

PROJECT:
REPAIR TACAN STRUCTURE FOUNDATION
BLDG. 6655

PROJECT NUMBER: MAHG15-1040

W.O.# 77297

15 NOVEMBER 2017

KEESLER AIR FORCE BASE BILOXI, MISSISSIPPI



Keesler AFB 508 L Street
Keesler AFB, MS 39534

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SECTION 00 10 20
LIST OF DRAWINGS

PART 1 GENERAL

1.1 SUMMARY

This document lists the drawings for the project.

1.2 CONTRACT DRAWINGS

Contract drawings are as follows:

<u>DRAWING No.</u>	<u>TITLE</u>
A1.0	FLOOR PLANS, WALL DETAILS, DEMOLITION & RENOVATION KEYED NOTES
A1.1	EXTERIOR & INTERIOR ELEVATIONS AND BUILDING SECTIONS

END OF SECTION

SECTION 01 30 00
SUBMITTALS

1.1 GENERAL

- A. Related Requirements Specified Elsewhere
 - 1. General Conditions-Statement of Work
- B. Send all submittals to:
81 Contracting Building 4605
Keesler AFB, MS 39534

1.2 CONSTRUCTION SCHEDULE

- A. Provide projected construction schedules for entire work, revise periodically.
- B. Prepare in form of horizontal bar chart.
 - 1. Provide separate horizontal bar column for each trade or operation.
 - 2. Order: Chronological order or beginning of each item of work.
 - 3. Identify each column:
 - a. By major specification section number.
 - b. By distinct graphic delineation.
 - 4. Horizontal time scale: Identify first workday of each week.
 - 5. Scale and spacing: To allow space for updating.
- C. Provide complete sequence of construction by activity.
 - 1. Shop Drawings, Product Data and Samples:
 - a. Submittal dates.
 - b. Dates reviewed copies will be required.
 - 2. Product procurement and delivery dates.
 - 3. Dates for beginning and completion of each element of construction, specifically:

Ordering/Delivery of Materials
Preparation of Installation site
- D. Show projected percentage of completion for each item of work as of first day of each month.

1.3 SUB-CONTRACTORS AND SUPPLIERS

- A. Submit to the Contracting Officer within 10 days of award of contract a list of all sub-contractors to be used on the work.
- B. Submit to the Contracting Officer within 10 days of award of contractor a list of all suppliers and material men furnishing products to be incorporated in the work not a part of a sub-contract.
- C. Lists shall include company name, address, phone number and contact person if applicable.

1.4 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Submit to the Designer samples and product data on the following:
1. Foam Foundation Fill to include means and methods
 2. Steel Frames and Doors
 3. Door and Frame Hardware
 4. Thresholds
 5. Resilient Tile Flooring to include color samples
 6. Paint to include color samples
 7. Primer
 8. All adhesives and removers, to include MSDS for all.
 9. LED Light Fixture
 10. Any and all contingent components deemed necessary by the Contracting Officer.
- B. Each submittal shall be forwarded to:
81 Contracting Building 4605
Keesler AFB, MS 39534
- with a separate transmittal letter identifying specification section and number pertinent to submittal. Transmittal letter shall delineate all variations of product submitted from that specified.
- C. Designate on the Construction Schedule dates for submission and dates reviewed shop drawings, product data and samples will be needed for each product.
- D. Product Data
1. Manufacturer's standard schematic drawings:
 - a. Modify drawings to delete information not applicable to project.
 - b. Supplement standard information to provide additional information applicable to project.
 2. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.
 - a. Clearly mark each copy to identify pertinent materials, products or models.
 - b. Show dimensions and clearances required.
 - c. Show performance characteristics and capacities.
 - d. Show wiring diagrams and controls.
- E. Contractor Responsibilities
1. Review shop drawings, product data and samples prior to submission.
 2. Verify:
 - a. Field measurements.
 - b. Field construction criteria.
 - c. Catalog numbers and similar data.
 3. Coordinate each submittal with requirements of work and of Contract Documents.
 4. Contractor's responsibility for errors and omissions in submittals is not relieved by Contracting Officer's review of submittals.
 5. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Contracting Officer's review of submittals, unless Contracting Officer gives written acceptance of specific deviations.
 6. Notify Contracting Officer in writing at time of submission of deviations in submittals from requirements of Contract Documents.
 7. Begin no work which requires submittals until return of submittals with Contracting Officer's stamp and initials or signature indicating review.
 8. After Contracting Officer's review, distribute copies.

F. Submission Requirements

1. Schedule submissions at least ten days before dates reviewed submittals will be needed.
2. Submit number of shop drawings and product data and samples which Contractor requires for distribution plus two copies which will be retained by Contracting Officer on all items.
3. Accompany submittals with transmittal letter, in duplicate, containing:
 - a. Date
 - b. Project title and number
 - c. Contractor's name and address
 - d. Identification of product or material
 - e. Relation to adjacent structure or materials
 - f. Field dimensions, clearly identified as such
 - g. Specification section number. Applicable standards, such as ASTM number or Federal Specification.
 - l. Contractor's stamp initialed or signed certifying to review of submittal, verification of field measurements and compliance with Contract Documents.

G. Resubmission Requirements

1. Shop Drawings:
 - a. Revise initial drawings as required and resubmit as specified for initial submittal.
 - b. Indicate on drawings any changes, which have been made other than those requested by Contracting Officer.
2. Product Data and Samples: Submit new data and samples as required for initial submittal.

END OF SECTION

SECTION 07 09 00
CAULKING AND SEALANTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work required under this Section consists of all exterior and interior caulking and sealants and related items to complete the work as indicated on the Drawings and described in the Specifications.

1.02 SUBMITTALS

- A. Submittals on each item of caulking or sealant in this Section shall include, but not be limited to, the following:
 - 1. Technical literature
 - 2. Performance data
 - 3. Spec-Data sheets
 - 4. Manufacturer's installation instructions
 - 5. Samples
 - 6. Color selection charts

1.03 QUALITY ASSURANCE

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform acoustical sealant application work in accordance with ASTM C 919.

1.04 QUALIFICATIONS

- A. Manufacturer shall be Company specializing in manufacturing the Products specified in this section.
- B. Applicator shall be Company specializing in performing the work of this section.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

PART 2 - MATERIALS

2.01 MANUFACTURER

- A. All materials specified shall be EQUAL TO: DAP, Inc., Pecora Corporation, Tremco, Inc., Sonneborn, Vulkem, Norton, Kock, PSI Sealant.

