SECTION 09963 - ELASTOMERIC COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes surface preparation and application of elastomeric coatings to exterior concrete surfaces.

1.3 DEFINITIONS

A. General: Standard coating terms defined in ASTM D 16 apply to this Section.

1.4 PERFORMANCE REQUIREMENTS

A. Provide elastomeric coatings that comply with performance requirements specified in MPI 113.

B. Provide elastomeric coating systems with the following properties as determined by test methods indicated:

1. Elongation: Not less than 100 percent with a tensile strength of 200 psi and not less than 88 percent recovery after 1 hour and 90 percent recovery after 24 hours when tested according to ASTM D 2370 using parameters established by MPI 113.
2. Accelerated Weathering: No cracking, peeling, blistering, chalking, or visual deterioration after 1000 hours when tested according to procedures in ASTM G 155.
3. Low-Temperature Flexibility: No crack formation when tested according to ASTM D 1737.
4. Moisture-Vapor Transmission: Not less than 2.0 perms according to ASTM D 1653.
5. Wind-Driven Rain Resistance: No water penetration according to procedures in FS TT-C-555.
6. Minimum Solids Content by Volume: Not less than 45 percent.
7. Mildew Resistance: Resistant after 21 days as tested according to TT-P-29.
8. Algae Resistance: No growth after 8 weeks as tested according to SS345:1990.
9. Fungus Resistance: Meets requirements of TT-C-555B.

1.5 SUBMITTALS

A. Product Data: For each elastomeric coating system specified. Include crack fillers, block fillers, and primers.

1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference the specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
2. Manufacturer's Information: Technical information including label analysis and instructions for handling, storing, and applying each coating material.
3. Certification by elastomeric coating manufacturer that products supplied comply with local VOC regulations.

B. Samples for Initial Selection: For each type of finish-coat material indicated.

1. After color selection, Architect will furnish color chips indicating colors selected.

C. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of actual substrate.

1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
2. Provide a list of materials and applications for each coat of each Sample. Label each Sample for location and application.
3. Submit three (3) samples on the following substrates for Architect's review of color and texture only:

a. Concrete: 4-by-6-inch samples of actual substrate material for each color and texture.

D. Qualification Data: For Applicator.

E. Material Certificates: For each elastomeric coating material, signed by manufacturers.

F. Product Test Reports: Based on evaluation of comprehensive tests by a qualified testing agency for each elastomeric coating material indicating compliance of elastomeric coatings with requirements based on comprehensive testing within the last two years of current product formulations.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying elastomeric coating systems similar in material and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Source Limitations: Obtain crack fillers, primers, and other undercoat materials from same manufacturer as finish coats.

C. Benchmark Samples (Mockups): Provide full-coat benchmark finish samples for each type of coating on each substrate required. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample submittals.

1. Architect will select one concrete exterior wall surface to represent surfaces and conditions for application of elastomeric coatings.
2. Apply benchmark samples according to requirements for the completed Work. Provide required sheen, color, and texture on each surface.
3. Approved benchmark samples will be used to evaluate coating systems.
4. Obtain Architect's approval of benchmark samples before starting application of coatings.
5. Final approval of colors will be from benchmark samples.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:

1. Product name or title of material.
2. Manufacturer's stock number and date of manufacture.
3. Contents by volume, for pigment and vehicle constituents.
4. Thinning instructions (if permitted).
5. Application instructions.
6. Color name and number.
7. Handling instructions and precautions.
8. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.

1. Protect elastomeric coating materials from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.8 PROJECT CONDITIONS

A. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 90 deg F, unless otherwise permitted by manufacturer's written instructions.

B. Do not apply coatings in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1. Allow wet surfaces to dry thoroughly and attain temperature and conditions specified before starting or continuing coating operation.

1.9 WARRANTY

A. Elastomeric Coating Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace elastomeric coatings that fail within specified warranty period. Failures include, but are not limited to, water penetration through the coating.

B. Warranty Period for Elastomeric Coatings: Five (5) year (s) from date of Substantial Completion.

1.10 EXTRA MATERIALS

A. Furnish extra elastomeric coating materials from same production run as materials applied and in quantities described below. Package materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to Owner.

1. Quantity: Furnish Owner with 2 gal. of each color and finish of elastomeric coating materials applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

B. Products: Subject to compliance with requirements, provide one of the products indicated in other Part 2 articles.

C. Manufacturers Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Benjamin Moore & Co. (Benjamin Moore).
2. ICI Dulux Paint Centers, Inc. (ICI Dulux Paint).
3. Modac Products Company (Modac).
4. PPG Industries, Inc.; Pittsburgh Paints (Pittsburgh Paints).
5. Sonneborn, Div. of ChemRex, Inc. (Sonneborn).
6. Sto Concrete Restoration; Sto Finish Systems Division (Sto).
7. Tamms Industries, Inc. (Tamms).
8. Tnemec Company, Inc. (Tnemec).
9. Harris Specialty Chemicals, Inc. (Harris).

