SECTION 096520 – RESILIENT SOLID VINYL TILE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section Includes:

1. Resilient Solid Vinyl Tile

B. Related Sections:

1.03 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Initial Selection: For each type of product indicated.

C. Samples for Verification: For each type of product indicated, in manufacturer's standard-size samples of each resilient product color, texture, and pattern required.

D. Product Schedule: For resilient products. Use same designations indicated on Drawings**.**

1.04 QUALITY ASSURANCE

A. Mockups: Provide resilient products with mockups specified in other Sections.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by Tarkett, but not less than 55 deg F (13 deg C) or more than 85 deg F (29 deg C).

1.06 PROJECT CONDITIONS

A. Install resilient products after other finishing operations, including painting, have been completed.

B. Maintain ambient temperatures within range recommended by Tarkett, but not less than 65 deg F (18 deg C) or more than 85 deg F (29 deg C) in spaces to receive resilient products during the following time periods:

1. 48 hours before installation.

2. During installation.

3. 48 hours after installation.

C. Maintain the ambient relative humidity between 40% and 60% during installation.

D. Until Substantial Completion, maintain ambient temperatures within range recommended by Tarkett, but not less than 55 deg F (13 deg C) or more than 85 deg F (29 deg C).

PART 2 - PRODUCTS

2.01 RESILIENT TILE FLOORING

A. Manufacturer:
Basis of Design: Tarkett, Inc.
30000 Aurora Rd.
Solon, Ohio 44139
Web: www.tarkettna.com
E-mail: info@johnsonite.com
Phone: (800) 899-8916
(440) 543-8916

B. Or Architect Approved Equal

C. Resilient Solid Vinyl Tile Flooring

D. Basis-of-Design Product: Subject to compliance with requirements, provide Johnsonite, a Tarkett Company; [Cortina Grande] [Cortina Grande SR].

E. Sheet Standard: ASTM F 1700, [Class 1, Type A, Smooth surface] or [Class 1, Type B, Embossed surface].

F. Thickness/Wearlayer: 0.125 inch

G. For size specify: 16 inches by 16 inches

H. Colors and Patterns: As selected by Architect from full range of industry colors. Refer to drawings for Patterns.

I. Test data:
1. Total thickness (ASTM F386): 0.080 inches (2 mm)
2. Flexibilty (ASTM F137): Passes
3. Chemical Resistance (ASTM F925): Passes
4. Static Load Limit (ASTM F 970): Passes 250 psi / Modified 800 psi
5. Resistance to Heat (ASTM F1514): $\Delta E \leq 8$
6. Resistance to Light (ASTM F1515): $\Delta E \leq 8$
7. Residual Indentation (ASTM F1914): Passes
8. Size, Tolerance (ASTM F2055): Passes
9. Static Coefficient of Friction (ASTM D 2047): ≥ 0.5 SCOF
10. Flamability (ASTM E648, Critical Radiant Flux): Class 1 (≥ 0.45 W/cm2)
11. Limited Commercial Warranty: 10 years

2.02 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Portland Cementitious underlayment products.

B. Adhesives: As recommended by Manufacturer to meet site conditions.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the work.

B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Prepare substrates according to manufacturer written instructions to ensure adhesion of Resilient Tile Flooring.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.

2. Remove substrate paint, coatings and other substances that are incompatible with adhesives or contain soap, wax, oil, solvents, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

3. Mechanically remove contamination on the substrate that may cause damage to the resilient flooring material. Permanent and non-permanent markers, pens, crayons, paint, etc., must not be used to write on the back of the flooring material or used to mark the substrate as they could bleed through and stain the flooring material.

4. Prepare Substrates according to ASTM F 710 including the following:

a. Moisture Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.

1) Perform anhydrous calcium chloride test, ASTM F 1869. Results must not exceed 5 lbs. Moisture Vapor Emission Rate per 1,000 sq. ft. in 24 hours.

– or –

2) Perform relative humidity test using in situ probes, ASTM F 2170. Results must not exceed 80%.

b. A pH test for alkalinity must be conducted. Results should range between 7 and 9. If the test results are not within the acceptable range of 7 to 9, the installation must not proceed until the problem has been corrected.

c. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer.

5. Wood subfloors must have a minimum 18" (45.7 cm) of cross-ventilated space beneath the bottom of the joist.

a. The floor must be rigid, free of movement.
b. Single wood and tongue and groove subfloors should be covered with ¼" (6.4 mm) or ½" (12.7 mm) APA approved underlayment plywood.

1) Use ¼" (6.4 mm) thick underlayment panels for boards with a face width of 3" (76 mm) or less.
2) Use ½" (12.7 mm) thick underlayment panels for boards with a face width wider than 3" (76 mm).

c. Do not install over OSB (Oriented Strand Board), particle board, chipboard, lauan or composite type underlayment's.

B. Fill cracks, holes, depressions and irregularities in the substrate with good quality Portland cement based underlayment leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

C. Floor covering shall not be installed over expansion joints.

D. Do not install resilient products until they are the same temperature as the space where they are to be installed.

1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

E. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.03 RESILIENT TILE FLOORING INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient tile flooring.

B. Vinyl Enhanced Tile Flooring:

1. Install with manufacturers standard adhesive specified for the site conditions and follow adhesive label for proper use.

2. Follow manufacturers recommendation and lay tiles so graining follows the same direction.

3. Roll the flooring in both directions using a 100 pound three-section roller.

3.04 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.

B. Perform the following operations immediately after completing resilient product installation:

1. Remove adhesive and other blemishes from exposed surfaces.

2. Sweep and vacuum surfaces thoroughly.

3. Damp-mop surfaces to remove marks and soil.

C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. No heavy traffic, rolling loads, or furniture placement for 72 hours after installation.

E. Cover resilient products until Substantial Completion.

F. Wait 72 hours after installation before performing initial cleaning.

G. A regular maintenance program must be started after the initial cleaning.

END OF SECTION 096520

SECTION 096723 – RESINOUS FLOORING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This section includes the following:

1. Resinous flooring system as shown on the drawings and in schedules.

B. Related sections include the following:

1. Cast-in-Place Concrete, section 033000

1.03 SYSTEM DESCRIPTION

A. The work shall consist of preparation of the substrate, the furnishing and application of a cementitious urethane based self-leveling seamless flooring system with decorative chip broadcast and Epoxy broadcast and topcoats.
B. The system shall have the color and texture as specified by the Owner with a nominal thickness of 3/16 inch. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
C. Cove base (if required) to be applied where noted on plans and per manufacturers standard details unless otherwise noted

1.04 SUBMITTALS

A. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.
B. Manufacturer’s Material Safety Data Sheet (MSDS) for each product being used.
C. Samples: A 3 x 3 inch square sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.

1.05 QUALITY ASSURANCE

A. The Manufacturer shall have a minimum of 10 years experience in the production, sales, and technical support of epoxy and urethane industrial flooring and related materials.
B. The Applicator shall have experience in installation of the flooring system as confirmed by the manufacturer in all phases of surface preparation and application of the product specified.
C. No requests for substitutions shall be considered that would change the generic type of the specified System.
D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), and local Health Department.
E. System shall be in compliance with the Indoor Air Quality requirements of California section 01350 as verified by a qualified independent testing laboratory.
F. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping
   1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product type and batch number.

B. Storage and Protection

   1. The Applicator shall be provided with a dry storage area for all components. The area shall be between 60 F and 85 F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
   2. Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Engineer or other personnel.

C. Waste Disposal

   1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

1.07 PROJECT CONDITIONS

A. Site Requirements

   1. Application may proceed while air, material and substrate temperatures are between 60 F and 85 F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
   2. The relative humidity in the specific location of the application shall be less than 85 % and the surface temperature shall be at least 5 F above the dew point.
   3. The Applicator shall ensure that adequate ventilation is available for the work area. This shall include the use of manufacturer’s approved fans, smooth bore tubing and closure of the work area.
   4. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.

B. Conditions of new concrete to be coated with cementitious urethane material.

   1. Concrete shall be moisture cured for a minimum of 3 days and have fully cured a minimum of 5 days in accordance with ACI-308 prior to the application of the coating system pending moisture tests.
   2. Concrete shall have a flat rubbed finish, float or light steel trowel finish (a hard steel trowel finish is neither necessary nor desirable).
   3. Sealers and curing agents should not to be used.
   4. Concrete shall have minimum design strength of 3.500 psi. and a maximum water/cement ratio of 0.45.
   5. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system.

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C. Safety Requirements

   1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.
   2. "No Smoking" signs shall be posted at the entrances to the work area.
   3. The Owner shall be responsible for the removal of foodstuffs from the work area.
   4. Non-related personnel in the work area shall be kept to a minimum.

1.08 WARRANTY

A. Manufacturer shall warrant that material shipped to buyers at the time of shipment substantially free from material defects and will perform substantially to Manufacturer published literature if used in accordance with the latest prescribed procedures and prior to the expiration date.
B. Manufacturer liability with respect to this warranty is strictly limited to the value of the material purchase.

PART 2 – PRODUCTS

2.01 FLOORING

A. Basis of Design: Dur-A-Flex, Inc, Hybri-Flex EC (self-leveling chip broadcast), epoxy/aliphatic urethane topcoat seamless flooring system.

1. System Materials:
   a. Topping: Dur-A-Flex, Inc, Poly-Crete MD resin, hardener and SL aggregate.
   b. The broadcast aggregate shall be Dur-A-Flex, Inc. Macro, Microchip or Earthstone Chip Blend.
   c. Broadcast: Dur-A-Flex, Inc. Dur-A-Glaze #4, epoxy based two-component resin.
   d. Seal coats: Dur-A-Flex, Inc Dur-A-Glaze #4, epoxy-based, two-component resin.
   e. Top coat: Dur-A-Flex, Inc. Armor Top aliphatic urethane 2 component resin with grit.

