3. Building Life-Cycle Impact Reduction, Option 3.
4. Persistent, Bioaccumulative, and Toxic (PBT) Source Reduction - Lead and Cadmium.
    a. Certify reduction of these materials.

J. Qualification Statements: Submit manufacturer's qualifications.

1.6 CLOSEOUT SUBMITTALS

A. Section [**017000 - Execution and Closeout Requirements**] <**insert section number and title**>: Requirements for submittals.

B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.7 MAINTENANCE MATERIALS

A. Section [**017000 - Execution and Closeout Requirements**] <**insert section number and title**>: Requirements for maintenance materials.

B. Supply [**1 quart (1 L)**] [**1 gallons (4 L)**] <**insert quantity**> of each color, type, and surface texture; store where directed.

C. Label each container with color, type, [**texture**], locations, [**items coating was applied to**] in addition to manufacturer's label.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum of 8 years experience manufacturing similar products

B. Applicator Qualifications: Company specializing in applications of coatings specified in this Section must be approved or certified by APV Engineered Coatings.

C. Preconstruction Adhesion Testing:

Note to Specifier Include adhesion testing to ensure coating compatibility with substrates Adhesion test is destructive. Test area must be repaired after testing.

1. Apply first coat to substrate. Test coating adhesion by ASTM D 3359.
    a. Perform minimum three tests.
        1) Acceptance Criteria: Minimum 4A, each test.
    b. Comply with manufacturer's instructions for meeting specified adhesion.
    c. Repeat test until meeting acceptance criteria.
    d. Remove or repair damaged coating.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

1. Finish areas designated by Architect.
2. Do not proceed with remaining work until workmanship is approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements:
   1. Deliver materials in manufacturer's original unopened containers with labels intact and legible.

B. Storage and Handling Requirements:
   1. Store coatings in a cool dry area.
   2. Protect materials against damage by construction traffic.

1.10 PROJECT CONDITIONS

A. Section [**016000 - Product Requirements**] <**insert section number and title**>: Environmental conditions affecting products on site.

B. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 to 100 degrees F (10 and 38 degrees C). Substrate temperature should be 5 degrees F above the dew point.

C. Do not apply coatings in snow, rain, fog, or mist. Do not apply coatings if precipitation is expected within 24 hours or if the air or substrate temperature is expected to drop below 35 degrees F within 48 hours.

1.11 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.12 WARRANTY

A. Section [**017000 - Execution and Closeout Requirements**] <**insert section number and title**>: Requirements for warranties.

Note to Specifier Refer to official NeverFade® Coating System Warranty available at info@apvcoatings.com

1. Exposed Coating: Deterioration includes the following:
   a. Color fading exceeding 5 Delta E Hunter units per ASTM D 2244.
2. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: APV Engineered Coatings, located at: 1390 Firestone Pkwy, Akron, OH 44301; Toll Free Tel: 800-772-3452; Tel: 330-773-8911; Fax: 330-773-1028; Email: request information (sales@apvcoatings.com); Web: www.apvcoatings.com

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01600

2.2 SUSTAINABLE DESIGN REQUIREMENTS

Note to Specifier LEED V4 applies to exterior, although only Healthcare and Schools. Confirm compliance with CDPH room testing and CARB 2007 or SCAQM Rule 1113.

A. Environmental Quality Credit: Low-Emitting Materials, Paints.

B. Material Resources Credit: Building Life-Cycle Impact Reduction, Option 3.
1. Coating allows existing [**roofs**] [**and**] [**walls**] to be retained rather than replaced with new materials.

C. Material Resources Credit: Persistent, Biomaccumulative, and Toxic (PBT) Source Reduction - Lead and Cadmium.

2.3 COATINGS, GENERAL

A. General: [**Spray] [Roller] [Brush**]-applied, water based, NeverFade® with Kynar Aquatec®, fluoropolymer finish using manufacturer's recommended equipment.
1. Resin: Polvinylidene Fluoride PVDF fluoropolymer.