2.2 ELASTOMERIC COATING MATERIALS, GENERAL

A. Material Compatibility: Provide crack fillers, block fillers, primers, elastomeric finish-coat materials, and related materials that are compatible with one another and substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality elastomeric coating materials that are factory formulated, comply with requirements in FS TT-C-555, and are recommended by manufacturer for the application indicated. Material containers not displaying manufacturer's product identification are not acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance of proposed substitutions.

C. Colors and Textures: Texture and custom color to match EIFS.

2.3 CRACK FILLERS

A. Crack Fillers: Factory-formulated acrylic emulsion crack fillers compatible with substrate and finish-coat materials indicated.

1. Crack Filler for Cracks up to 1/16 Inch:

a. ICI Dulux Paint; Decra-Flex Smooth Brush Grade Elastomeric Patching Compound.
b. Modac; Acra Lastic Brush Grade 115-004.
c. Pittsburgh Paints; Buttering Grade Vinyl Sealant 236-2414.
d. Sonneborn; Hydrocide 750 Brush Grade or Knife Grade Patching Compound.
e. Sto; Flexible Crack Filler.
f. Harris: Thorolastic Brush/Knife Grade Crack Repair.

2. Crack Filler for Cracks More Than 1/16 Inch:

a. ICI Dulux Paint; Decra-Flex Smooth Knife Grade Elastomeric Patching Compound.
b. Modac; Acra Lastic Knife Grade 115-002.
c. Pittsburgh Paints; Regular Grade Vinyl Sealant 236-2397.
d. Sonneborn; Hydrocide 750 Knife Grade Patching Compound.
e. Sto; Flexible Crack Filler.
f. Tamms; Tamms Thin Patch.
g. Harris: Thorolastic Brush/Knife Grade Crack Repair.

2.4 PRIMERS

A. Concrete Primer: Factory-formulated, alkali-resistant, acrylic-latex primer.

1. Benjamin Moore; Moore's Acrylic Masonry Sealer #066: Applied at a dry film thickness of not less than 0.7 mil.
2. ICI Dulux Paint; Aquacrylic GRIPPER 3210 Acrylic Primer: Applied at a dry film thickness of not less than 1.3 mils.
3. Modac; Acrylic Latex Surface Conditioner 019-156: Applied at a dry film thickness of not less than 4.0 mils.
4. Pittsburgh Paints; primer not required.
5. Sonneborn; primer not required.
6. Sto; Flexible Coating CR212 Thinned 1:5 with 1 Gal. of Water per Each 5 Gal. of CR212: Applied at a dry film thickness of not less than 10 mils.
7. Tamms; H/P Primer: Applied at a dry film thickness of not less than 1.3 mils.
8. Harris: Thoro CM Primer. Apply at a rate not to exceed 375 sf/gal.

2.5 ELASTOMERIC FINISH-COAT MATERIALS

A. Textured Elastomeric Finish: Textured, factory-formulated, 100 percent acrylic elastomeric coating.

1. ICI Dulux Paint; Decra-Flex 2270-XXXX Fine Finish Elastomeric Coating System: Applied at a dry film thickness of not less than 7.0 mils.
2. Modac; Elastomeric Acrylic Coating--Medium Texture 019-027: Applied at a dry film thickness of not less than 7.0 mils.
3. Pittsburgh Paints; Speedhide Texture Coatings 100 Percent Acrylic 4-50: Applied at a dry film thickness of not less than 6.1 mils.
4. Sonneborn; Sonocoat Flextex Textured Elastomeric Coating: Applied at a dry film thickness of not less than 8.0 mils.
5. Sto; Flexible Coating CR235: Applied at a dry film thickness of not less than 10 mils.
6. Tamms; Tammolastic Textured Elastomeric Decorative and Protective Coating: Applied at a dry film thickness of not less than 10 mils.
7. Tnemec; Enviro-Crete Series 157, Textured: Applied at a dry film thickness of not less than 9.0 mils.
8. Harris: Thorolastic A+, Textured: Applied at a dry film thickness of not less than 9.0 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for coating application. Comply with procedures specified in PDCA P4.

1. Proceed with coating application only after unsatisfactory conditions have been corrected and surfaces are thoroughly dry.
2. Start of coating application will be construed as Applicator's acceptance of surface conditions.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify Architect about anticipated problems when using coatings specified over substrates primed by others.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, light fixtures, and similar items already installed that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.

1. After completing coating operations, reinstall items removed, using workers skilled in trades involved.

B. Cleaning: Before applying coatings or other surface treatments, clean substrates of substances that could impair bond of coating systems. Remove oil and grease before cleaning.

1. Schedule cleaning and coating application so dust and other contaminants from cleaning process will not fall on wet, newly coated surfaces.