2. Finish - Orange Peel Finish

3. Patch Materials
   a. Shallow Fill and Patching: Use Dur-A-Flex, Inc. Poly-Crete MD (up to ¼ inch).
   b. Deep Fill and Sloping Material (over ¼ inch): Use Dur-A-Flex, Inc. Poly-Crete WR.

2.02 MANUFACTURER

A. Basis of Design: Dur-A-Flex, Inc., 95 Goodwin Street, East Hartford, CT 06108, Phone: (860) 528-9838, Fax: (860) 528-2802
B. Architect Approved Equal.

2.03 PRODUCT REQUIREMENTS

A. Topping	Poly-Crete SL
1. Percent Reactive	100 %
2. VOC	0 g/L
3. Bond Strength to Concrete ASTM D 4541	400 psi, substrates fails
4. Compressive Strength, ASTM C 579	9,000 psi
5. Tensile Strength, ASTM D 638	2,175 psi
6. Flexural Strength, ASTM D 790	5,076 psi
7. Impact Resistance @ 125 mils, MIL D-3134, No visible damage or deterioration	160 inch lbs
B. Broadcast Coat	Dur-A-Glaze #4 Resin
1. Percent Reactive,	100 %
2. VOC	<4 g/L
3. Water Absorption, ASTM D 570	0.04%
4. Tensile Strength, ASTM D 638	4000psi
5. Coefficient of thermal expansion ASTM D 696,	2 x 10^{-5} in/in/F
6. Flammability ASTM D-635	Self-Extinguishing
7. Flame Spread/ NFPA 101 ASTM E-84	Class A

C. Topcoat — Armor Top

1.	VOC		0 g/L
2.	60 Degree Gloss ASTM D523		75+/-5
3.	Mixed Viscosity, (Brookfield 25°C)		500 cps
4.	Tensile strength, ASTM D 638		7,000 psi
5.	Abrasion Resistance, ASTM D4060	Gloss	Satin
	CS 17 wheel (1,000 g load) 1,000 cycles	4	8 mg loss with grit
		10	12 mg loss without grit
6.	Pot life @ 70° F 50% RH		2 hours
7.	Dry properties, 70°F, 50% R.H.		8 hours tack free, 12 hours Dry
	60°F, 30% RH		12 hours tack free, 18 hours Dry
	80°F, 70%RH		4 hours tack free, 6 hours Dry
8.	Flash Point PMCC		186°F
9.	Full Chemical resistance		7 days

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.

1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

3.02 PREPARATION

A. General

1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae growth, laitance, friable matter, dirt, and bituminous products.
2. Moisture Testing: Perform tests recommended by manufacturer and as follows.

. a. Perform anhydrous calcium chloride test ASTM F 1869-98. Application will proceed only when the vapor/moisture emission rates from the slab is less than and not higher than 20 lbs/1,000 sf/24 hrs.
   b. Perform relative humidity test using is situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 99% relative humidity level measurement.
   c. If the vapor drive exceeds 99% relative humidity or 20 lbs/1,000 sf/24 hrs then the Owner and/or Engineer shall be notified and advised of additional cost for the possible installation of a vapor mitigation system that has been approved by the manufacturer or other means to lower the value to the acceptable limit.
3. Mechanical surface preparation
   a. Shot blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 4-5 as described by the International Concrete Repair Institute.
   b. Floor areas inaccessible to the mobile blast machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
   c. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/4 inch key cut shall be made to properly seat the system, providing a

smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.

d. Cracks and joints (non-moving) greater than 1/8 inch wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.

4. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufactures recommendations.

3.03 APPLICATION

A. General

1. The system shall be applied in five distinct steps as listed below:
   a. Substrate preparation
   b. Topping/overlay application with chip broadcast.
   c. Resin application with chip broadcast.
   d. Topcoat application
   e. Second topcoat application.
2. Immediately prior to the application of any component of the system, the surface shall be dry and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil-free compressed air.
3. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
4. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Architect.
5. A neat finish with well-defined boundaries and straight edges shall be provided by the applicator.

B. Topping

1. The topping shall be applied as a self-leveling system as specified by the Architect. The topping shall be applied in one lift with a nominal thickness of 1/8 inch.
2. The topping shall be comprised of three components, a resin, hardener and filler as supplied by the Manufacturer.
3. The hardener shall be added to the resin and thoroughly dispersed by suitably approved mechanical means. SL Aggregate shall then be added to the catalyzed mixture and mixed in a manner to achieve a homogenous blend.
4. The topping shall be applied over horizontal surfaces using ½ inch "v" notched squeegee, trowels or other systems approved by the Manufacturer.
5. Immediately upon placing, the topping shall be degassed with a loop roller.
6. Chip aggregate shall be broadcast to excess into the wet resin, Macro chip at the rate of 0.1 lbs/sf and Micro chip at the rate of 0.15 lbs/sf.
7. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose chips.

C. Broadcast

1. The broadcast coat resin shall be applied at the rate of 100 sf/gal.
2. The broadcast coat shall be comprised of liquid components, combined at a ratio of 2 parts resin to 1 part hardener by volume and shall be thoroughly blended by mechanical means such as a high speed paddle mixer.
3. Chip aggregate shall be broadcast into the wet resin, Macro chips at the rate of 0.1 lbs/sf, Micro chips at the rate of 0.15 lbs/sf.
4. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose chips.

D. Topcoat

1. The first topcoat shall be squeegee applied with a coverage rate of 100 sf/gal.
2. The topcoat shall be comprised of liquid components, combined at a ratio of 2 parts resin to 1 part hardener by volume and shall be thoroughly blended by mechanical means such as a high speed paddle mixer.

3. The first topcoat will be back rolled and cross rolled to provide a uniform texture and finish

2. The second topcoat with grit shall be roller applier with a coverage rate of 500 sf/gal.
3. The finish floor will have a nominal thickness of 3/16 inch.

3.04 FIELD QUALITY CONTROL

A. Tests, Inspection
   1. The following tests shall be conducted by the Applicator:
      a. Temperature
         1. Air, substrate temperatures and, if applicable, dew point.
      b. Coverage Rates
         1. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.05 CLEANING AND PROTECTION

A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.
B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

END OF SECTION 096723

SECTION 099113 – EXTERIOR PAINTING

PART 1 - GENERAL

1.01 SECTION INCLUDES: (See Paint Schedule and finish designations)

A. Painting interior

B. Natural finish of wood

1.02 RELATED SECTIONS: (including but not limited to)

A. Section 03300, Cast-In-Place Concrete

B. Section 04200, Unit Masonry

C. Section 05120, Structural Steel

D. Section 05505, Miscellaneous Structural Fabrication

E. Section 09260, Gypsum Board Assemblies

1.03 DEFINITIONS

A. "Paint or Painting" as used in this specification, are in a general sense and include: Sealers, primers, stains; oil, alkyd, latex, epoxy, and enamel type paints; lacquers; fillers; and the application of these materials.

1.04 PRODUCT SUBMITTALS

A. Product Data: Listing of proposed products matched to specified products. Cut sheet for each product indicating generic formulation, sheen, ingredients, percentage by volume, and breakdown of pigment versus vehicle.
B. Samples: Full range of custom mixed color chips for selection.

1.05 CONTRACT CLOSEOUT SUBMITTALS

A. Coating Maintenance Manual: Upon conclusion of the project, the Contractor or paint manufacturer/supplier shall furnish a coating maintenance manual, such as Sherwin-Williams “Custodian Project Color and Product Information” report or equal. Manual shall include an Area Summary with finish schedule, Area Detail designating where each product/color/finish was used, product data pages, Material Safety Data Sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.06 PACKING AND DELIVERY

A. Delivery: Unopened containers with manufacturer's labels indicating type of paint, stock number, color number and instructions.

1.07 STORAGE AND PROTECTION

A. Storage: Do not store volatiles, thinners, and solvents (including rags and tool cleaning pails) within the building.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Temperature:

1 . Interior: Constant 65 degrees F. or above. Prevent wide variations in temperature which might result in condensation.
2. Exterior: Do not paint materials when temperature is below 50 degrees F.

B. Avoid painting any surfaces while they are exposed to hot sun.

C. Provide proper conditions of ventilation and light; use artificial light in quantity equivalent to normal occupancy lighting.

PART 2 - PRODUCTS

2.01 PAINT AND FINISHES

A. Manufacturer:

1. Pratt & Lambert, Inc.
2. PPG Industries
3. M.A. Bruder & Sons, Inc.
4. Sherwin Williams (Product #s specified)
5. ICI Glidden
6. Benjamin Moore Paint Co.
7. Duron Paints & Wallcoverings

B. Specific products are indicated in painting schedule included at the end of this Section. These products establish a standard of quality. Others may be required to substantiate properties and qualities.

C. Ready-mixed; well ground, not settle badly, cake or thicken in the container, readily broken up with a paddle to a smooth consistency; and having easy brushing properties; Lead free.

D. Colors: Standard colors.

1. Eight (8) eggshell colors for walls throughout.
2. Four (4) semi-gloss colors for closet shelving.

PART 3 - EXECUTION

3.01 PREPARATION

A. Inspection and Surfaces:

1. Carefully examine executed work of other trades which might affect this Work.
2. Commencement of priming of surfaces constitutes acceptance by Contractor that surface meets finish and manufacturers requirements.

B. Protect materials and equipment from damage by painting and finishing.

1. Tape, mask, cover and/or coat adjacent materials, areas, surfaces, and equipment not to receive finishes noted in this Section. Specifically protect wood floors and natural unfinished wood.
2. Before painting, remove hardware, accessories, plates and similar items or provide ample protection of such items.
3. Remove doors, if necessary, to paint bottom edge.
4. Use only skilled mechanics for removing and replacing such items. Upon completion of each space replace above items.