Note to Specifier Kynar Aquatec® latex is an innovative platform of emulsions used in NeverFade® Exterior Coating formulations. Coatings formulated with these emulsions can provide the durability and performance of traditional Kynar 500® resin based coatings. They can easily be applied to a variety of substrates, including metals, plastics, wood, concrete, masonry, fiber cement, stucco and previously painted surfaces.

B. Manufacturer, Resin: Subject to compliance with requirements, provide coating systems containing Kynar Aquatec® by Arkema, Inc.

See www.NeverfadeCoatings.com info@apvcoatings.com for an up to date list of coatings.

C. Composition: Coating compositions produced by Kynar Aquatec® LICENSEE, APV Engineered Coatings, that contains resin solids, where at least 35 percent by weight of total resin solids present is Arkema PVDF Polymer.

2.4 METAL ROOF AND WALL FLUOROPOLYMER COATING

A. NeverFade® Metal Restoration with Kynar Aquatec® Coating System by APV Engineered Coatings.
   1. W-1650 Bonding Primer™, or 2K Corrosion Resistant Epoxy Primer
   2. NeverFade® Metal Restoration Topcoat or NeverFade® 2k Performance Topcoat
      a. Accelerated Weathering: 3000 hours in accordance with ASTM D 4587.
      b. Weight Solids: 39-55%.
      c. Solids by Volume: 35-45%.
      d. VOC: Less than 100 g/l.

Note to Specifier Flat and Low Gloss sheen finish are available as special request.

      e. Finish: [Semi-Gloss] [Eggshell].
      f. Overall Film Thickness: 5 to 6 mils (0.13 to 0.15 mm) wet.
   3. Accessories: As recommended by manufacture of system coating.

Note to Specifier Color or colors may actually be specified in other Sections based on various materials and products being painted. Cross reference these Sections.

B. Color: [**As selected by Architect**] [**As indicated on Finish Schedule**] [**Match Architect's sample**] [**Match existing <insert name of existing surface or product to be matched>**] <**insert specific color name and number**>.

2.5 CEMENTITIOUS AND OTHER SURFACES FOR FLUOROPOLYMER COATING

A. NeverFade® Original Coating System by APV Engineered Coatings.
   1. W-1500 Primer.
   2. NeverFade® Original Topcoat
      a. Weight Solids: 39-55%.
      b. Solids by Volume: 35-45%.
      c. VOC: Less than 100 g/l.

Note to Specifier Flat and Low Gloss sheen finish are available as special request.

      d. Finish: [Semi-Gloss] [Eggshell].
      e. Overall Film Thickness: 5 to 6 mils (0.13 to 0.15 mm) wet.
   3. Accessories: As recommended by manufacture of system coating.

Note to Specifier Color or colors may actually be specified in other Sections based on various materials and products being painted. Cross reference these Sections. Delete color provision not required.

B. Color: As selected by Architect.

C. Color: As indicated on Finish Schedule.

D. Color: Match Architect's sample.

E. Color: Match existing.

F. Color: _____ **[Insert specific color name and number.]**

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding

3.2 EXAMINATION

A. Section [**013000 - Administrative Requirements**] <**insert section number and title**>: Verification of existing conditions before starting work.

B. Examine coating substrates and correct conditions that would adversely affect appearance or performance of coating system.

C. Correct unsuitable conditions before proceeding with surface preparation and coating application.

3.3 PREPARATION

A. Protection of In-Place Conditions: Prior to surface preparation and application operations, completely mask, remove or otherwise adequately protect window frames, flashings, hardware, accessories, plates, and similar items in contact with coating surfaces but not scheduled to receive special coating.