2.02 CAULKING AND SEALANTS

- A. Exterior sealant shall be one-part polysulfide sealant conforming to Federal Specification TT-5-00230C Type II and the Thiokol Building Trade Performance Specification, Pecora Synthacaulk sealant.
- B. Interior caulking shall be an acrylic polymeric resin based compound conforming to Federal Specification TT-S-230a Type II similar to Pecora Unicrylic sealant.
- C. Precast concrete joint sealant shall be two-part polysulfide conforming to Federal Specification TT-S-227E, Type II, ASTM C-920 similar to Pecora GC-5 Synthacaulk.

- D. Floor joint sealant shall be one-part, self-leveling, moisture curing polyurethane sealant conforming to Fed-Spec TT-S-230 and ASTM-C-920 and D-1850 similar to Pecora Urexpan NR-201.
- E. Acoustical sealant shall be modified acrylic latex for interior work in conjunction with gypsum board. Non hardening, non-skinning, elastic, shrink and stain resistant, water base caulking compound, similar to Pecorn AC-20 FFR.
- F. Lap sealant shall be butyl, sealant for flashing joints in non exposed applications. Similar to Tremco - Butyl Sealant.

2.03 ACCESSORIES

- A. Backer rods shall be polyethylene foam, polyurethane foam, untreated jute, fiberglass or material which specific manufacturer recommends.
- B. Primer recommended by manufacturer for specific substrate and sealant.
- C. Joint cleaner shall be non-corrosive and non-staining type, recommended by sealant manufacturer: compatible with joint forming materials.
- D. Bond breaker shall be pressure-sensitive tape recommended by sealant manufacturer to suit application.

PART 3 - EXECUTION

3.01 PREPARATION

- A. All surfaces must be clean and dry and any protective coating on building materials that will impair sealant bond shall be removed. Any loose material shall be removed by hand or mechanical wire brushing prior to installation of primer or sealant. Remove existing sealants.
- B. Masonry and concrete surfaces shall be sound. A brush coat of primer shall be applied to such porous surfaces and allowed to dry a minimum of 15 minutes before sealant is applied.
- C. On metal surfaces, apply a brush coat of primer and allow to air dry a minimum of 15 minutes. Joints deeper than 1/2" shall be built up to a depth of 3/8" below adjacent surfaces with approved filler material prior to applying sealant.

3.02 SEALANT APPLICATION

- A. Sealant shall be used from manufacturer's original cartridge in a standard open-type, hand operated caulking gun. Nozzle shall be cut to proper size to obtain a neat, smooth, uniform bead well driven in with sufficient pressure to fill joints full. When handling caulk material, manufacturer's instructions shall be followed.
- B. Caulked joints, on all surfaces, shall be neatly pointed with beading tool, and all interior corners shall be tooled slightly concave with all excess material removed. Sealant should be tooled with caulking tool or soft bristled brush moistened with solvent within 10 minutes after sealant exposure. All joints shall be sealed watertight.
- C. Exterior caulking shall be applied to the following surfaces: Joints between masonry and metal or metal and metal including the exterior perimeter of all new metal windows and doors, joints between masonry and wood, masonry control joints. Follow manufacturer's directions for each type of surface or installation involved. Clean all joints over 3/4" in depth and pack to a 1/2" depth with back-up rod as recommended by the sealant manufacturer and then install sealant. Do not seal wood or ferrous metal until they have been primed.

- D. Interior caulking shall be applied to the following surfaces: At the interior perimeters of all windows and doors, juncture of masonry and wood or metals juncture of millwork and casework on walls, juncture of china or porcelain toilet fixtures and walls, masonry control joints and all other surfaces so designated. All interior caulking shall be smooth and uniform with no overlap on adjacent surfaces. All application procedures shall be in accordance with the manufacturer's recommendations.
- E. The following types of failures shall be adjudged defective work: Leakage, hardening, cracking, crumbling, melting, shrinkage, running of caulking compound, staining or spillover on adjacent work by caulking compound, or separation of compound from adjacent surfaces.
- F. On non-porous surfaces excess uncured sealant shall be removed with a solvent moistened cloth immediately. On porous surfaces excess sealant should be allowed to cure overnight, then removed by lightly wire-brushing or sanding. All adjacent surfaces shall be clean and free from stain.
- G. All construction joints and wall penetrations shall be sealed.
- H. Measure joint dimensions and size materials to achieve required width/depth ratios. Provide joint not less than ¼ inch deep.
- I. Install joint backing to achieve a neck dimension no greater than 1/3 of the joint width.
- J. Provide a suitable backstop in locations indicated or as necessary, pack the back of grooves with joint backing to minimize the possibility of sealant extrusion when the joint is compressed.
- K. Break bond of sealants at bottom of joints.
- L. Give joints a uniform coat of priming material before sealing if recommended by the sealant manufacturer.
- M. Install bond breaker where joint backing is not used.
- N. Install sealant free of air pockets foreign embedded matter, ridges and sags.
- O. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- P. Tool joints, except wide expansion joints, sufficiently convex to result in a flush joint when dry.
- Q. Recess sealants in concrete masonry control and expansion joints approximately 1/4 inch from face of the adjacent surfaces.

3.03 CLEANING

- A. Clean adjacent soiled surfaces as recommended by manufacturer.

3.04 PROTECTION OF FINISHED WORK

- A. Protect sealants until cured. Cure sealant in compliance with manufacturer's instructions and recommendations, to obtain high early-bond strength, internal cohesive strength, and surface durability.

END OF SECTION

SECTION 08 07 20
WEATHERSTRIPPING & SEALS
(THRESHOLDS AND RAMP THRESHOLDS)

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Commercial Thresholds.
- B. Related Sections:
 - 1. Division 8 Section: Steel Doors and Frames.

1.02 REFERENCES

- A. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI/BHMA):
 - 1. ANSI/BHMA A156.18: Materials and Finishes.
 - 2. ANSI/BHMA A156.21 Thresholds.
- B. Federal Government:
 - 1. Federal Standard FED-STD-795-1988 (Revised 1989) Uniform Federal Accessibility Standards.