C. General Preparation of Surfaces:

1. Prepare all surfaces in accordance with manufacturer's recommendations for product being used.
2. Surfaces: Clean; dry; free of moisture and dampness; smooth, even, true to plane; and free of material which will adversely affect adhesion or appearance of applied coating.

3.02 PREPARATION- WOOD SURFACES TO BE PAINTED OR FINISHED

A. Dry, clean, and free from oil, grease, wax, loose dirt or other foreign matter.

B. Sand surfaces smooth and even, and then dust off before applying the first coat.

C. Coat knots, sap streaks, and pitch spots with recommended sealer.

D. Fill nail holes, cracks, and imperfections.

1. Paint Finish: Use wood putty
2. Natural or Stain Finish: Use plastic wood filler (match for species and finish color).

E. Apply paste wood filler on open grain wood. Wipe across the grain; then with a circular motion to secure a smooth, filled, clean surface with filler remaining in open grain only. After overnight dry, sand surface until smooth.

3.03 PREPARATION- METAL SURFACES TO BE PAINTED

A. Thoroughly clean metal surfaces where rust or scale is present, by the use of wire brushing and/or abrasive paper.

B. Wash surfaces with mineral spirits to remove any grease, oil or dirt.

C. Touch-up all shop primed or coated surfaces chipped or abraded, using shop coat material specified. Feather edges of damaged shop coat to achieve smooth finish. Comply with metal preparation as indicated by the manufacturer of the coating.

3.04 PREPARATION- MASONRY SURFACES

A. Masonry Surfaces: Allow to cure at least thirty (30) days before painting. Before apply the first coat of paint, fill all joints and point up all holes, Correct any imperfections. Remove all mortar or plaster droppings and any other foreign matter. Brush surfaces with a stiff bristle or wire brush.

B. Neutralize free lime with a solution acceptable to the manufacturers of the paint which is to be applied.

3.05 PREPARATION- CONCRETE SURFACES

A. Patch openings, voids, holes, cracks, and irregularities with Portland Cement mortar and finish flush with adjacent surfaces.

B. Remove contaminants, oil, scum, grease, and the like.

C. Remove all loose, powdery or dusting surface faitance mechanically (scarification).

D. Remove form oil from concrete as recommended by paint manufacturer for proper adhesion.

E. Allow surfaces to dry completely, usually 60 to 90 days of moderate, weather, before painting.

3.06 PREPARATION- GYPSUM BOARD SURFACES

A. Fill all minor irregularities with spackling compound and sand to smooth, level surfaces. Exercise care to avoid raising nap of paper.

B. Allow to cure at least 1 5 days before painting.

C. Do not use sandpaper on paper surfaces to be painted.

D. Do not apply paint or sealer when moisture content exceeds that required by paint manufacturer.

3.07 APPLICATION OF PAINTS

A. General Requirements: Comply with manufacturer's instructions including environmental conditions, temperatures, pot life, drying and recoating times. Utilize tools and equipment recommended for products.

1. Do not apply coating until moisture content of surface is within limitations recommended by the paint manufacturer. Test with moisture meter. Submit results to Architect at close of each day.
2. Apply paint, enamel, stains and varnishes with suitable brushes, rollers or spray equipment which have been kept clean, free from contamination and suitable for finish required.
3. Rate of application of coating shall not exceed that as recommended by the paint manufacturer for the purpose of surface involved.
4. Sand and dust between each coat to remove visible defects and blemishes.

B. Coverage:

1. Apply not less than 2 separate and distinct coats of finish on all exposed Work throughout.
2. Apply to shop or factory primed surfaces not less than 1 finish coat; in addition to the prime coat.
3. Apply additional coats should there be a deficiency in coverage.
4. Apply additional coats over entire surface until paint film is of uniform finish, color appearance and coverage, specifically when previous color, stain, dirt, spackle, patching or undercoats show through final coats.
5. If problems arise in connection with application of paint, stop painting area immediately and contact paint manufacturer for recommendation.

C. Methods of Application:

1. Brush Application: Brush each coat out uniformly to eliminate laps, skips and excess brush marks. Brush apply field coats on metals, and trim.
2. Roller Application: Use proper skill to avoid signs of lapping and excess paint lines from edge of roller. When cutting in with a brush is required, these areas must be of same texture, color and hiding as adjacent areas, to ensure good appearance.
3. Spray Application: Absolute masking and protective measures shall be taken to avoid damage to other finish materials. Manufacturer's recommendations for dry mil thickness are minimums and square feet per gallon shall not be exceeded. Paints shall not be diluted for purpose of spraying.

D. Drying:

1. Do not apply any type finish until the preceding coats are thoroughly dry and hard.
2. Interior Paint: Allow to dry at least 24 hours between coats.
3. Exterior Paint: Allow to dry at least 48 hours between coats.

E. Appearance: (As visible from 3 feet)

1. Smooth and even; free from runs, sags, skips, streaks and holidays.
2. No variation in sheen or color within continuous surfaces.
3. No clogging of lines and angles of shapes and details.
4. Edges (adjoining other materials or other colors): Paint sharp and clean without overlapping.
5. Coats: Proper consistency and well spread so as to show no laps and brush marks.

3.08 REPAIR AND CORRECTION

A. Repair damage (resulting from painting) done to the Work of others and existing Work.

B. Correct Work damage caused by drafty, dusty conditions or cold, to complete satisfaction, without additional cost.

C. Refinish entire surface where portion of finish has been damaged or is not acceptable.

D. No claims will be allowed for correction of defective Work caused by failure to adequately prepare substrates and abide by manufacturers recommendations.

3.09 CLEANING

A. Touch-up and restore where finish is damaged.

B. Remove spilled, splashed or splattered paint from all surfaces.

C. Do not mar surface finish of item being cleaned.

D. Leave storage spaces clean and in condition required for equivalent spaces in project. Leave premises clean and free from all rubbish and accumulated material left from this Work.

3.10 SCHEDULE - EXTERIOR SURFACES (NORMAL EXPOSURE)

A. MASONRY - (Walls & Ceilings, Concrete, Cement Board)

1. Latex Systems:

a. Semi-Gloss Finish:
1st Coat: S-W Loxon Concrete & Masonry Primer LX02 Series (2.1 mils wet, 3.2 mils dry)
2nd Coat: S-W Resilience Exterior K43 Series
3rd Coat: S-W Resilience Exterior K43 Series (4.0 mils wet, 1.6 mils dry per coat.)

B. MASONRY - (CMU - Concrete or Concrete Masonry Units)

1. Latex Systems:

a. Semi-Gloss Finish:
1st Coat: S-W Loxon Block Surfacer LX01 Series (16.0 mils wet, 8.8 dry)
2nd Coat: S-W Resilience Exterior K43 Series
3rd Coat: S-W Resilience Exterior K43 Series (4 mils wet, 1.6 mils dry per coat.)

b. Flat Finish:
1st Coat: S-W W Loxon Block Surfacer LX01 Series (16.0 mils wet, 8.8 dry)
2nd Coat: S-W Resilience Exterior K42 Series
3rd Coat: S-W Resilience Exterior K42 Series (4.0 mils wet, 1.6 dry)

C. CONCRETE - (Floors)

1. Epoxy System:

a. Gloss Finish:
1st Coat: ArmorSeal 1000HS B67-2000 Series (reduced 1 pt/gal with R7K54)

2nd Coat: S-W ArmorSeal 1000HS B67-2000 Series
3rd Coat: S-W ArmorSeal 1000HS B67-2000 Series
(5-8 mils wet, 3-5 mils dry per coat) Add anti-slip aggregate if required.

D. METAL - (Aluminum)

1. Latex Systems:

a. Semi-Gloss Finish:
1st Coat: Pro Industrial Pro-Cryl Universal Primer B66-310 Series @ 2.0-4.0 mils dry
2nd Coat: S-W Pro Industrial Acrylic Semi-Gloss B66-650 Series
3rd Coat: S-W Pro Industrial Acrylic Semi-Gloss B66-650 Series
(4-12 mils wet, 2.5-4 mils dry per coat)

E. METAL - (Galvanized)

1. Latex Systems:

a. Semi-Gloss Finish:
1st Coat: S-WPro Industrial Pro-Cryl Universal Primer B66-310 Series @ 2.0-4.0 mils dry
2nd Coat: S-W Pro Industrial Acrylic Semi-Gloss B66-650 Series
3rd Coat: S-W Pro Industrial Acrylic Semi-Gloss B66-650 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

b. Eg-Shel Finish:
1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer B66-310 Series @ 2.0-4.0 mils dry
2nd Coat: S-W Pro Industrial Acrylic Eg-Shel B66-660 Series
3rd Coat: S-W Pro Industrial Acrylic Eg-Shel B66-660 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

Note: This finish product is self-priming on aluminum and galvanized surfaces. If primer is desired use:

F. METAL - Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous & Ornamental Iron, Sashes, Doors, Partitions, Cabinets, Lockers, Fixtures, Equipment, Copper, Non-Galvanized Metal

1. Latex Systems:

a. Gloss Finish:
1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer B66-310 Series
(5-10 mils wet, -4 mils dry)
2nd Coat: S-W Pro Industrial Acrylic Gloss B66-610 Series
3rd Coat: S-WPro Industrial Acrylic Gloss B66-610 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

b. Semi-Gloss Finish:
1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer B66-310 Series (5-10 mils wet, 2-4 mils dry)
2nd Coat: S-W Pro Industrial Acrylic Semi-Gloss B66-650 Series