B. Metal Surface Preparation (for more detailed information, please reference the Field Coatings Guide by contacting info@apvcoatings.com):
   1. Clean and dry surfaces, free of contaminations such as mildew, dirt, grease, oils, chalk and any other contamination that can affect adhesion prior to application.
   2. Remove loose, flaking or oxidized paint from surface by water blasting, wire brushing, grinding, or scraping. Smooth out high and low points to prevent visual uneven coating. Sand blast excessive layers or unevenness.
   3. Remove rust by sandblasting or other mechanical means.
   4. Remove mold, mildew, and fungi using a bleach solution prior to applying coating system.
   5. Repair cracks, holes, roof seams, flashing seams and joints of existing substrate with manufacturer's approved sealant tape.
   6. Tighten and replaces loose or corroded fasteners and seal, as needed. Seal joints and seams with manufacturer's approved sealant.

C. Other Substrate Preparations:
   1. General:
      a. Clean and dry surfaces, free of contaminations such as mildew, dirt, grease, oils, and any other contamination that can affect adhesion prior to application.
      b. Remove loose, flaking or oxidized paint from surface by water blasting, wire brushing, grinding, or scraping.
   2. Masonry: Properly cured, dry and free of laitance. Smooth and free of ridges and depressions.

3. Wood: Smooth surfaces, free of protruding nails, depressions, or raised edges. Fill damaged areas.
4. Stucco: Smooth, dry, and free of uneven joints between panels. Remove loose or powdery surfaces and repair as necessary. Allow new stucco to cure for 30 days prior to priming and painting.
5. Fiber Cement: Smooth, dry and free of uneven joints between units. Remove loose or peeling paint. Pressure wash surfaces as needed, and allow to dry for two days prior to priming and painting.
6. CMU: Fill voids and cracks and remove ridges and fins, leaving a smooth, clean surface

3.4 APPLICATION FOR METAL

A. Apply coating system in accordance with the Field Coatings Guide's written instructions as well as the Product Data Sheet.

B. Apply primer[**s**] to thickness in accordance with manufacturer's instructions.
   1. Apply a test area of bonding primer and allow to cure overnight. Then test adhesion by cross hatch method. If poor adhesion, use mechanical abrasion method best suited for best results, and retest.

C. Apply sufficient material to achieve minimum dry film thickness in accordance with manufacturer's written instructions.
   1. No less than two coats in accordance with manufacturer's written instructions.

D. Keep equipment clean and in proper condition.

E. Apply materials evenly spread and smoothly apply, free of runs, sags, holidays, lap marks, air bubbles and pinholes to assure a smooth finish.

3.5 APPLICATION, [**WOOD] [STUCCO] [VINYL] [MASONRY] [CMU] [FIBER BOARD]**

A. Apply coating system in accordance with the Field Coatings Guide's written instructions as well as the Product Data Sheet.

B. Apply sufficient material to achieve minimum dry film thickness in accordance with manufacturer's written instructions.

C. Complete waterproof of retaining walls and planter boxes prior to applying coating system.

D. Keep equipment clean and in proper condition.

E. Apply materials evenly spread and smoothly apply, free of runs, sags, holidays, lap marks, air bubbles and pinholes to assure a smooth finish.

3.6 FIELD QUALITY CONTROL

A. Section [**014000 - Quality Requirements**] [**017000 - Execution and Closeout Requirements**] <**insert section number and title**>: Field inspecting, testing, adjusting, and balancing.

B. Manufacturer's Field Services:
   1. Section [**014000 - Quality Requirements**] <**insert section number and title**>: Requirements for manufacturer’s field services.
   2. Request manufacturer's presence before, during, and after installation to review procedures and completed work, and issue warranty specified.
   3. Repair unsatisfactory conditions disclosed by manufacturer's site visits, and re-inspect by manufacturer before work starts or resumes in affected areas.

C. Inspect coated surfaces for uniform thickness, color and appearance, matching approved samples when viewed from 5 feet (1500 mm) away under normal lighting conditions.
   1. Ensure coatings are smooth and free from blemishes impairing serviceability and detract from appearance.

3.7 CLEANING

A. Section [**017000 - Execution and Closeout Requirements**] <**insert section number and title**>: Requirements for cleaning.

B. Clean adjacent construction to remove overspray or roller splatter with mild detergent and rinsed with clean water, prior to coating drying.

3.8 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion

END OF SECTION