C. Surface Preparation: Clean and prepare surfaces to be coated according to manufacturer's written instructions for particular substrate conditions and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime.
2. Cementitious Surfaces: Concrete surfaces to receive elastomeric coatings. Remove efflorescence, chalk, dust, dirt, release agents, grease, oils, and similar impediments to good adhesion by water blasting followed by a clear water rinse.

    a. Remove mildew and neutralize surfaces according to manufacturer's written instructions before patching materials are applied.
    b. Roughen as required to remove glaze. Use abrasive blast-cleaning methods if recommended by coating manufacturer.
    c. If hardeners or sealers have been used to improve concrete curing, use mechanical methods for surface preparation.
    d. Determine alkalinity and moisture content of surfaces to be coated by performing appropriate tests. If surfaces are sufficiently alkaline to cause finish paint to blister and burn, correct this condition before application. Do not apply coatings over surfaces where moisture content exceeds that permitted in manufacturer's written instructions.

3. Crack Repair: Fill cracks according to manufacturer's written instructions before coating surfaces.
4. Deep Hairline Cracks: Remove dust and dirt from around cracks. Remove mildew by sterilizing before filling. Apply manufacturer's recommended primer to cracks before patching. If shrinkage occurs after applying crack filler, apply additional filler material to cracks before initial application of elastomeric coatings.

    a. Cracks up to 1/16 Inch: Clean surface around cracks. Apply crack filler primer penetrating cracks as deeply as possible, overflowing crack 2 inches on each side. When crack filler primer is dry, apply manufacturer's recommended sealant, forced well into cracks using a brush, putty knife, or trowel. Smooth edges of primed area around cracks. Allow for sealant shrinkage when applying.
    b. Cracks up to 3/8 Inch: Open cracks to 1/4 to 3/8 inch wide and 1/8 inch deep. Clean cracks and surrounding area removing dust, dirt, and other impurities. Apply crack filler primer recommended by manufacturer with a brush to obtain uniform coverage and spread approximately 2 inches on each side of cracks. Fill cracks with manufacturer's recommended crack filler applied with a putty knife or trowel, and allow for shrinkage. If excessive shrinkage occurs, reapply crack filler.

D. Material Preparation: Mix and prepare materials according to coating manufacturer's written instructions.

1. Maintain containers used in mixing and applying elastomeric coatings in a clean condition, free of foreign materials and residue.
2. Stir materials before application to produce a mixture of uniform density. Stir as required during application. If surface film forms, do not stir film into material. If necessary, remove film and strain coating material before using.
3. If manufacturer permits thinning, use only thinners recommended by manufacturer, and only within recommended limits.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match color of finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply elastomeric coatings according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Colors, surface treatments, and finishes are indicated in coating schedule.
2. Do not paint over conditions detrimental to formation of a durable coating film, such as dirt, rust, scale, grease, moisture, and scuffed surfaces.
3. Provide finish coats compatible with primers used.

B. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

C. Scheduling Coating: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. Number of coats and film thickness required are same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer.
2. If undercoats or other conditions show through final coat, apply additional coats until coating film is of uniform finish, color, and appearance. Ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.
3. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until coating has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat does not cause undercoat to lift or lose adhesion.

D. Application Procedures: Apply elastomeric coatings by brush, roller, or spray according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for material being applied.
2. Rollers: Use professional-quality quick-release rollers of carpet, velvet back, or high-pile sheep's wool covers with a 1- to 1-1/4-inch nap as recommended by manufacturer for material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.

E. Minimum Coating Thickness: Apply each material no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness as recommended by manufacturer.

1. Wherever spray application is used, apply each coat to provide equivalent hiding of brush-applied coats. Do not double back with spray equipment, building up film thickness of two coats in one pass.

F. Prime Coats: If recommended by manufacturer, apply a primer to material being coated before applying finish coats.

G. Brush Application: Brush out and work brush coats into surfaces in an even film. Eliminate cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Neatly draw glass lines and color breaks.

H. Roller Application: Keep cover wet at all times; do not dry roll. Work in sections. Lay on required amount of material, working material into grooves and rough areas; then level material, working it into surface.

I. Spray Application: Use spray equipment for application only when permitted by manufacturer's written instructions and authorities having jurisdiction.

J. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or recoat work not complying with specified requirements.

3.4 CLEANING

A. Cleanup: At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

1. After completing coating work, clean glass and spattered surfaces. Remove spattered coatings by washing, scraping, or other methods, being careful not to scratch or damage adjacent finished surfaces.

3.5 PROTECTION

A. Protect work of other trades from damage whether being coated or not. Correct damage by cleaning, repairing, replacing, and recoating as approved by Architect. Leave in an undamaged condition.

B. Provide "Wet Paint" signs to protect newly coated finishes. Remove temporary protective wrappings provided by others to protect their work after completing coating operations.

1. After construction activities of other trades are complete, touch up and restore damaged or defaced coated surfaces. Comply with procedures specified in PDCA P1.

3.6 COATING SCHEDULE

A. Concrete: Provide the following elastomeric coating systems over exterior concrete surfaces:

1. Textured Elastomeric Finish: Two (2) finish coat (s) over a primer if required by manufacturer.

a. Primer: Concrete primer.
b. Finish Coats: Textured elastomeric finish.

END OF SECTION 09963