3rd Coat: S-W Pro Industrial Acrylic Semi-Gloss B66-650 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

c. Eg-Shel Finish:
1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer B66-310 Series
(5-10 mils wet, 2-4 mils dry)
2nd Coat: S-W Pro Industrial Acrylic Eg-Shel B66-660 Series
3rd Coat: S-W Pro Industrial Acrylic Eg-Shel B66-660 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

G. WOOD - Walls, Ceilings, Doors, Trim, Cabinet Work, Counters, Partitions, Frames Including Sitka Spruce, Southern Pine, Douglas Fir, Cedar, Redwood, Lauan)

1. Latex Systems:

a. Gloss Finish:
1st Coat: S-W Premium Wall & Wood Primer, B28W08111
(4 mils wet, 1.8 mils dry)
2nd Coat: Pro Industrial Acrylic Gloss B66-610 Series
3rd Coat: Pro Industrial Acrylic Gloss B66-610 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

b. Semi-Gloss Finish:
1st Coat: Premium Wall & Wood Primer, B28W08111
(4 mils wet, 1.8 mils dry)
2nd Coat: S-W Pro Industrial Acrylic Semi-Gloss B66-650 Series
3rd Coat: S-W Pro Industrial Acrylic Semi-Gloss B66-650 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

c. Eg-Shell Finish:
1st Coat: Premium Wall & Wood Primer, B28W08111
(4 mils wet, 1.8 mils dry0
2nd Coat: S-W Pro Industrial Acrylic Eg-Shel B66-660 Series
3rd Coat: S-W Pro Industrial Acrylic Eg-Shel B66-660 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

2. Stained & Varnished (Clear Finish)

a. Open Grained Wood:
1st Coat: S-W Woodscapes Exterior Polyurethane Semi Transparent Stain A15 Series
2nd Coat: S-W SHERWOOD Natural Filler, D7OTI<
Delete – No longer used.

b. Closed Grain Wood:
1st Coat: S-W Woodscapes Exterior Stain A15 Series
2nd Coat: S-W Wood Classics Waterborne Polyurethane Varnish Gloss A67 Series
3rd Coat: S-W Wood Classics Waterborne Polyurethane Varnish Gloss or Satin A67 Series (4 mils wet, 1.7 mils dry per coat)

H. DRYWALL - (Walls, Ceilings, Gypsum Board, Etc.)

1. Latex Systems:

a. Gloss Finish:
1st Coat: S-W ProMar 200 Zero VOC Latex Primer (4 mils wet, 1.0 mils dry)
2nd Coat: Pro Industrial Acrylic Gloss B66-610 Series
3rd Coat: Pro Industrial Acrylic Gloss B66-610 Series
(6-12 mils wet, 2.5-4 mils dry per coat)

b. Semi-Gloss Finish:
1st Coat: S-W ProMar 200 Zero VOC Latex Primer
(4 mils wet, 1.0 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss B30-2600 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss B30-2600 Series (4 mils wet, 1.6 mils dry per coat.)

c. Eg-Shell Finish:
1st Coat: S-W ProMar 200 Zero VOC Latex Primer
(4 mils wet, 1.0 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel B20-2600 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel B20-2600 Series (4 mils wet, 1.7 mils dry per coat)

d. Flat Finish:
1st Coat: S-W ProMar 200 Zero VOC Latex Primer
(4 mils wet, 1.0 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Flat Wall B3OW2600 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Flat Wall B3OW2600 Series (4 mils wet, 1.6 mils dry)

END OF SECTION 099113

SECTION 099123 – INTERIOR PAINTING

PART 1 - GENERAL

1.01 SECTION INCLUDES: (See Paint Schedule and finish designations)

A. Interior painting where required at disturbed finishes, to match existing.

1.02 DEFINITIONS

A. "Paint or Painting" as used in this specification, are in a general sense and include: Sealers, primers, stains; oil, alkyd, latex, epoxy, and enamel type paints; lacquers; fillers; and the application of these materials.

1.03 PRODUCT SUBMITTALS

A. Product Data: Listing of proposed products matched to specified products. Cut sheet for each product indicating generic formulation, sheen, ingredients, percentage by volume, and breakdown of pigment versus vehicle.

B. Samples: Full range of custom mixed color chips for selection.

1.04 CONTRACT CLOSEOUT SUBMITTALS

A. Maintenance Materials: Turn over to Owner upon completion; one gallon of each type and color of finish. Include color pigmentation formulation.

1.05 PACKING AND DELIVERY

A. Delivery: Unopened containers with manufacturer's labels indicating type of paint, stock number, color number and instructions.

1.06 STORAGE AND PROTECTION

A. Storage: Do not store volatiles, thinners, and solvents (including rags and tool cleaning pails) within the building.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Temperature:

1. Interior: Constant 65 degrees F. or above. Prevent wide variations in temperature which might result in condensation.

B. Avoid painting any surfaces while they are exposed to hot sun.

C. Provide proper conditions of ventilation and light; use artificial light in quantity equivalent to normal occupancy lighting.

PART 2 - PRODUCTS

2.01 PAINT AND FINISHES

A. Manufacturer:
Benjamin Moore Paint Co. (Product #s specified on Drawings)
Sherwin Williams (Product #s specified in Specification)
Pratt & Lambert, Inc.
ICI Glidden
M.A. Bruder & Sons, Inc.
Duron Paints & Wallcoverings
PPG Industries

B. Specific products are indicated in painting schedule included at the end of this Section. These products establish a standard of quality. Others may be required to substantiate properties and qualities.

C. Ready-mixed; well ground, not settle badly, cake or thicken in the container, readily broken up with a paddle to a smooth consistency; and having easy brushing properties; Lead free.

D. Colors: Standard colors.

1. Refer to Pain Schedule or Colors selected by owner following bid

PART 3 - EXECUTION

3.01 PREPARATION

A. Inspection and Surfaces:

1. Carefully examine executed work of other trades which might affect this work.

B. Protect materials and equipment from damage by painting and finishing.

1. Tape, mask, cover and/or coat adjacent materials, areas, surfaces, and equipment not to receive finishes noted in this Section. Specifically protect wood floors and natural unfinished wood.
2. Before painting, remove hardware, accessories, plates and similar items or provide ample protection of such items.

3. Remove doors, if necessary, to paint bottom edge.

4. Use only skilled mechanics for removing and replacing such items. Upon completion of each space, replace above items.

C. General Preparation of Surfaces:

1. Prepare all surfaces in accordance with manufacturer's recommendations for product being used.

2. Surfaces: Clean; dry; free of moisture and dampness; smooth, even, true to plane; and free of material which will adversely affect adhesion or appearance of applied coating.

3.02 PREPARATION- WOOD SURFACES TO BE PAINTED OR FINISHED

A. Dry, clean, and free from oil, grease, wax, loose dirt or other foreign matter.

B. Sand surfaces smooth and even, and then dust off before applying the first coat.

C. Coat knots, sap streaks, and pitch spots with recommended sealer.

D. Fill nail holes, cracks, and imperfections.

1. Paint Finish: Use wood putty.

2. Natural or Stain Finish: Use plastic wood filler (match for specie and finish color).

E. Apply paste wood filler on open grain wood. Wipe across the grain; then with a circular motion to secure a smooth, filled, clean surface with filler remaining in open grain only. After overnight dry, sand surface until smooth.

3.03 PREPARATION- METAL SURFACES TO BE PAINTED

A. Thoroughly clean metal surfaces where rust or scale is present, by the use of wire brushing and/or abrasive paper.

B. Wash surfaces with mineral spirits to remove any grease, oil or dirt.

C. Touch-up all shop primed or coated surfaces chipped or abraded, using shop coat material specified. Feather edges of damaged shop coat to achieve smooth finish. Comply with metal preparation as indicated by the manufacturer of the coating.

3.04 PREPARATION- MASONRY SURFACES

A. Masonry Surfaces: Allow to cure at least thirty (30) days before painting. Before apply the first coat of paint, fill all joints and point up all holes, Correct any imperfections. Remove all mortar or plaster droppings and any other foreign matter. Brush surfaces with a stiff bristle or wire brush.

B. Neutralize free lime with a solution acceptable to the manufacturers of the paint which is to be applied.

3.05 PREPARATION - CONCRETE SURFACES

A. Patch openings, voids, holes, cracks, and irregularities with Portland Cement mortar and finish flush with adjacent surfaces.

B. Remove contaminants, oil, scum, grease, and the like.

C. Remove all loose, powdery or dusting surface faitance mechanically (scarification).

D. Remove form oil from concrete as recommended by paint manufacturer for proper adhesion.

E. Allow surfaces to dry completely, usually 60 to 90 days of moderate, weather, before painting.

3.06 PREPARATION- GYPSUM BOARD SURFACES

A. Fill all minor irregularities with spackling compound and sand to smooth, level surfaces. Exercise care to avoid raising nap of paper.

B. Allow to cure at least 1 5 days before painting.

C. Do not use sandpaper on paper surfaces to be painted.

D. Do not apply paint or sealer when moisture content exceeds that required by paint manufacturer.

3.07 PREPARATION – TECTUM PANELS

A. Surface must be clean, dry and in sound condition.

B. Remove all oil, dirt, grease and other foreign material to ensure adequate adhesion.

3.08 APPLICATION OF PAINTS

A. General Requirements: Comply with manufacturer's instructions including environmental conditions, temperatures, pot life, drying and recoating times. Utilize tools and equipment recommended for products.

1. Do not apply coating until moisture content of surface is within limitations recommended by the paint manufacturer. Test with moisture meter.

2. Apply paint, enamel, stains and varnishes with suitable brushes, rollers or spray equipment which have been kept clean, free from contamination and suitable for finish required.

3. Rate of application of coating shall not exceed that as recommended by the paint manufacturer for the purpose of surface involved.

