SECTION 09 96 00

HIGH PERFORMANCE LATEX COATINGS

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\*\* NOTE TO SPECIFIER \*\* APV Engineered Coatings; resins and polymers.
This section is based on the products of APV Engineered Coatings, which is located at:
1390 Firestone Parkway
Akron, OH 44301
Toll Free Tel: (800) 772-3452
Tel: (330) 773-8911
Fax: (330) 773-1028
Email: sales@apvcoatings.com
Web: http://www.apvcoatings.com or http://www.neverfadecoatings.com
{click Here} for additional information
Founded in 1878, APV Engineered Coatings custom formulates and manufactures industrial coatings and advanced chemical products out of Akron, Ohio. APV is known for supplying high performance technologies to aerospace, architecture, industrial fabrics, and other industries for OEM and field applications.
The paint systems specified in this Section are based on the use of NeverFade(r) with Kynar Aquatec(r) PVDF and latex-blended coatings as the basis of design. Kynar Aquatec(r) is an innovative platform of PVDF emulsions used in NeverFade(r) Facade Restoration Coating formulations. Coatings formulated with these emulsions can provide the durability and performance of traditional Kynar 500(r) resin-based (AAMA 2605 standard) coatings but can be applied in the field. NeverFade(r) coatings are easily applied to a variety of substrates, including metals, plastics, wood, concrete, masonry, fiber cement, stucco and previously painted surfaces.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Emulsion-based, field-applied, fluoropolymer liquid coating systems.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
		2. Section 04 20 00 - Unit Masonry.
		3. Section 05 70 00 - Decorative Metal.
		4. Section 06 10 00 - Rough Carpentry.
		5. Section 06 40 00 - Architectural Woodwork.
		6. Section 07 46 16 - Aluminum Siding.
		7. Section 09 25 23 - Lime Based Plastering.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. 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. DEFINITIONS
		1. The Kynar Aquatec platform of emulsions:

\*\* NOTE TO SPECIFIER \*\* Kynar Aquatec(r) 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(r) 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(r) ARC latex are confirming weathering performance comparable to 70% Kynar 500(r) PVDF finishes. Delete if not required.

* + - 1. Kynar Aquatec ARC latex: Hybrid dispersion containing 70% by weight Kynar PVDF resin and proprietary acrylic resin.

\*\* NOTE TO SPECIFIER \*\* Kynar Aquatec(r) 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(r) FMA-12 latex paints with a latex minimum film formation temperature (MFFT) in the 10-12 degrees 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. Delete if not required.

* + - 1. Kynar Aquatec FMA-12 Latex: Fluorine Modified Acrylic Resin.
		1. 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.
		2. DMT: Direct to Metal.
		3. PVDF Latex: Polyvinylidene Fluoride.
		4. LEED: Leadership in Energy and Environmental Design (LEED) is a sustainable (green) building rating systems developed by U.S. Green Building Council (USGBC).
		5. VOC: Volatile Organic Compounds.
	1. 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.

* + 1. Environmental Quality Credit: Low-Emitting Materials, Paints.
		2. 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.
		3. Material Resources Credit: Persistent, Biom accumulative, and Toxic (PBT) Source Reduction - Lead and Cadmium.
	1. SUBMITTALS
		1. Section 01 33 13 - Certificates0 - Submittal Procedures: 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 .

* + 1. Product Data: Submit data on finishing products and coatings, including:
			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.

* + 1. Samples for Initial Selection: 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.
		2. Samples for Verification: 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(r) emulsion is a copolymer of vinylidene fluoride. NeverFade(r) Coating Systems based on Kynar Aquatec(r) emulsion are formulated by Kynar Aquatec(r) trademark licensees and contain, in addition to Kynar Aquatec(r) 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(r) 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(r) emulsion manufactured by Arkema Inc. at the proper percent of PVDF solids.

* + 1. Certificates: Certify coatings are manufactured with minimum 35 percent, by weight, Kynar Aquatec resin and meet or exceed specified requirements of this Section.
		2. Test and Evaluation Reports: Submit preconstruction adhesion test report.
		3. Manufacturers' Instructions: Submit manufacturer's installation instructions.
		4. Field Quality Control Submittals: Submit manufacturer's field service report.
		5. Sustainable Design Submittals:
			1. Section - .
			2. Manufacturer's Certificate: Certify products meet or exceed specified sustainable design requirements.

\*\* NOTE TO SPECIFIER \*\* The following are for LEED V4.