1.03 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit manufacturer's product data and installation instructions.
- C. Quality Assurance/Control Submittals: Submit the following:
 - 1. Test Reports: Upon request, submit Durability test reports from recognized testing laboratory.
 - 2. Certificates: Submit manufacturer's certificate that products meet or exceed specified requirements.
- D. Closeout Submittals: Submit the following:
 - 1. Warranty documents specified herein.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size and complexity.

1.05 DELIVERY, STORAGE & HANDLING

- A. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- B. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.06 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.
 - 1. Warranty Period (Standard Products): 3 years against defects in materials or workmanship, beginning with Date of Substantial Completion.

PART 2 PRODUCTS

2.01 THRESHOLDS

- A. EQUAL TO: Manufacturer: Pemko Manufacturing Company.
 - 1. Contact: PO Box 3780, 4226 Transport Street, Ventura, CA 93003; Telephone: (800) 283-9988, (805) 642-2600; Fax: (805) 642-4109; E-mail: pemkosales@pemko.com; website: www.pemko.com.
- B. Proprietary Products/Systems: Thresholds, including the following:
 - 1. Saddle Thresholds:
 - a. Material: Extruded tempered aluminum 6063-T6.
 - b. Finish (ANSI/BHMA 156.18): Mill finish aluminum.

- c. Manufacturer Model Number: 2748.
- 2. Threshold Stop Strips:
 - a. Material: Extruded tempered aluminum 6063-T6.
 - b. Finish (ANSI/BHMA 156.18): Mill finish aluminum.
 - c. Seal: Pemko SiliconSeal.
 - d. Manufacturer Model Number: 1842_S.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Comply with the instructions and recommendations of the threshold manufacturer.

3.02 EXAMINATION

- A. Site Verification of Conditions:
 - 1. Verify that site conditions are acceptable for installation of thresholds.
 - a. Examine doors and frames for compliance with requirements for door and frame manufacturer's installation tolerances, labeled fire door assembly construction, wall and floor construction and other conditions affecting performance.
 - 2. Do not proceed with installation of thresholds until unacceptable conditions are corrected.

3.03 INSTALLATION

- A. Mounting Location: Comply with drawings and approved shop drawings.
- B. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
- C. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

3.04 ADJUSTING

- A. Perform adjustments required to ensure that thresholds function in compliance with manufacturer's performance criteria prior to acceptance by Owner.

3.05 CLEANING

- A. Remove any protective films and clean components as necessary following manufacturer's recommended procedures.

3.06 PROTECTION

- A. Protect installed work from damage due to subsequent construction activity on the site.

END OF SECTION

SECTION 08 11 13
STEEL FRAMES

PART 1 GENERAL

1.1 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. AMERICAN WELDING SOCIETY (AWS)
 - 1. AWS D1.1/D1.1M (2010; Errata 2011) Structural Welding Code – Steel
- C. ASTM INTERNATIONAL (ASTM)
 - 1. ASTM A653/A653M (2011) Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
 - 2. ASTM A879/A879M (2012) Standard Specification for Steel Sheet, zinc Coated by the Electrolytic Process for Applications Requiring Designation of the Coating Mass on Each Surface
 - 3. ASTM A924/A924M (2013) Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
- D. BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)
 - 1. ANSI/BHMA A156.115 (2006) Hardware Preparation in Steel Doors and Steel Frames
- E. NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM)
 - 1. NAAMM HMMA HMM (1999; R2000) Hollow Metal Manual
- F. STEEL DOOR INSTITUTE (SDI/DOOR)
 - 1. SDI/DOOR 111 (2009) Recommended Selection and Usage Guide for Standard Steel Doors, Frames and Accessories
 - 2. SDI/DOOR A250.11 (2001) Recommended Erection Instructions for Steel Frames
 - 3. SDI/DOOR A250.3 (2007; R 2011) Test Procedure and Acceptance Criteria for Factory Applied Finish Painted Steel Surfaces for Steel Doors and Frames
 - 4. SDI/DOOR A250.4 (2011) Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors and Hardware Reinforcing
 - 5. SDI/DOOR A250.6 (2003; R2009) Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames
 - 6. SDI/DOOR A250.8 (2003; R2008) Recommended Specifications for Standard Steel Doors and Frames
- G. UNDERWRITERS LABORATORIES (UL) UL 10C (2009) Standard for Positive Pressure Fire Tests of Door Assemblies

1.2 SUBMITTALS

- A. SD-02 Shop Drawings
 - 1. Doors
 - 2. Frames
 - 3. Accessories-Weather-stripping
 - 4. Show elevations, construction details, metal gages, hardware provisions, method of glazing, and installation details.
- B. SD-03 Product Data
 - 1. Doors
 - 2. Frames
 - 3. Accessories Weather-stripping
 - 4. Submit manufacturer's descriptive literature for doors, frames, and accessories. Include data and details on door construction, panel (internal) reinforcement, insulation, and door edge construction.
 - a. SD-04 Samples
 - b. Where colors are not indicated, submit manufacturer's standard colors and patterns for selection.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver doors, frames, and accessories undamaged and with protective wrappings or packaging. Strap knock-down frames in bundles. Store doors and frames on platforms under cover in clean, dry, ventilated, and accessible locations, with 6 mm 1/4 inch airspace between doors. Remove damp or wet packaging immediately and wipe affected surfaces dry. Replace damaged materials with new.

PART 2 PRODUCTS

2.1 STANDARD STEEL FRAMES

- A. SDI/DOOR A250.8, Level 1 except as otherwise specified. Form frames to sizes and shapes indicated, with knock-down field-assembled corners.

2.2 Knock-Down Frames

- A. Design corners for simple field assembly by concealed tenons, splice plates, or interlocking joints that produce square, rigid corners and a tight fit and maintain the alignment of adjoining members. Provide locknuts for bolted connections.
 - 1. Stops and Beads
 - a. Form stops and beads from 20 gauge steel. Provide for glazed and other openings in standard steel frames. Secure beads to frames with oval-head, countersunk Phillips self-tapping sheet metal screws or concealed clips and fasteners. Space fasteners approximately 12 to 16 inch on center. Miter molded shapes at corners. Butt or miter square or rectangular beads at corners.