4. Sand and dust between each coat to remove visible defects and blemishes.

B. Coverage:

1. Apply not less than 2 separate and distinct coats of finish on all exposed Work throughout.
2. Apply to shop or factory primed surfaces not less than 1 finish coat; in addition to the prime coat.

3. Apply additional coats should there be a deficiency in coverage.

4. Apply additional coats over entire surface until paint film is of uniform finish, color appearance and coverage, specifically when previous color, stain, dirt, spackle, patching or undercoats show through final coats.

5. If problems arise in connection with application of paint, stop painting area immediately and contact paint manufacturer for recommendation.

C. Methods of Application:

1. Brush Application: Brush each coat out uniformly to eliminate laps, skips and excess brush marks. Brush apply field coats on metals, and trim.

2. Roller Application: Use proper skill to avoid signs of lapping and excess paint lines from edge of roller. When cutting in with a brush is required, these areas must be of same texture, color and hiding as adjacent areas, to ensure good appearance.

3. Spray Application: Absolute masking and protective measures shall be taken to avoid damage to other finish materials. Manufacturer's recommendations for dry mil thickness are minimums and square feet per gallon shall not be exceeded. Paints shall not be diluted for purpose of spraying.

D. Drying:

1. Do not apply any type finish until the preceding coats are thoroughly dry and hard.
2. Interior Paint: Allow to dry at least 24 hours between coats.
3. Exterior Paint: Allow to dry at least 48 hours between coats.

E. Appearance: (As visible from 3 feet)

1. Smooth and even; free from runs, sags, skips, streaks and holidays.
2. No variation in sheen or color within continuous surfaces.
3. No clogging of lines and angles of shapes and details.
4. Edges (adjoining other materials or other colors): Paint sharp and clean without overlapping.
5. Coats: Proper consistency and well spread so as to show no laps and brush marks.

3.09 REPAIR AND CORRECTION

A. Repair damage (resulting from painting) done to the Work of others and existing Work.

B. Correct Work damage caused by drafty, dusty conditions or cold, to complete satisfaction, without additional cost.

C. Refinish entire surface where portion of finish has been damaged or is not acceptable.

D. No claims will be allowed for correction of defective Work caused by failure to adequately prepare substrates and abide by manufacturers recommendations.

3.10 CLEANING

A. Touch-up and restore where finish is damaged.

B. Remove spilled, splashed or splattered paint from all surfaces.

C. Do not mar surface finish of item being cleaned.

D. Leave storage spaces clean and in condition required for equivalent spaces in project. Leave premises clean and free from all rubbish and accumulated material left from this Work.

PART 4 - SCHEDULE - INTERIOR SURFACES (NORMAL EXPOSURE)

4.01 SCHEDULE

A. MASONRY - (Walls & Ceilings, Concrete, Cement Board)

1. Latex Systems:

a. Semi-Gloss Finish:

1st Coat: S-W Loxon Concrete & Masonry Primer A24W08300 (5.3 wet, 2.1 dry)

2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss Enamel, B31W02651
3rd Coat: S-W ProMar 200 Zero VOCLatex Semi-Gloss Enamel, B3lW02651
(4 mils wet, 1.5 mils dry per coat)

B. MASONRY - (CMU - Concrete or Cinder Block)

1. Latex Systems:

a. Semi-Gloss Finish:

1st Coat: S-W ProMar Interior/Exterior Block Filler B25W00035
(75-125 sq.ft./gal.)
2nd Coat: S-W ProMar Zero VOC 200 Latex Semi-Gloss B3lW02651 Series
3rd Coat: S-W ProMar 200 Zero VOCLatex Semi-Gloss B31W02651 Series
(4 mils wet, 1.5 mils dry per coat)

b. Flat Finish:

1st Coat: S-W ProMar Interior/Exterior Block Filler B25W00035
(75-125 sq.ft./gal.)
2nd Coat: S-W ProMar 200 Zero VOCLatex Flat Wall Paint B3OW12650
3rd Coat: S-W ProMar 200 Zero VOCLatex Flat Wall Paint B3OW12650
(4 mils wet, 1.4 mils dry per coat)

C. CONCRETE - (Floors)

1. Alkyd Systems:

a. Gloss Finish:

1st Coat: S-W Industrial Enamel, B54Z Series
2nd Coat: S-W Industrial Enamel, B54Z Series
(4 mils wet, 2 mils dry per coat)

D. METAL - (Aluminum)

1. Latex Systems:

a. Semi-Gloss Finish:

1st Coat: S-W Pro Industrial Pro Cryl Universal Primer B66-1310 (5.0 wet, 2.0 dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss B31W02651 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss B31W02651 Series
(4 mils wet, 1.5 mils dry per coat)

E. METAL - (Galvanized)

1. Latex Systems:

a. Semi-Gloss Finish:

1st Coat: S-W Pro Industrial Pro Cryl Universal Primer B66-1310 (5.0 wet, 2.0 dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss B31W02651 Series
2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss B3lW02651 Series
(4 mils wet, 1.3 mils dry per coat)

b. Flat Finish:

1st Coat: S-W ProMar 200 Zero VOC Latex Flat Wall Paint, B3OW12650
2nd Coat: S-W ProMar 200 Zero VOC Latex Flat Wall Paint, B3OW12650
(4 mils wet, 1.4 mils dry per coat)

F. METAL - Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous & Ornamental Iron, Sashes, Doors, Partitions, Cabinets, Lockers, Fixtures, Equipment, Copper, Non-Galvanized Metal

1. Latex Systems:

a. Gloss Finish:

1st Coat: 1st Coat: S-W Pro Industrial Pro Cryl Universal Primer B66-1310 (5.0 wet, 2.0 dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Gloss, B2lW12651 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Gloss, B2lW12651 Series
(4 mils wet, 2 mils dry per coat)

b. Semi-Gloss Finish:

1st Coat: 1st Coat: S-W Pro Industrial Pro Cryl Universal Primer B66-1310 (5.0 wet, 2.0 dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss B3lW12651 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss B3lW12651 Series
(4 mils wet, 1.3 mils dry per coat)

c. Flat Finish:

1st Coat: 1st Coat: S-W Pro Industrial Pro Cryl Universal Primer B66-1310 (5.0 wet, 2.0 dry)
2nd Coat: S-W ProMar 200Zero VOC Latex Flat Wall Paint, B3OW12651
3rd Coat: S-W ProMar 200 Latex Flat Wall Paint, B3OW12651
(4 mils wet, 1.4 mils dry)

G. WOOD - Walls, Ceilings, Doors, Trim, Cabinet Work, Counters, Partitions, Frames Including Sitka Spruce, Southern Pine, Douglas Fir, Cedar, Redwood, Lauan)

1. Latex Systems:
a. Gloss Finish:

1st Coat: S-W Premium Wall & Wood Primer, B28W81111
(4 mils wet, 2 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Gloss, B2lW12651 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Gloss, B2lW12651 Series
(4 mils wet, 2 mils dry per coat)

b. Semi-Gloss Finish:

1st Coat: S-W Premium Wall & Wood Primer, B28W81111
(4 mils wet, 2 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31W02651 Series

3rd Coat: S-W ProMar 200 Zero VOCLatex Semi-Gloss, B3lW02651 Series
(4 mils wet, 1.5 mils dry per coat)

c. Egg-Shell Finish:

1st Coat: S-W Premium Wall & Wood Primer, B28W81111
(4 mils wet, 2 mils dry)
2nd Coat: S-W ProMar 200 Zero VOCLatex Egg-Shell, B2OW12651 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Egg-Shell, B2OW12651 Series
(4 mils wet, 1.5 mils dry per coat)

d. Flat Finish:

1st Coat: S-W Premium Wall & Wood Primer, B28W81111
(4 mils wet, 2 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Flat Wall Paint, B3OW12651
3rd Coat: S-W ProMar 200 Zero VOC Latex Flat Wall Paint, B3OW12651
(4 mils wet, 1.4 mils dry per coat)

2. Stained & Varnished (Clear Finish)

a. Open Grained Wood:

1st Coat: S-W Wood Classic 250 Stain A49 Series
2nd Coat: S-W SHERWOOD Natural Filler, D7OTl
3rd Coat: Minwax Fast Dry Oil Base Varnish, Gloss A66V00391
4th Coat: Minwax Fast Dry Oil Base Varnish, Gloss or Satin A66V00391 Series

b. Closed Grain Wood:

1st Coat: Minwax 250 Stain A49 Series
2nd Coat: Minwax Fast Dry Oil Base Varnish, Gloss A66V00391
3rd Coat: Minwax Fast Dry Oil Base Varnish, Gloss or Satin A66V00391 Series
(4 mils wet, 1.5 mils dry per coat)

H. WOOD - (Floors-Stained, Varnished)

1. Urethane System:

a. Gloss Finish:

1st Coat: S-W Oil Stain
2nd Coat: S-W Polyurethane Varnish, A67Vl/A67Fl
3rd Coat: S-W Polyurethane Varnish, A67Vl/A67Fl
(4 mils wet, 1.5 mils dry per coat)

I. DRYWALL - (Walls, Ceilings, Gypsum Board, Etc.)

1. Latex Systems:

a. Gloss Finish:

1st Coat: S-W ProMar 200 Latex Wall Primer, B28W02600
(4 mils wet, 1.2 mils dry)

2nd Coat: S-W ProMar 200 Zero VOC Latex Gloss, B2lW12651 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Gloss, B2lW12651 Series
(4 mils wet, 2 mils dry per coat)

b. Semi-Gloss Finish:

1st Coat: S-W ProMar 200 Latex Wall Primer, B28W02600
(4 mils wet, 1.2 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B3lW02651 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B3lW02651 Series
(4 mils wet, 1.3 mils dry per coat)

c. Egg-Shell Finish:

1st Coat: S-W ProMar 200 Latex Wall Primer, B28W02600
(4 mils wet, 1.2 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Egg-Shell, B2OW12651 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Egg-Shell, B2OW12651 Series
(4 mils wet, 1.6 mils dry per coat)

d. Flat Finish:

1st Coat: S-W ProMar 200 Latex Wall Primer B28W02600
(4 mils wet, 1.2 mils dry)
2nd Coat: S-W ProMar 200 Zero VOC Latex Flat Wall Paint, B3OW12651
3rd Coat: S-W ProMar 200 Zero VOC Latex Flat Wall Paint, B3OW12651
(4 mils wet, 1.4 mils dry per coat)

J. TECTUM PANEL FIELD PAINTING

1. Recommended: Sherwin Williams
Product: Waterborne Acrylic Dry Fall (B42W1) 50 Gal. Drums

2. Recommended Spread Rate per Coat

Wet Mils:	3.5 – 5.0
Dry Mils:	1.5 – 2.0
Coverage:	336 – 450 sq. ft./gallon approximate (based on flat surface)

*If necessary, cross spray at a right angle

3. Application Condition

Temperature:	50 deg. F minimum, 110 deg. F maximum (air, surface, and material) At least 5 deg. F above due point
Relative Humidity:	75% maximum
Dry Time:	20 minutes
Recoat:	1 hour

4. Application Equipment

The following is a guide. Changes in pressure and tip sizes may be needed for proper spray characteristics.

Airless Spray:

Pressure	2800
Hose	fb” ID
Tip	0.013”
Reduction	As needed up to 10% by volume

Conventional Spray:

Gun	Binks 95
Fluid Nozzle	63C
Air Nozzle	63PB
Atomization Pressure	60 psi
Fluid Pressure	50 psi
Reduction	As needed up to 20% by volume

END OF SECTION 099123

SECTION 099300 – STAINING AND TRANSPARENT FINISHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and application of wood stains and transparent finishes on the following substrates:

1. Interior Substrates:
   a. Dressed lumber (finish carpentry or woodwork).
   b. Wood-based panel products.

1.3 DEFINITIONS

A. MPI Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

C. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

D. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

E. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
2. Indicate VOC content.

B. Samples for Initial Selection: For each type of product.

C. Samples for Verification: For each type of finish system and in each color and gloss of finish required.

1. Submit Samples on representative samples of actual wood substrates, 8 inches square
2. Apply coats on Samples in steps to show each coat required for system.

3. Label each coat of each Sample.
4. Label each Sample for location and application area.

D. Product List: Cross-reference to finish system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

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

1. Stains and Transparent Finishes: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

A. Mockups: Apply mockups of each finish system indicated and each color selected to verify preliminary selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each type of finish system and substrate.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
b. Other Items: Architect will designate items or areas required.

2. Final approval of stain color selections will be based on mockups.

a. If preliminary stain color selections are not approved, apply additional mockups of additional stain colors selected by Architect at no added cost to Owner.

1.7 DELIVERY, STORAGE, AND HANDLING

A. 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.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

A. Apply finishes only when temperature of surfaces to be finished and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).

B. Do not apply finishes when relative humidity exceeds 85 percent, at temperatures less than 5 deg F (3 deg C) above the dew point, or to damp or wet surfaces.

C. Do not apply exterior finishes in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Products shall be selected to match the stain color and finish of the wood wall and ceiling panels.

2.2 MATERIALS, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Products shall comply with VOC limits for interior stains and finishes applied at project site, the following VOC limits, exclusive of colorants added to a tint base.

1. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.
2. Shellacs, Clear: VOC not more than 730 g/L.
3. Stains: VOC not more than 250 g/L.
4. Primers, Sealers, and Undercoaters: 200 g/L.

D. Low-Emitting Materials: Interior stains and finishes shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

E. Stain Colors: As selected by Architect from manufacturer's full range. Stain shall be selected to match the color of the wood wall and ceiling panels.

2.3 SOURCE QUALITY CONTROL

A. Testing of Materials: Owner or Owner’s agent reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample wood finishing materials. Contractor will be notified in advance and may be present when samples are taken. If materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying wood finishes if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying materials from Project site, pay for testing, and refinish surfaces finished with rejected materials. Contractor will be required to remove rejected materials from previously finished surfaces before refinishing with complying materials if the two finishes

are incompatible or produce results that, in the opinion of the Architect, are aesthetically unacceptable.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Interior Wood Substrates: 10 percent, when measured with an electronic moisture meter.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with finish application only after unsatisfactory conditions have been corrected.

1. Beginning finish application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and finishing.

1. After completing finishing operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean and prepare surfaces to be finished according to manufacturer's written instructions for each substrate condition and as specified.

1. Remove dust, dirt, oil, and grease by washing with a detergent solution; rinse thoroughly with clean water and allow to dry. Remove grade stamps and pencil marks by sanding lightly. Remove loose wood fibers by brushing.
2. Remove mildew by scrubbing with a commercial wash formulated for mildew removal and as recommended by stain manufacturer.

D. Interior Wood Substrates:

1. Scrape and clean knots and apply coat of knot sealer before applying primer.
2. Apply wood filler paste to open-grain woods, as defined in "MPI Architectural Painting Specification Manual," to produce smooth, glasslike finish.
3. Sand surfaces exposed to view and dust off.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dry.

3.3 APPLICATION

A. Apply finishes according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

1. Use applicators and techniques suited for finish and substrate indicated.
2. Finish surfaces behind movable equipment and furniture same as similar exposed surfaces.
3. Do not apply finishes over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

B. Apply finishes to produce surface films without cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other surface imperfections.

3.4 CLEANING AND PROTECTION

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

B. After completing finish application, clean spattered surfaces. Remove spattered materials by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from finish application. Correct damage by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced finished wood surfaces.

3.5 INTERIOR WOOD -FINISH-SYSTEM SCHEDULE

A. Wood Substrates: Wood trim, architectural woodwork, wood benches, and wood board paneling and custom wood casework.

1. Moisture-Cured Clear Polyurethane over Stain System, MPI INT 6.3Y:

a. Stain Coat: Stain, semitransparent, for interior wood, MPI #90. Stain to match wood wall & ceiling panels provided by Rulon
b. First Intermediate Coat: Moisture-cured polyurethane matching topcoat.
c. Second Intermediate Coat: Moisture-cured polyurethane matching topcoat.
d. Topcoat: Varnish, polyurethane, moisture cured, finish to match wood wall & ceiling panels provided by Rulon.

1) Sher-Wood® Kem Aqua® Plus Clear, medium rub finish

END OF SECTION 099300

SECTION 099600 – ELASTOMERIC COATINGS OVER CEMENT BOARD

PART 1 - GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials and equipment necessary to install the “PERM-FLEX JC” Coating Assembly from STUC-O-FLEX. The assembly consists of Elastomeric Joint Compound, Fiberglass Reinforcing Detail Mesh, Prime Seal and Stuc-O-Flex finish applied to cement board substrates.

B. Related work specified elsewhere:

1. Sealant section 07900.

C. Terms and Definitions:

1. ELASTOMERIC JOINT COMPOUND Acrylic polymer based material which functions as a water resistant bridging compound to flush, smooth and reinforce seams, butt joints and corners.

2. STUC-O-FLEX REINFORCING FIBERGLASS MESH Detail Mesh, 6" wide rolls of a balanced open weave fiberglass mesh specially treated for compatibility, as supplied by STUC-O-FLEX INTERNATIONAL (optional, except for inside and outside corners).

3. PRIME SEAL Acrylic based stain blocking primer, helps to protect substrate from moisture during the application of materials and provides for uniform substrate porosity which could discolor finish coat.

4. STUC-O-FLEX finish coat as manufactured by STUC-O-FLEX INTERNATIONAL, factory premixed, acrylic based, color integrated, textured finish for use with PERM-FLEX system. Numerous textures can be achieved using a variety of application methods. Spray or trowel applied - Sand finish, skip trowel, knock down, lace, etc. Provided in 20 standard colors. Special colors upon request, see STUC-O-FLEX standard color chart for details.

5. Water shall be clean and potable in clean containers without any residue or foreign materials.

6. Sealant system (CAULKING), Shall be of appropriate quality and design to prevent water intrusion behind the coatings. Consult manufacturers for specific details and specification.

7. Accessories, Casing & corner beads, trim pieces, expansion & control joints, etc., used in conjunction with design system as required by specific project conditions (by design professional).

1.02 QUALITY ASSURANCE

Optional but Encouraged - “WaterWay Rainscreen & Ventilation Mats” create space between your building and the elements. They also contribute to air circulation and ventilation when properly designed. Water drainage and increased air flow will enhance drying and in turn reduce the

potential damage resulting from water penetration. A Polymer core of fused, entangled filaments in varying thicknesses from a nominal ¼ inch to ¾ inch bonded to a moisture resistant filter fabric on the outer surface. http://www.stucoflex.com/rainscreen_drainage_mats.html

A. Applicator Requirements

1. Applicator shall be licensed, insured and competent to accurately install the products consistent with construction documents and specifications. Manufacturer is not responsible for application.

B. Approvals

1. The system shall be recognized for the intended use by applicable building codes.

C. Design Consideration

1. Deflection of the substrate system shall not exceed l/240.
2. Minimum slope shall be 4 : 12 pitch.
3. Expansion Joint Requirements:
   a. Where building or substrate expansion joints occur.
   b. At floor lines in wood frame construction.
   c. Where dissimilar substrates occur.
   d. Locations where the system abuts alternate building materials.
   e. As determined by design professional
4. Stuc-O-Flex coating material terminations to windows, doors, air conditioning units, electrical boxes, etc. shall provide adequate space for proper waterproof transition. Under no circumstances shall Stuc-O-Flex be responsible for integrity or design.
5. Stuc-O-Flex coatings shall terminate at a minimum 2” inches above grade.
6. Sealant system shall be compatible with Stuc-O-Flex and adjacent building product. Consult sealant manufacturers for recommendations.
7. All substrate sheathing systems should incorporate code compliant weather resistive barrier and a mechanism for water drainage.
8. Substrate systems shall have no surface irregularities greater than ¼ in 8 feet.

D. Framing (general guidelines)

1. Maximum spacing shall be 24" O.C. when using 1/4" cementitous substrate over nominal 1/2" sheathing or nominal 1/2" cementitous substrate over open framing.
2. Blocking shall be required in some cases to ensure all sheathing butt joints (edges) fall on a structural member preventing movement of substrate sheathing. (Substrate integrity is important to finial appearance of completed walls)

E. Substrate Sheathing (general guidelines)

1. Moisture content of sheathing shall not exceed 19% during installation and remain so throughout PERM-FLEX assembly application.
2. Install substrate sheathing with a 1 /32” to 1/16” gap between pieces to allow for expansion and contraction.
3. Sheathing butt joints shall be parallel and fastened to studs 6" O.C. with fasteners no closer than 3/8" from edge.

1.03 SUBMITTALS

A. Samples:

1. The applicator shall, before the project commences, provide the owner or architect, a sample of suitable size of each color and texture as specified for the project for purposes of obtaining approvals.
2. Each sample shall be prepared using the same tools and techniques as required for the actual application.
3. An approved sample shall be available and maintained at the job site.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver all material supplied by the manufacturer in original, unopened packages with legible manufacturer's identification and labels intact.

B. Store all products supplied by STUC-O-FLEX in a cool dry place, out of direct sunlight, protected from weather and other damage. In addition, the materials shall be stored in tightly sealed containers at a temperature of not less than 40ºF at all times.

1.05 JOB CONDITIONS

A. Weather and Environmental Conditions

1. Application of Stuc-O-Flex Coatings shall not take place during inclement weather unless appropriate protection is employed.
2. Stuc-O-Base Coat and Stuc-O-Flex Elastomeric Finish shall be protected against freezing temperatures, rain, or water splash for a period of at least 48 hours. The job should be tented and a heat source provided if there is a projected drop in the temperature below 40ºF during the first 24 hours after application of Base coat or Finish coat.

1.06 COORDINATION AND SCHEDULING

A. The work in this section requires close coordination with related sections and trades.

B. The tops of all walls must immediately be protected to prevent water infiltration behind the exterior wall assembly. The cap flashing should be installed immediately after the Finish coat has been cured.

C. Sealant and waterproofing materials shall be installed in a timely manner as to prevent water intrusion behind the Stuc-O-Flex coatings.

1.07 MAINTENANCE

A. Sealant and other components of the structure must be inspected periodically to confirm performance as originally installed. Corrections shall be made at once.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

All Stuc-O-Flex Coating products shall be obtained from STUC-O-FLEX INTERNATIONAL, INC., as manufacturer, or its authorized supplier or distributor. Contact:

Stuc-O-Flex International, Inc.
17639 NE 67th Court
Redmond, WA 98052
800-305-1045
info@stucoflex.com www.stucoflex.com

2.02 MATERIALS

A. ELASTOMERIC JOINT COMPOUND Acrylic polymer-based material which functions as a water resistant bridging compound to flush and smooth out uneven seams and butt joints.

B. STUC-O-FLEX REINFORCING FIBERGLASS MESH Detail Mesh, 6" wide rolls of a balanced open weave fiberglass mesh specially treated for compatibility, as supplied by STUC-O-FLEX INTERNATIONAL (optional, except for inside and outside corners).

C. PRIME SEAL Acrylic based stain blocking primer, protects substrate from moisture and prevents bleed through which would discolor finish coat.

D. STUC-O-FLEX finish coat as manufactured by STUC-O-FLEX INTERNATIONAL, factory premixed, acrylic based, color integrated, textured finish for use with PERM-FLEX system. Numerous textures can be achieved using a variety of application methods. Spray applied or hawk & trowel - Sand finish, skip trowel, knock down, lace, etc. Provided in 20 standard colors. Special colors upon request, see STUC-O-FLEX standard color chart for details.

E. Water shall be clean and potable in clean containers without any residue or foreign materials.

F. Sealant system (CAULKING), Shall be of appropriate quality and design to prevent water intrusion behind the coatings. Consult manufacturers for specific details and specification.

G. Accessories, Casing & corner beads, trim pieces, expansion & control joints, etc., used in conjunction with designated wall system as required by specific project conditions

2.03 PROPERTIES

The Stuc-O-Flex coatings comply with following test standards:

TEST	METHOD	RESULT
ELONGATION % (FINISH)		105 Percent
WATER VAPOR TRANSMISSION	ASTM-E96	14 GRAINS PER HOUR / SQ. FT. (AVERAGE)
SALT SPRAY RESISTANCE	B-117	300 HOURS NO DELETERIOUS EFFECTS
ACCELERATED WEATHERING	G-23-81	2000 HOURS NO DELETERIOUS EFFECTS
ABSORPTION FREEZE THAW	60 CYCLES	NO CRACKING, CHECKING
TENSILE BOND	ASTM C-297	127.9 PSI

WATER PENETRATION TEST	ASTM-E-331	NO WATER PENETRATION OCCURRED ON SUBSTRATE
WATER RESISTANCE TEST	ASTM D-2247	NO CRACKING, BLISTERING, PEELING OR COMPROMISE
MILDEW / FUNGUS RESISTANCE	810 B	NO MOLD OR MILDEW GROWTH DURING TEST
WIND DRIVEN RAIN		NO DELAMINATION, NO WATER INTRUSION
FIRE TESTING TUNNEL TEST	ASTM E-84	FLAME SPREAD < 25 SMOKE DEVELOPED < 450 CLASS "A" FIRE RATED

PART 3 - EXECUTION

3.01 INSPECTION

A. Prior to proceeding, carefully inspect preparatory and installed work of other trades and verify that such work is correct and completed to the point where Stuc-O-Flex product installation may properly proceed.

B. Substrate shall be dry, sound and free of release agents (silicones, oils, etc.), paint and other residue or coatings.

C. The substrate shall have no planar irregularities greater than 1/4” in 8 feet.

D. Notifications - The General Contractor and the Architect shall be advised of any discrepancies. Work shall not proceed until all unsatisfactory conditions are corrected and the substrate is acceptable, clean and free of any contaminants, including completion of all appropriate flashing and other waterproofing details.

3.02 INSTALLATION

A. ACCESSORIES: expansion joints, corner & casing bead, L or J channel where required, shall be installed as the first step in conjunction with or directly after the sheathing is set.

1. Accessories shall be installed in accordance with manufacturer’s recommendations, although fastening schedule shall be a maximum of 8" O.C.
2. Installation at this time insures accessories will be fully embedded in Joint Compound and fiberglass reinforcing mesh, providing a structurally sound, aesthetically pleasing detail.

B. ELASTOMERIC JOINT COMPOUND & FIBERGLASS REINFORCING MESH: Using a stainless steel trowel or sheetrock knife apply Joint Compound mixture to all seams and butt joints providing a smooth joint detail and transition from one piece of sheathing to the next. Immediately embed detail mesh into wet Elastomeric Joint Compound by troweling from the center to the ends/edges, causing fabric to be embedded into coating. Nailing flanges on vinyl windows shall also receive Elastomeric Joint Compound and mesh to seal and flatten transition to cement sheathing (Unless windows are mounted prior to cement substrate). This step is very important to the aesthetics of your project. In some cases a second coat of Joint Compound may be required to insure a smooth flat surface is secured.

1. Allow to dry minimum 24 hours or until dried below 19% moisture content.
2. Mesh will be continuous, flat and wrinkle free over all seams, joints and trim accessories. All ends shall be overlapped 2.5 inches.

C. PRIME SEAL: Apply primer with airless sprayer, medium nap roller, or paint brush to all areas that Stuc-O-Flex finish coat is to be applied. A uniform pinhole free layer should be provided to insure no shadowing or discoloration will occur from substrate sheathing. Allow to dry completely.

D. STUC-O-FLEX ACRYLIC FINISH COAT: Apply in color and texture as approved by Architect and/or client using stainless steel trowels or appropriate spray equipment with sufficient manpower and equipment to insure a continuous operation without cold joints, scaffolding lines, etc. Finished wall sections shall match approved sample. Coverage and thickness shall vary depending on texture desired and specified final appearance.

1. Mix STUC-O-FLEX prior to use with paddle type blade to insure consistency.

2. Small amounts of water may be added to adjust viscosity. 12oz. maximum per 5 gallon pail.

3.03 JOB SITE CLEAN UP

A. All excess STUC-O-FLEX wall coating materials shall be removed from the job site by the STUC-O-FLEX applicator.

END OF SECTION 099600

SECTION 099630 – ELASTOMERIC COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

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

1.3 DEFINITIONS

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

B. Stucco: A portland cement-based plaster used on exterior surfaces.

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.

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. Qualification Data: For Applicator.

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

E. 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 five 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, masonry and/or stucco exterior wall surface to represent surfaces and conditions for application of elastomeric coatings.

a. Wall Surfaces: Prepare samples on at least 5 sq. ft. of wall surface.

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

1. Stuc-O-Flex International, Inc. (Stuc-O-Flex).

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: See the Coating Schedule at the end of Part 3 for color selections.