* + - * 1. Building Life-Cycle Impact Reduction, Option 3.
				2. Persistent, Bioaccumulative, and Toxic (PBT) Source Reduction - Lead and Cadmium.

Certify reduction of these materials.

* + 1. Qualification Statements: Submit manufacturer's qualifications.
	1. CLOSEOUT SUBMITTALS
		1. Section 01 70 00 - Execution and Closeout Requirements.
		2. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.
	2. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Minimum 8 years experience manufacturing similar products.

\*\* NOTE TO SPECIFIER \*\* NeverFade(r) coating must be applied by manufacturer certified or manufacturer approved applicator.

* + 1. Applicator Qualifications: Company specializing in applications of coatings specified in this Section and approved by APV Engineered Coatings.
		2. 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.
				1. Perform minimum three tests.

Acceptance Criteria: Minimum 4A, each test.

* + - * 1. Comply with manufacturer's instructions for meeting specified adhesion.
				2. Repeat test until meeting acceptance criteria.
				3. Remove or repair damaged coating.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. 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. PRE-INSTALLATION MEETINGS
		1. Section 01 30 00 - Administrative Requirements.
		2. 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.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Delivery and Acceptance Requirements:
			1. Deliver materials in manufacturer's original unopened containers with labels intact and legible.
		2. Storage and Handling Requirements:
			1. Store coatings in a cool dry area.
			2. Protect materials against damage by construction traffic.
	3. PROJECT CONDITIONS
		1. Section 01 60 00 - Product Requirements.
		2. 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.
		3. 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 (2 degrees C) within 48 hours.
	4. SEQUENCING
		1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	5. WARRANTY
		1. Section 01 70 00 - Execution and Closeout Requirements.

\*\* NOTE TO SPECIFIER \*\* Refer to official NeverFade(r) Coating System Warranty available at info@apvcoatings.com .

* + - 1. Exposed Coating: Deterioration includes the following:
				1. Color fading exceeding 5 Delta E Hunter units per ASTM D 2244.
			2. Warranty Period: 15 years from date of Substantial Completion.
	1. MAINTENANCE MATERIALS
		1. Section 01 70 00 - Execution and Closeout Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete maintenance material quantity not required.

* + 1. Supply 1 quart (1 L) of each color, type, and surface texture; store where directed.
		2. Supply 1 gallons (4 L) of each color, type, and surface texture; store where directed.
		3. Label each container with color, type, texture, locations, items coating was applied to in addition to manufacturer's label.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: APV Engineered Coatings, which is located at:1390 Firestone Pkwy.Akron, OH 44301Toll Free Tel: 800-772-3452Tel: 330-773-8911Fax: 330-773-1028Email: [request info (sales@apvcoatings.com)](https://arcat.com/rfi?action=email&company=APV%252BEngineered%252BCoatings&message=RE%253A%2520Spec%2520Question%2520(09960apv)%253A%2520&coid=46528&spec=09960apv&rep=&fax=330-773-1028);Web: <https://apvcoatings.com> | <http://neverfadecoatings.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
	1. COATINGS, GENERAL
		1. General: Spray, roller and 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(r) latex is an innovative platform of emulsions used in NeverFade(r) Exterior Coating formulations. Coatings formulated with these emulsions can provide the durability and performance of traditional Kynar 500(r) 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. Manufacturer, Resin: Subject to compliance with requirements, provide coating systems containing Kynar Aquatec(r) by Arkema, Inc.
See www.NeverfadeCoatings.com info@apvcoatings.com for an up to date list of coatings.

* + 1. 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.
	1. COATING SYSTEMS

\*\* NOTE TO SPECIFIER \*\* To meet the performance criteria of NeverFade(r) with Kynar(r) and Kynar Aquatec(r) 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.

* + 1. Product: NeverFade Original with FMA-12 Kynar Aquatec emulsion-based, field-applied, water- based, fluoropolymer liquid coating system on new or existing exterior surfaces including:

\*\* NOTE TO SPECIFIER \*\* Delete substrate not required.

* + - 1. Stucco, Masonry, and Fiber Cement.
			2. Cement (cured for a minimum of 30 days).
			3. Vinyl.
		1. Product: NeverFade Metal Restoration with ARC Kynar Aquatec emulsion-based, field-applied, water-based, fluoropolymer liquid coating system on new or existing exterior surfaces including:

\*\* NOTE TO SPECIFIER \*\* Delete substrate not required.