2.3 Anchors

- A. Provide anchors to secure the frame to adjoining construction. Provide steel anchors, zinc-coated or painted with rust-inhibitive paint, not lighter than 18 gage.
 - 1. Wall Anchors
 - a. Provide at least three anchors for each jamb. For frames which are more than 7.5 feet in height, provide one additional anchor for each jamb for each additional 2.5 feet or fraction thereof.
 - 1) Masonry: Provide anchors of corrugated or perforated steel straps 3/16 inch diameter steel wire, adjustable or T-shaped;
 - 2) Stud partitions: Weld or otherwise securely fasten anchors to backs of frames. Design anchors to be fastened to wood studs with nails, to closed steel studs with sheet metal screws, and to open steel studs by wiring or welding.
 - 3) Completed openings: Secure frames to previously placed concrete or masonry with expansion bolts in accordance with SDI/DOOR 111.

2.4 WEATHERSTRIPPING

- A. Integral Gasket
 - 1. Black synthetic rubber gasket with tabs for factory fitting into factory slotted frames, or extruded neoprene foam gasket made to fit into a continuous groove formed in the frame, may be provided in lieu of head and jamb seals. Insert gasket in groove after frame is finish painted. Air leakage of weather stripped doors shall not exceed 1.25 cubic feet per minute of air per square foot of door area when tested in accordance with ASTM E283.

2.5 HARDWARE PREPARATION

- A. Provide minimum hardware reinforcing gages as specified in SDI/DOOR A250.6. Drill and tap doors and frames to receive finish hardware. Prepare doors and frames for hardware in accordance with the applicable requirements of SDI/DOOR A250.8 and SDI/DOOR A250.6. For additional requirements refer to ANSI/BHMA A156.115. Drill and tap for surface-applied hardware at the project site. Build additional reinforcing for surface-applied hardware into the door at the factory. Locate hardware in accordance with the requirements of SDI/DOOR A250.8, as applicable.

2.7 FINISHES

A. Factory-Primed Finish

1. All surfaces of doors and frames shall be thoroughly cleaned, chemically treated and factory primed with a rust inhibiting coating as specified in SDI/DOOR A250.8. or paintable A25 galvanized steel without primer. Where coating is removed by welding, apply touchup of factory primer.
2. Hot-Dip Zinc-Coated and Factory-Primed Finish
 - a. Fabricate exterior scheduled doors and frames from hot dipped zinc coated steel, alloyed type, that complies with ASTM A924/A924M and ASTM A653/A653M. The coating weight shall meet or exceed the minimum requirements for coatings having 0.4 ounces per square foot, total both sides, i.e., A40ZF120. Repair damaged zinc-coated surfaces by the application of zinc dust paint. Thoroughly clean and chemically treat to insure maximum paint adhesion. Factory prime as specified in SDI/DOOR A250.8.

2.8 FABRICATION AND WORKMANSHIP

- A. Finished doors and frames shall be strong and rigid, neat in appearance, and free from defects, waves, scratches, cuts, dents, ridges, holes, warp, and buckle. Molded members shall be clean cut, straight, and true, with joints coped or mitered, well formed, and in true alignment. Dress exposed welded and soldered joints smooth. Design door frame sections for use with the wall construction indicated. Corner joints shall be well formed and in true alignment. Conceal fastenings where practicable.

PART 3 EXECUTION

3.1 INSTALLATION

A. Frames

1. Set frames in accordance with SDI/DOOR A250.11. Plumb, align, and brace securely until permanent anchors are set. Anchor bottoms of frames with expansion bolts or powder-actuated fasteners. Build in or secure wall anchors to adjoining construction.

B. Doors

2. Hang doors in accordance with clearances specified in SDI/DOOR A250.8. After erection, clean and adjust hardware.

3.2 PROTECTION

- A. Protect doors and frames from damage. Repair damaged doors and frames prior to completion and acceptance of the project or replace with new, as directed. Wire brush rusted frames until rust is removed. Clean thoroughly. Apply an all-over coat of rust-inhibitive paint of the same type used for shop coat.

3.3 CLEANING

- A. Upon completion, clean exposed surfaces of doors and frames thoroughly. Remove mastic smears and other unsightly marks.

End of Section

SECTION 09 65 19
Resilient Tile Flooring

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Flooring and accessories as shown on the drawings and scope of work and as indicated by the requirements of this section.
- B. Related Documents
 - 1. Drawings and General Provisions of the Contract (including General and Supplementary Conditions and Division 1 sections) apply to the work of this section.
- C. Related Sections:
 - 1. Other Division 9 sections for floor finishes related to this section but not the work of this section.
 - 2. Division 7 Thermal and Moisture Protection; not the work of this section

1.02 REFERENCES

- A. Armstrong Flooring Technical Manuals
 - 1. Armstrong Flooring Guaranteed Installation Systems manual, F-5061
 - 2. Armstrong Flooring Maintenance Recommendations and Procedures, manual, F-8663
- B. ASTM International:
 - 1. ASTM E 662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
 - 2. ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
 - 3. ASTM F 1066 Standard Specification for Vinyl Composition Tile
 - 4. ASTM F 1861 Standard Specification for Resilient Wall Base
- C. National Fire Protection Association (NFPA):
 - 1. NFPA 258 Standard Test Method for Measuring the Smoke Generated by Solid Materials

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide flooring which has been manufactured, fabricated and installed to performance criteria certified by manufacturer without defects, damage, or failure.
- B. Sequencing and Scheduling
 - 1. Install flooring and accessories after the other finishing operations, including painting, have been completed. Close spaces to traffic during the installation of the flooring.

1.04 SUBMITTALS

- A. Submit the manufacturer's standard samples showing the required colors for flooring and applicable accessories.
- B. Submit Safety Data Sheets (SDS) available for flooring products, adhesives, patching/leveling compounds, floor finishes (polishes) and cleaning agents.
- C. Closeout Submittals: Submit the following:
 - 1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products, and precautions against cleaning materials and methods detrimental to finishes and performance.
 - 2. Warranty: Warranty documents specified herein

1.05 QUALITY ASSURANCE

- A. Single-Source Responsibility: provide types of flooring and accessories supplied by one manufacturer, including leveling and patching compounds, and adhesives.
- B. Select an installer who is competent in the installation of Armstrong resilient vinyl composition tile flooring.
 - 1. Engage installers certified as Armstrong Commercial Flooring Certified Installers
 - 2. Confirm installer's certification by requesting their credentials
- C. Fire Performance Characteristics: Provide resilient vinyl composition tile flooring with the following fire performance characteristics as determined by testing material in accordance with ASTM test methods indicated below by a certified testing laboratory or other testing agency acceptable to authorities having jurisdiction:
 - 1. ASTM E 662 (Smoke Generation) Maximum Specific Optical Density of 450 or less

1.06 DELIVERY, STORAGE AND HANDLING

- A. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- B. Deliver materials in good condition to the jobsite in the manufacturer's original unopened containers that bear the name and brand of the manufacturer, project identification, and shipping and handling instructions.
- C. Store materials in a clean, dry, enclosed space off the ground, protected from harmful weather conditions and at temperature and humidity conditions recommended by the manufacturer. Protect adhesives from freezing. Store flooring, adhesives and accessories in the spaces where they will be installed for at least 48 hours before beginning installation.

1.07 PROJECT CONDITIONS

- A. Maintain a minimum temperature in the spaces to receive the flooring and accessories of 65°F (18°C) and a maximum temperature of [100°F (38°C)][85°F (29°C)] for at least 48 hours before, during, and for not less than 48 hours after installation. Thereafter, maintain a minimum temperature of 55°F (13°C) in areas where work is completed. Protect all materials from the direct flow of heat from hot-air registers, radiators, or other heating fixtures and appliances. Refer to the Armstrong Flooring Guaranteed Installations Systems manual, F-5061 for a complete guide on project conditions.

1.08 LIMITED WARRANTY

- A. Resilient Flooring: Submit a written warranty executed by the manufacturer, agreeing to repair or replace resilient flooring that fails within the warranty period.
- B. Limited Warranty Period: 5 years
- C. Limited Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.
- D. For the Limited Warranty to be valid, this product is required to be installed using the appropriate Armstrong Flooring Guaranteed Installation System. Product installed not using the specific instructions from the Guaranteed Installation System will void the warranty.

1.09 MAINTENANCE

- A. Extra Materials: Deliver extra materials to Owner. Furnish extra materials from same production run as products installed. Packaged with protective covering for storage and identified with appropriate labels.
 - 1. Quantity: Furnish quantity of flooring units equal to 10 % of amount installed.

2. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra material.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Resilient tile flooring, wall base, adhesives and accessories:
 1. Armstrong Flooring Inc., 2500 Columbia Avenue, Lancaster, PA 17604, www.armstrongflooring.com/commercial
 2. Manufacturer must have a headquarters in the United States of America

2.02 RESILIENT TILE FLOORING MATERIALS

- A. Provide Vinyl Composition Tile EQUAL TO: Standard Excelon® Imperial® Texture Tile Flooring manufactured by Armstrong Flooring, Inc.
 1. Description: Tile composed of polyvinyl chloride resin, plasticizers, fillers, stabilizers and pigments with colors and texture dispersed uniformly throughout its entire thickness.
 2. Vinyl composition tile shall conform to the requirements of ASTM F 1066, "Standard Specification Vinyl Composition Floor Tile", Class 2, through-pattern
 3. Pattern and Color: in color selected from the range currently available from Armstrong Flooring, Inc.
 4. Size: 12 in. x 12 in.
 5. Thickness: 1/8"/0.125 in.

2.03 WALL BASE MATERIALS

- A. For top set wall base: Provide 1/8 in. thick, 6 in. high Armstrong Flooring Color-Integrated Wall Base with a matte finish, conforming to ASTM F 1861, Type TP - Rubber, Thermoplastic, Group 1 - Solid, Style B - Cove.

2.05 ADHESIVES

- A. For Tile High-Moisture Installation Warranty, Full Spread: Provide Armstrong S-515 Floor Tile Adhesive under the tile and Armstrong S-725 Wall Base Adhesive at the wall base as recommended by the flooring manufacturer.
- B. For Spray Adhesive High-Moisture Installation Warranty, Full Spread: Provide Armstrong Flip™ Spray Adhesive for field areas and S-725 Wall Base Adhesive at the wall base as recommended by the flooring manufacturer.

2.06 ACCESSORIES

- A. For patching, smoothing, and leveling monolithic subfloors (concrete, terrazzo, quarry tile, ceramic tile, and certain metals), provide Armstrong S-184 Fast-Setting Cement-Based Patch and Underlayment.
- B. For sealing joints between the top of wall base or integral cove cap and irregular wall surfaces such as masonry, provide plastic filler applied according to the manufacturer's recommendations.
- C. Provide threshold of thickness and width as shown on the drawings.

PART 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data, including technical bulletins, product catalog, installation instructions, and product carton instructions for installation and maintenance procedures as needed.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions (i.e. moisture tests, bond test, pH test, etc.).
- B. Visually inspect flooring materials, adhesives and accessories prior to installation. Flooring material with visual defects shall not be installed and shall not be considered as a legitimate claim.
- C. Examine subfloors prior to installation to determine that surfaces are smooth and free from cracks, holes, ridges, and other defects that might prevent adhesive bond or impair durability or appearance of the flooring material.
- D. Inspect subfloors prior to installation to determine that surfaces are free from curing, sealing, parting and hardening compounds; residual adhesives; adhesive removers; and other foreign materials that might prevent adhesive bond. Visually inspect for evidence of moisture, alkaline salts, carbonation, dusting, mold, or mildew.
- E. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.
- F. Failure to call attention to defects or imperfections will be construed as acceptance and approval of the subfloor. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.

3.03 PREPARATION

- A. Subfloor Preparation: Smooth concrete surfaces, removing rough areas, projections, ridges, and bumps, and filling low spots, control or construction joints, and other defects with Armstrong S-184 Fast-Setting Cement-Based Patch and Underlayment as recommended by the flooring manufacturer. Refer to Armstrong Flooring Guaranteed Installation Systems manual, F-5061 and ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring for additional information on subfloor preparation.
- B. Subfloor Cleaning: The surface shall be free of dust, solvents, varnish, paint, wax, oil, grease, sealers, release agents, curing compounds, residual adhesive, adhesive removers and other foreign materials that might affect the adhesion of resilient flooring to the concrete or cause a discoloration of the flooring from below. Remove residual adhesives as recommended by the flooring manufacturer. Remove curing and hardening compounds not compatible with the adhesives used, as indicated by a bond test or by the compound manufacturer's recommendations for flooring. Avoid organic solvents. Spray paints, permanent markers and other indelible ink markers must not be used to write on the back of the flooring material or used to mark the concrete slab as they could bleed through, telegraphing up to the surface and permanently staining the flooring material. If these contaminants are present on the substrate they must be mechanically removed prior to the installation of the flooring material. Refer to the Armstrong Flooring Guaranteed Installation Systems manual, F-5061 and ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring for additional information on subfloor preparation.
- C. For Tile High-Moisture Installation Warranty when using S-515 Adhesive, perform subfloor moisture testing and Bond Tests as described in the Armstrong Flooring Guaranteed Installation Systems manual, F-5061, to determine if surfaces are dry; free of curing and hardening compounds, old adhesive, and other coatings; and ready to receive flooring. Relative humidity shall not exceed 90%. On installations where both the Percent Relative Humidity and the Moisture Vapor Emission Rate tests are conducted, results for both tests shall comply with the allowable limits listed above. Do not proceed with flooring installation until results of moisture tests are acceptable. All test results shall be documented and retained.
- D. For Tile High-Moisture Installation Warranty when using S-525 Adhesive, perform subfloor moisture testing and Bond Tests as described in the Armstrong Flooring Guaranteed Installation Systems

manual, F-5061, to determine if surfaces are dry; free of curing and hardening compounds, old adhesive, and other coatings; and ready to receive flooring. Relative humidity shall not exceed 90%. On installations where both the Percent Relative Humidity and the Moisture Vapor Emission Rate tests are conducted, results for both tests shall comply with the allowable limits listed above. Do not proceed with flooring installation until results of moisture tests are acceptable. All test results shall be documented and retained.

- E. For Spray Adhesive High-Moisture Installation Warranty, using Armstrong Flip™ Spray Adhesive, perform subfloor moisture testing in accordance with ASTM F 2170, "Standard Test Method for Determining Relative Humidity in Concrete Slabs Using *in-situ* Probes" and Bond Tests as described in publication F-5061, "Armstrong Flooring Guaranteed Installation System," manual to determine if surfaces are dry; free of curing and hardening compounds, old adhesive, and other coatings; and ready to receive flooring. Internal relative humidity of the concrete shall not exceed 93%. Do not proceed with flooring installation until results of moisture tests are acceptable. All test results shall be documented and retained.
- F. Concrete pH Testing: Perform pH tests on concrete floors regardless of their age or grade level. All test results shall be documented and retained.

3.04 INSTALLATION OF FLOORING

- A. Install flooring in strict accordance with the latest edition of Armstrong Flooring Guaranteed Installation Systems manual, F-5061. Failure to comply may result in voiding the manufacturer's warranty listed in Section 1.08.
- B. Install flooring wall to wall before the installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings as shown on the drawings.
- C. Scribe, cut, and fit to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets.
- D. Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times.

3.05 INSTALLATION OF ACCESSORIES

- A. Apply top set wall base to walls, columns, casework, and other permanent fixtures in areas where top-set base is required. Install base in lengths as long as practical, with inside corners fabricated from base materials that are mitered or coped. Tightly bond base to vertical substrate with continuous contact at horizontal and vertical surfaces.
- B. Fill voids with plastic filler along the top edge of the resilient wall base or integral cove cap on masonry surfaces or other similar irregular substrates.

3.06 CLEANING

- A. Perform initial and on-going maintenance according to the latest edition of Armstrong Guaranteed Flooring Installation Systems manual, F-5061.

3.07 PROTECTION

- A. Protect installed flooring as recommended by the flooring manufacturer against damage from rolling loads, other trades, or the placement of fixtures and furnishings. (See Finishing The Job in the latest edition of Armstrong Flooring Guaranteed Installation Systems manual, F-5061.)

END OF SECTION

**SECTION 09 91 13
EXTERIOR COMMERCIAL PAINTS AND COATINGS**

Part 1 GENERAL

1.1 SECTION INCLUDES

- A Exterior paint and coating systems.

1.2 REFERENCES

- A SSPC-SP 1 - Solvent Cleaning
- B SSPC-SP 2 - Hand Tool Cleaning
- C SSPC-SP 3 - Power Tool Cleaning
- D SSPC-SP 13 / NACE No. 6 Surface Preparation for Concrete

1.3 SUBMITTALS

- A Product Data: Manufacturer's data sheets on each paint and coating product should include:
 - 1 Product characteristics
 - 2 Surface preparation instructions and recommendations
 - 3 Primer requirements and finish specification
 - 4 Storage and handling requirements and recommendations
 - 5 Application methods
 - 6 Clean-up Information
- B Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's color samples available.
- C Coating Maintenance Manual: upon conclusion of the project, the Contractor or paint manufacture/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.

1.5 DELIVERY, STORAGE, AND HANDLING

- A Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturers name, label, and the following list of information:
 - 1 Product name, and type (description)
 - 2 Application & use instructions
 - 3 Surface preparation
 - 4 VOC content
 - 5 Environmental handling
 - 6 Batch date
 - 7 Color number
- B Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions.
Protect from freezing.
- C Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.6 PROJECT CONDITIONS

Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not apply coatings under environmental conditions outside manufacturer's absolute limits.

Part 2 PRODUCTS

2.1 MANUFACTURERS

- A EQUAL TO: Acceptable Manufacturers:
Sherwin-Williams Company
Benjamin Moore

2.2 APPLICATIONS/SCOPE

- A Use this article to define the scope of painting if not fully defined in a Finish Schedule or on the drawings. This article must be carefully edited to reflect the surfaces actually found on the project. In some cases, it may be enough to use the first paragraph that says, in effect, "paint everything" along with a list of items not to paint, without exhaustively defining all the different surfaces and items that must be painted.
- B If the project involves repainting some but not all existing painted surfaces, be sure to indicate the extent of the repainting.
- C The descriptions of each system can also be used to further refine the definition of what is to be painted, stained, or clear finished.
- D Surfaces to Be Coated:
Masonry: Concrete Masonry Units, Cinder or Concrete Block

2.3 SCHEDULE INDEX - EXTERIOR SURFACES (NORMAL EXPOSURE)

A. MASONRY - (Concrete Masonry Units Cinder or Concrete Block)

1. Latex Systems
2. Elastomeric System
3. Textured Elastomeric System
4. Textured & Smooth Systems

2.4 SCHEDULE

A. MASONRY (Concrete Masonry Units [CMU] - Cinder or Concrete Block)

1. Latex Systems

- a. Semi-Gloss Finish
 - 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
 - 2nd Coat: S-W Solo Acrylic Semi-Gloss, A76 Series
 - 3rd Coat: S-W Solo Acrylic Semi-Gloss, A76 Series
(4.0 mils wet, 1.5 mils dry per coat)
- b. Satin Finish
 - 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
 - 2nd Coat: S-W A-100 Exterior Latex Satin, A82 Series
 - 3rd Coat: S-W A-100 Exterior Latex Satin, A82 Series
(4.0 mils wet, 1.5 mils dry per coat)

Early Moisture Resistant Finish

- 1st Coat: S-W Loxon Block Surfacer, A24W200
(50-100 sq ft/gal)
- 2nd Coat: S-W Resilience Latex Satin, K43 Series
- 3rd Coat: S-W Resilience Latex Satin, K43 Series
(4.0 mils wet, 1.52 mils dry per coat)
- c. Low Sheen Finish
 - 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
 - 2nd Coat: S-W A-100 Exterior Latex Low Sheen, A12 Series
 - 3rd Coat: S-W A-100 Exterior Latex Low Sheen, A12 Series
(4.0 mils wet, 1.5 mils dry per coat)
- d. Flat Finish
 - 1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
 - 2nd Coat: S-W A-100 Exterior Latex Flat, A6 Series
 - 3rd Coat: S-W A-100 Exterior Latex Flat, A6 Series
(4.0 mils wet, 1.2 mils dry per coat)

2. Elastomeric System

- a. Flat Finish
 - 1st Coat: S-W Loxon Block Surfacer, A24W200
(50-100 sq ft/gal)
 - 2nd Coat: S-W ConFlex XL Elastomeric High Build Coating, A5-400 Series
 - 3rd Coat: S-W ConFlex XL Elastomeric High Build Coating, A5-400 Series
(16.0 mils wet, 7.5 mils dry per coat)
- Alternate:**
- 1st Coat: S-W Loxon Block Surfacer, A24W200
(50-100 sq ft/gal)
 - 2nd Coat: S-W Sherlastic Elastomeric Coating, A5 Series
 - 3rd Coat: S-W Sherlastic Elastomeric Coating, A5 Series
(14.0 mils wet, 6.0 mils dry per coat)

3. Textured & Smooth Masonry System

- a. Textured (Water Based Finish)
 - 1st Coat: S-W Loxon Block Surfacer, A24W200
(50-100 sq ft/gal)
 - 2nd Coat: S-W UltraCrete Textured Masonry Topcoat, A44-800 Series
(Fine, Medium, Extra Coarse) (50-80 sq ft/ gal)
- b. Smooth (Water Based Finish)
 - 1st Coat: S-W Loxon XP, A24-1400 Series
 - 2nd Coat: S-W Loxon XP, A24-1400 Series
(14.0 mils wet 6.4 mils dry per coat) optional

2.5 MATERIALS - GENERAL REQUIREMENTS

A Paints and Coatings - General:

- 1 Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such a procedure is specifically described in manufacturer's product instructions. VOCs need to be confirmed by using the products MSDS sheets.

B Primers:

- 1 Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

2.6 ACCESSORIES:

- A Coating Application Accessories:
 - 1 Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required per manufacturer's specifications.

Part 3 EXECUTION

3.1 EXAMINATION

- A Do not begin application of coatings until substrates have been properly examined and prepared. Notify Contracting Officer of unsatisfactory conditions before proceeding
- B If substrate preparation is the responsibility of another installer, notify Contracting Officer of unsatisfactory preparation before proceeding.
- C Proceed with work only after conditions have been corrected, and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
- D Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Contracting Officer immediately if lead based paints are encountered.

3.2 SURFACE PREPARATION:

- A. Proper product selection, surface preparation, and application affect coating performance. Coating integrity and service life will be reduced because of improperly prepared surfaces. Selection and implementation of proper surface preparation ensures coating adhesion to the substrate and prolongs the service life of the coating system.
- B. Selection of the proper method of surface preparation depends on the substrate, the environment, and the expected service life of the coating system. Economics, surface contamination, and the effect on the substrate will also influence the selection of surface preparation methods.
- C. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
- D. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry 48 hours before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
- E. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50°F, unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50°F or higher to use low temperature products.
- F. Methods:
 - 1 Block (Cinder and Concrete)
Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement, and hardeners. Concrete and mortar must be cured at least 30 days at 75°F, unless the manufacturer's products are designed for application prior to the 30-day period. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments. On tilt-up and poured-in-place concrete, commercial

detergents and abrasive blasting may be necessary to prepare the surface. Fill bug holes, air pockets, and other voids with a cement patching compound.

- 2 Concrete, SSPC-SP13 or NACE 6
This standard gives requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems. The requirements of this standard are applicable to all types of cementitious surfaces including cast-in-place concrete floors and walls, precast slabs, masonry walls, and shotcrete surfaces. An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete, and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.
- 3 Hand Tool Cleaning, SSPC-SP2
Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before hand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
- 4 Power Tool Cleaning, SSPC-SP3
Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.

3.3 INSTALLATION

- A Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendation.
- B Do not apply to wet or damp surfaces.
- C Apply coatings using methods recommended by manufacturer.
- D Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E Apply coatings at spreading rate required to achieve the manufacturer's recommended dry film thickness.
- F Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- H Inspection: The coated surface must be inspected and approved by the Contracting Officer just prior to the application of each coat.

3.4 PROTECTION

- A Protect finished coatings from damage until completion of project.
- B Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

END OF SECTION

**SECTION 09 91 23
INTERIOR PAINTS AND COATINGS**

Part 1 GENERAL

1.1 SECTION INCLUDES

- A Interior paint and coatings systems including: paint.

1.2 REFERENCES

- A SSPC-SP 1 - Solvent Cleaning
- B SSPC-SP 2 - Hand Tool Cleaning
- C SSPC-SP 3 - Power Tool Cleaning
- D SSPC-SP 13 / NACE No. 6 Surface Preparation for Concrete

1.3 SUBMITTALS

- A Product Data: Manufacturer's data sheets on each paint and coating product should include:
 - 1 Product characteristics
 - 2 Surface preparation instructions and recommendations
 - 3 Primer requirements and finish specification
 - 4 Storage and handling requirements and recommendations
 - 5 Application methods
 - 6 Cleanup Information
- B Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's color samples available.
- C Coating Maintenance Manual: upon conclusion of the project, the Contractor or paint manufacture/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.

1.4 DELIVERY, STORAGE, AND HANDLING

- A Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacture's name, label, and the following list of information:
 - Product name and type (description)
 - Application & use instructions
 - Surface preparation
 - VOC content
 - Environmental handling
 - Batch date
 - Color number
- B Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
Store materials in an area that is within the acceptable temperature range, per manufacturers instructions.
Protect from freezing.
- C Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.5 PROJECT CONDITIONS

- A Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not apply coatings under environmental conditions outside manufacturer's absolute limits.

Part 2 PRODUCTS

2.1 MANUFACTURERS

- A Acceptable Manufacturers: EQUAL TO:
The Sherwin-Williams Company
Benjamin Moore

2.2 APPLICATION/SCOPE

- A Surfaces to Be Coated:
Masonry: (CMU - Concrete, Split Face, Scored, Smooth, etc.)
Metal Ferrous: (Structural Steel, Joists, Trusses, Beams, Partitions, etc.)
Wood: Walls, Ceilings, Doors, Trim, etc

2.3 SCHEDULE

A. MASONRY - (CMU - Concrete, Split, Scored, Smooth, High/Low Density, Fluted)

1. Latex Systems

- a. Semi-Gloss Finish
1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
2nd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Semi-Gloss, B31-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)
- b. Eg-Shel Finish
1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
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
(4.0 mils wet, 1.7 mils dry per coat)
- c. Low Sheen Finish
1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
2nd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)
- d. Flat Finish
1st Coat: S-W PrepRite Block Filler, B25W25
(75-125 sq ft/gal)
2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

2. Alkyd Systems (Waterbased Acrylic-Alkyd)

- a. Semi-Gloss Finish
1st Coat: S-W Loxon Block Surfacer, A24W200
(50-100 sq ft/gal)
2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
(4.0 mils wet, 1.7 mils dry per coat)

2. Alkyd Systems (Waterbased Acrylic-Alkyd) (Cont'd)

- b. Eg-Shel Finish
 - 1st Coat: S-W Loxon Block Surfacer, A24W200
(50-100 sq ft/gal)
 - 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
 - 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
(4.0 mils wet, 1.4 mils dry per coat)

E. METAL Ferrous- (Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous & Ornamental Iron, Sashes, Doors, Partitions)

1. Latex Systems

- a. Low Sheen Finish
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
 - 3rd Coat: S-W ProMar 200 Zero VOC Latex Low Sheen Enamel, B24-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)
- b. Flat Finish
 - 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
(5.0 mils wet, 2.0 mils dry)
 - 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
 - 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series
(4.0 mils wet, 1.6 mils dry per coat)

F. WOOD- (Walls, Ceilings, Doors, Trim, Partitions, Frames)

1. Alkyd Systems (Waterbased Acrylic-Alkyd)

- a. Eg-Shel Finish
 - 1st Coat: S-W Premium Wall & Wood Primer, B28W8111
(4.0 mils wet, 1.8 mils dry)
 - 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
 - 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Eg-Shel, B33-8200 Series
(4.0 mils wet, 1.4 mils dry per coat)

2.4 MATERIALS - GENERAL REQUIREMENTS

A Paints and Coatings - General:

- 1 Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B Primers:

- 1 Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

2.5 ACCESSORIES

A Coating Application Accessories:

- 1 Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.

Part 3 EXECUTION

3.1 EXAMINATION

- A Do not begin application of coatings until substrates have been properly examined and prepared. Notify Contracting Officer of unsatisfactory conditions before proceeding.

- B If substrate preparation is the responsibility of another installer, notify Contracting Officer of unsatisfactory preparation before proceeding.
- C Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
- D Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Contracting Officer immediately if lead based paints are encountered.

3.2 SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority. Removal must be done in accordance with EPA Renovation, Repair and Painting Rule and all related state and local regulations. Care should be taken to follow all state and local regulations which may be more strict than those set under the federal RRP Rule.

- A Proper product selection, surface preparation and application affect coating performance. Coating integrity and service life will be reduced because of improperly prepared surfaces. Selection and implementation of proper surface preparation ensures coating adhesion to the substrate and prolongs the service life of the coating system.
- B Selection of the proper method of surface preparation depends on the substrate, the environment, and the expected service life of the coating system. Economics, surface contamination, and the effect on the substrate will also influence the selection of surface preparation methods.
- C The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
- D Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry a minimum of 48 hours before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
- E Methods
 - 1 Block (Cinder and Concrete)
Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement, and hardeners. Concrete and mortar must be cured at least 30 days at 75°F. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments. On tilt-up and poured-in-place concrete, commercial detergents and abrasive blasting may be necessary to prepare the surface. Fill bug holes, air pockets, and other voids with a cement patching compound.
 - 2 Concrete, SSPC-SP13 or NACE 6
This standard gives requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems. The requirements of this standard are applicable to all types of cementitious surfaces including cast-in-place concrete floors and walls, precast slabs, masonry walls, and shotcrete surfaces. An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete, and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.

- 3 Steel: Structural, Plate, etc.
Should be cleaned by one or more of the surface preparations described below. These methods are used throughout the world for describing methods for cleaning structural steel. Visual standards are available through the Society of Protective Coatings. A brief description of these standards together with numbers by which they can be specified follow.
- 4 Solvent Cleaning, SSPC-SP1
Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.
- 5 Hand Tool Cleaning, SSPC-SP2
Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before hand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
- 6 Power Tool Cleaning, SSPC-SP3
Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
- 7 Wood
Must be clean and dry. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

3.3 INSTALLATION

- A Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.
- B Do not apply to wet or damp surfaces.
 - 1 Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days.
 - 2 Wait until wood is fully dry.
- C Apply coatings using methods recommended by manufacturer.
- D Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness.
- F Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.
- G Inspection: The coated surface must be inspected and approved by the Architect or Engineer just prior to the application of each coat.

3.4 PROTECTION

- A Protect finished coatings from damage until completion of project.
- B Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

END OF SECTION