D. Colors and Textures: Match existing.

2.3 CRACK FILLERS

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

2.4 PRIMERS

A. Concrete and Masonry Primer: Factory-formulated, alkali-resistant, acrylic-latex primer (Basis of Design).

1. Stuc-O-Flex: Prime Seal: Applied as per manufacturers recommendations.

B. Stucco Primer: Factory-formulated stucco primer (Basis of Design).

1. Stuc-O-Flex: Prime Seal: Applied as per manufacturers recommendations.

2.5 ELASTOMERIC FINISH-COAT MATERIALS

A. Smooth Elastomeric Finish: Smooth, factory-formulated, 100 percent acrylic elastomeric coating (Basis of Design).

1. Stuc-O-Flex: Elastomeric Acrylic Finish: Applied at a minimum thickness of 1/8” with no voids.

B. Textured Elastomeric Finish: Textured, factory-formulated, 100 percent acrylic elastomeric coating (Basis of Design).

1. Stuc-O-Flex: Elastomeric Acrylic Finish: Applied at a minimum thickness of 1/8” with no voids.

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: Prepare brick, concrete, concrete unit masonry, stucco, and similar 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. 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.
2. 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. 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.

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

I. 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: One finish coat(s) over a primer if required by manufacturer.

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

B. Stucco (Portland Cement Plaster): Provide the following elastomeric coating systems over exterior stucco surfaces:

1. Smooth Elastomeric Finish: One finish coat(s) over a primer if required by manufacturer.

a. Primer: Stucco primer.
b. Finish Coats: Smooth elastomeric finish.

END OF SECTION 099630

SECTION 099646 – INTUMESCENT PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and application of fire-retardant intumescent paint for steel.

B. Related Requirements:
1. Section 099113 "Exterior Painting" for primers and finish coats that may be used with intumescent paint finishes.
2. Section 099123 "Interior Painting" for primers and finish coats that may be used with intumescent paint finishes.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site with Construction Manager.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
2. Indicate VOC content.

B. Samples for Initial Selection: For each intumescent paint finish indicated.

C. Samples for Verification: For each type of coating system and each color and gloss of intumescent paint finish indicated.

1. Submit Samples on rigid backing, not less than 8 inches square.
2. Apply coats on Samples in steps to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 INFORMATIONAL SUBMITTALS

A. Material Test Reports: For each intumescent paint.

1.6 DELIVERY, STORAGE, AND HANDLING

A. 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.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply waterborne intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 50 and 90 deg F.

B. Apply solvent-thinned intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 45 and 95 deg F.

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

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

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, ForceField FireGuard E-84

2.2 INTUMESCENT PAINT MATERIALS, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Surface-Burning Characteristics of Fire-Retardant Systems: As tested according to ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 0
2. Smoke-Developed Index: 5 or less.

C. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each material or coat, products and spreading rates shall be as recommended in writing by intumescent paint manufacturer for use on substrate indicated. Comply with requirements for fire-retardant coating classification and surface-burning characteristics indicated.

D. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 150 g/L.
3. Primers, Sealers, and Undercoaters: VOC not more than 200 g/L.
4. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.

E. Low-Emitting Materials: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

F. Colors and Gloss: White, smooth finish.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with manufacturer's requirements for surface treatments, shop-primed surfaces, maximum moisture content, and other conditions affecting performance of the Work.

B. Begin coating only when moisture content of wood substrate is 15 percent or less when measured with an electronic moisture meter.

C. Begin coating no sooner than 7 days after substrate is constructed and is visually dry on both sides.

D. Verify suitability of substrates, including surface conditions, and compatibility with existing finishes and primers.

E. Proceed with coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in the "MPI Architectural Painting Specification Manual" applicable to substrates and coating systems indicated.

B. 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, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants. Do not coat surfaces if surface moisture content or alkalinity exceeds that permitted in manufacturer's written instructions.

1. Remove incompatible primers, and re-prime substrate with compatible primers as required to produce coating systems indicated.

2. Perform cleaning and coating application so dust and other contaminants from cleaning process do not fall on wet, newly coated surfaces.

3.3 APPLICATION

A. General: Apply intumescent paints according to manufacturer's written instructions and to comply with requirements for listing and labeling for surface-burning characteristics specified.

1. Use equipment and techniques best suited for substrate and type of material being applied.
2. Coat surfaces behind movable items the same as similar exposed surfaces.
3. Apply each coat separately according to manufacturer's written instructions.
4. Finish doors on faces with intumescent finish. Paint tops, bottoms, and side edges with fire-inert finish.

B. Apply coatings to prepared surfaces as soon as practical after preparation and before subsequent surface soiling or deterioration.

C. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Produce sharp lines and color breaks.

1. Pigmented Finishes: If undercoats or other conditions show through pigmented topcoat/overcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
2. Clear Finishes: Produce a smooth surface film of even sheen using multiple coats (if required).

3.4 CLEANING AND PROTECTION

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

B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from coating application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

END OF SECTION 099646

SECTION 099653 - ELASTOMERIC WALL COATINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and application of elastomeric coatings to the following exterior vertical substrates:

1. Concrete unit masonry.

2. Stucco.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples for Initial Selection: For each type of elastomeric coating.

C. Samples for Verification: For each type of elastomeric coating indicated and in each color and gloss.

1. Submit Samples on same type of substrate as that to receive application, 8 inches square.

2. Apply coats on Samples in steps to show each separate coat, including primers and block fillers as applicable.

3. Label each coat of each Sample.

4. Label each Sample for location and application area.

1.3 MAINTENANCE MATERIAL SUBMITTALS

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

1. Quantity: Furnish an additional 1 gal. of each material, color, and texture applied.

1.4 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.

b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

A. 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.

1. Maintain containers in clean condition, free of foreign materials and residue.

2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

A. Apply coatings only when temperature of surfaces to be coated and ambient 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; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces not in compliance with requirements in Article 3.1 Examination.

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

PART 2 - PRODUCTS

2.1 EXTERIOR WATERBORNE, PIGMENTED ACRYLIC ELASTOMERIC COATINGS

A. Coatings, General: Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

1. For each coat in a paint system, products shall be recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Acrylic Coating, Elastomeric: High-solids breathable acrylic polymer coating formulated for use on masonry, EIFS, stucco and metal substrates.

1. Basis of design product: Tremco, Solargard Hy-Build.

2. Tensile Strength at 77 deg. F, (25 deg. C): 375 psi (2585 kPa).

3. Tear Resistance, ASTM D522: 135 lbf/in (23 kN/m).

4. Elongation at 77 deg. F, (25 deg. C) ASTM D2370: 200 percent.

5. Flexibility at -15 deg F (-26 deg C), ASTM D522: Pass 1/2 inch mandrel bend.

6. Solids by volume, minimum ASTM D5201): 50 percent.

7. Water Vapor Permeance, ASTM E96: 12 perms.

8. Minimum Thickness, Wall Applications: 24 mils (0.60 mm) wet.

C. Primer, Masonry: Acrylic primer formulated for use on masonry, EIFS, stucco, and other cementitious surfaces, and wood.

1. Basis of design product: Tremco, Solargard Masonry Primer.

2. Flexibility at -15 deg F (-26 deg C), ASTM D1737: Pass 1/8 inch mandrel bend.

3. Solids by volume, percent: 40 percent.

4. VOC: 62 g/L.

2.2 ACCESSORY MATERIALS

A. Crack Fillers: Elastomeric coating manufacturer's recommended, factory-formulated crack fillers or sealants, including crack filler primers, compatible with substrate and other materials indicated.

B. Concrete Unit Masonry Block Filler: Elastomeric coating manufacturer's recommended, factory-formulated, high-performance latex block filler compatible with substrate and other materials indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with manufacturer's requirements for maximum moisture content, alkalinity, and other conditions affecting performance of work.

B. Begin coating only when moisture content of substrate is 12 percent or less when measured with an electronic moisture meter.

C. Begin coating no sooner than 28 days after substrate is constructed and is visually dry on both sides.

D. Verify that substrate is within the range of alkalinity recommended by manufacturer.

E. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

F. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in the "MPI Architectural Painting Specification Manual" applicable to substrates and coating systems indicated.

B. 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, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of coatings, including dirt, oil, grease, and incompatible paints and encapsulants. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.

1. Remove incompatible primers and reprime substrate with compatible primers as required to produce coating systems indicated.

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

D. Crack Repair: Fill cracks according to manufacturer's written instructions before coating surfaces.

3.3 APPLICATION

A. Apply elastomeric coatings according to manufacturer's written instructions.

1. Use equipment and techniques best suited for substrate and type of material being applied.

2. Coat surfaces behind movable items the same as similar exposed surfaces.

3. Apply each coat separately according to manufacturer's written instructions.

B. Primers: Apply at a rate to ensure complete coverage.

C. Block Fillers: Apply at a rate to ensure complete coverage with pores filled.

D. Elastomeric Finish Coat: Apply in number and thickness of coats indicated in Part 2 product listing.

E. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform finish, color, and appearance.

F. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

G. Apply coatings to prepared surfaces as soon as practicable after preparation and before subsequent surface soiling or deterioration.

H. Spray Application: Use spray equipment for application only when permitted by authorities having jurisdiction. Wherever spray application is used, do not double back with spray equipment to build up film thickness of two coats in one pass.

3.4 FIELD QUALITY CONTROL

A. Field Testing and Inspection: Owner reserves the right to engage the services of a qualified testing agency to verify installed thickness of elastomeric coatings.

3.5 CLEANING AND PROTECTION

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

B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from coating application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities, touch up and restore damaged or defaced coated surfaces.

3.6 ELASTOMERIC COATING SCHEDULE

A. Concrete Unit Masonry Substrates:

1. Elastomeric Coating System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.

b. Block Filler: As recommended in writing by topcoat manufacturer.

c. Topcoat: Elastomeric, pigmented, exterior, water-based coating.

B. Stucco Substrates:

1. Elastomeric Coating System:

a. Prime Coat: As recommended in writing by topcoat manufacturer.

b. Topcoat: Elastomeric, pigmented, exterior, water-based coating.

END OF SECTION 099653