* + - 1. Aluminum.
			2. Stainless and various grades of Steel surfaces.
			3. Coated metal surfaces.
		1. Coating Type: NeverFade with Kynar and Kynar Aquatec are emulsion-based, field-applied, fluoropolymer liquid coating systems for new or existing exterior surfaces.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. METAL ROOF AND WALL FLUOROPOLYMER COATING
		1. NeverFade with Kynar Aquatec Coating System by APV Engineered Coatings.
			1. W-1500 Universal Primer, W-1650 Bonding Primer, and/or 2K Corrosion Resistant Epoxy Primer
			2. NeverFade Topcoat.
				1. Accelerated Weathering: 3000 hours in accordance with ASTM D 4587.
				2. Weight Solids: 39-55 percent.
				3. Solids by Volume: 35-45 percent.
				4. VOC: Less than 100 g/l.

\*\* NOTE TO SPECIFIER \*\* Flat and Low Gloss sheen finish are available as special request. Delete finish gloss not required.

* + - * 1. Finish: Semi-Gloss.
				2. Finish: Eggshell.
				3. Overall Film Thickness: 5 to 6 mils (0.13 to 0.15 mm) wet.
			1. 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.

* + 1. Color: As selected by Architect.
		2. Color: As indicated on Finish Schedule.
		3. Color: Match Architect's sample.
		4. Color: Match existing.

\*\* NOTE TO SPECIFIER \*\* Insert specific color name and number.

* + 1. Color: \_\_\_\_\_\_

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. CEMENTITIOUS AND OTHER SURFACES FOR FLUOROPOLYMER COATING
		1. NeverFade Original Coating System by APV Engineered Coatings.
			1. W-1500 Primer.
			2. NeverFade Original Topcoat.
				1. Weight Solids: 39-55 percent.
				2. Solids by Volume: 35-45 percent.
				3. VOC: Less than 100 g/l.

\*\* NOTE TO SPECIFIER \*\* Flat and Low Gloss sheen finish are available as special request. Delete finish gloss not required.

* + - * 1. Finish: Semi-Gloss.
				2. Finish: Eggshell.
				3. Overall Film Thickness: 5 to 6 mils (0.13 to 0.15 mm) wet.
			1. 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.

* + 1. Color: As selected by Architect.
		2. Color: As indicated on Finish Schedule.
		3. Color: Match Architect's sample.
		4. Color: Match existing.

\*\* NOTE TO SPECIFIER \*\* Insert specific color name and number.

* + 1. Color: \_\_\_\_\_\_
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
		3. Section 01 30 00 - Administrative Requirements.
		4. Examine coating substrates and correct conditions that would adversely affect appearance or performance of coating system.
		5. Correct unsuitable conditions before proceeding with surface preparation and coating application.
	2. PREPARATION
		1. 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.

\*\* NOTE TO SPECIFIER \*\* For more detailed information, please reference the Field Coatings Guide by contacting info@apvcoatings.com).

* + 1. Metal Surface Preparation:
			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.
		2. Other Substrate Preparations:
			1. General:
				1. Clean and dry surfaces, free of contaminations such as mildew, dirt, grease, oils, 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.
			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

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. APPLICATION FOR METAL
		1. Apply coating system in accordance with the Field Coatings Guide's written instructions as well as the Product Data Sheet.
		2. Apply primers 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.
		3. 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.
		4. Keep equipment clean and in proper condition.
		5. Apply materials evenly spread and smoothly apply, free of runs, sags, holidays, lap marks, air bubbles and pinholes to assure a smooth finish.

\*\* NOTE TO SPECIFIER \*\* Application, wood, stucco, vinyl, masonry, CMU and fiber board. Delete article if not required.

* 1. APPLICATION FOR OTHER SUBSTRATES
		1. Apply coating system in accordance with the Field Coatings Guide's written instructions as well as the Product Data Sheet.
		2. Apply sufficient material to achieve minimum dry film thickness in accordance with manufacturer's written instructions.
		3. Complete waterproof of retaining walls and planter boxes prior to applying coating system.
		4. Keep equipment clean and in proper condition.
		5. Apply materials evenly spread and smoothly apply, free of runs, sags, holidays, lap marks, air bubbles and pinholes to assure a smooth finish.
	2. FIELD QUALITY CONTROL
		1. Section 01 40 00 - Quality Requirements and 01 70 00 - Execution and Closeout Requirements for field inspecting and testing.
		2. Manufacturer's Field Services:
			1. Section 01 40 00 - Quality Requirements: Requirements for manufacturer's field services.
			2. Require 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.
		3. 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. CLEANING
		1. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.
		2. Clean adjacent construction to remove overspray or roller splatter with mild detergent and rinsed with clean water, prior to coating drying.
	4. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION