

Section 07180

THE PRODUCT: Liquid-applied polyurethane waterproofing coating system designed for concrete and plywood decks subject to pedestrian traffic for 5/8" or 19/32" plywood and concrete surfaces.

1. The waterproofing coating system:
 - a. Is seamless;
 - b. Fully bonds to substrates both adhesively and mechanically;
 - c. Can be applied to plywood, concrete and metal substrates;
 - d. Can be used in a broad variety of exposed conditions such as balconies, pedestrian bridge decks, observation decks and roof decks.
 - e. Is fast curing.
 - f. Meets California VOC and AQMD Requirements
 - g. Corrects negative slopes in renovation projects.
 - h. coating system will have a final dry film thickness of 55 mils.

COORDINATION: Section 07180 defines requirements for the liquid applied polyurethane waterproofing coating system itself. It is important to define certain substrate requirements and requirements of adjacent trades in pertinent other sections of your specification as follows:

1. Section 03300 - Cast-in-place concrete:
 - a. Concrete that is substrate to the coating system should have a finish equal to light steel troweling followed by a fine hair broom.
 - b. An appropriate wet curing procedure should be used on the concrete.
 - c. Control joints in the concrete, if required, should be in accordance with pertinent ACI and PCA standards.
 - d. Drain flanges at coating level should be integrally cast into, and be flush with, concrete deck surfaces that slope to drain..
2. Section 05800 - Expansion control:
 - a. The need for Expansion Joints should be carefully considered by the design professional.
3. Section 06125 - Plywood decking:
 - a. Plywood that is substrate to the waterproofing coating system must be exterior grade minimum 5/8" or 19/32" thick with A-side up, fastened with ring-shank nails, blocked under every joint unless it is tongue-and-groove minimum 1-1/8" thick.
 - b. Deck surfaces should slope to drain.
 - c. Deck drains must have flanges at the coating level that are flush with the deck surface.
 - d. OSB and particle boards are not suitable substrates.
4. Section 07600 - Flashing and sheet metal:
 - a. Metal flashings that are substrate to the waterproofing coating system should be a minimum of 24 gage aluminum, copper, galvanized, or stainless steel.
 - b. Set metal flashings in continuous bedding bead of hybrid sealant installing sealant S-bead between metal laps and mechanically fastening to substrate along leading edges at every 4" on center, staggered linearly, to lay flat and without fishmouths.

END OF COVER PAGE(s)

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Provide a complete polyurethane waterproofing coating system where indicated on the Drawings, including all applicable sealants and elastomeric flashings needed to ensure a complete waterproof and weathertight system for deck, ramp, stair and landing surfaces at locations indicated.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 SUBMITTALS

- A. Comply with pertinent provisions of Section 01330.
- B. Product data:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
 - 3. Shop Drawings or catalog illustrations in sufficient detail to show installation and interface of the work of this Section with the work of adjacent trades;
 - 4. Manufacturer's current recommended installation procedures which, when reviewed by Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.
 - 5. Written documentation of applicator's qualifications, including reference projects of similar scope and complexity, with current phone contacts of architects and owners for verification.

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.
- B. Applicator qualifications:
 - 1. Applicator shall have at least three years experience in installing materials of types specified and shall have successfully completed at least three projects of similar scope and complexity.
 - 2. Applicator shall designate a single individual as project foreman who shall be on site at all times during installation.

- C. Convene a pre-installation job-site conference four weeks prior to commencing work of this Section:
 - 1. Secure attendance by Architect, Contractor, applicator, and authorized representatives of the coating system manufacturer and interfacing trades.
 - 2. Examine Drawings and Specifications affecting work of this Section, verify all conditions, review installation procedures, and coordinate scheduling with interfacing portions of the Work.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to job site in manufacturer's unopened containers with all labels intact and legible at time of use.
- B. Maintain the products in accord with manufacturer's recommendations with proper precautions to ensure fitness of material when installed.
- C. Comply with pertinent provisions of Section 01660.

1.05 SUBSTRATE CONDITIONS

- A. General:
 - 1. Provide applicator with surfaces that are broom clean, dry, sound and free of protrusions, excessive roughness, foreign matter, frost, ice and other contaminants which may inhibit application or performance of the waterproofing coating system.
 - 2. Using suitable abrasive methods, remove residue of form release, curing compound, chemical retarders and other surface treatments, laitance, mortar smear, sawcutting residue, mill scale, rust, loose material and other contaminants from concrete, masonry and ferrous metal surfaces to receive the work of this Section.
- C. Plywood: Where work of this Section will be applied to ¾" or 21/32" plywood exterior grade plywood, 5/8" thick minimum, with A-side up, fastened with ring-shank nails.
- D. Decks:
 - 1. Slope deck surfaces to drains that have flanges at coating level which are flush with deck surfaces.
 - 2. Rigidly install pipe, vents and other surface protrusions, properly flash them, and cover to prevent entry of coating materials.
- E. Metal flashings: Where metal flashings are substrate to waterproofing coating, set the flashings in continuous bedding bead of urethane sealant; install sealant S-bead between metal laps and mechanically fasten to substrate along leading edges at every 4" on center, staggered linearly, to lay flat without fishmouths. Clean metal surfaces and apply self-adhesive polyester woven fabric with hotmelt acrylic facer to metal side of flashing.
- F. Joints: Configuration shall be consistent with this Section and with all other requirements of the Contract Documents.

1.06 WARRANTY

- A. Deliver to the Architect signed copies of the following written warranties against defective materials and workmanship for a period of two years following date of completion. Warrant that installed waterproof coating system shall be free of defects including adhesive failure, cohesive failure, weathering deficiencies and waterproofing failure resulting from substrate cracking up to 1/16 inch.
 - 1. Manufacturer's standard warranty covering materials;
 - 2. Applicator's standard warranty covering workmanship.

PART 2 PRODUCTS

2.01 GENERAL

- A. Provide a complete liquid applied polyurethane waterproofing coating system having the following minimum attributes:
 - 1. System designed for waterproofing pedestrian decks on plywood and concrete surfaces plywood subject to pedestrian traffic;
 - 2. Color to be selected by Architect from manufacturer's standard color range.
 - 3. Acceptable products:
 - a. ENDURIT Deck Pro-P55-R

2.02 ACCESSORIES

- A. Primer: As recommended by coating system manufacturer.
- B. Joint backing: Closed-cell, polyethylene rod as recommended by coating manufacturer.
- C. Aggregate: 16-30 mesh angular dried silica s aggregate approved by coating manufacturer
- D. Sealant:
 - 1. One component polyurethane moisture cured.
 - 2. Two component polyurethane.

2.03 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor and approved by the coating system manufacturer as compatible, subject to review of the Architect.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Applicator shall examine the areas and conditions under which work of this Section will be performed.
 - 1. Verify conformance with manufacturer's requirements;
 - 2. Report unsatisfactory conditions in writing to the Architect;
 - 3. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION

- A. Surface preparation and detailing procedures to be in accord with waterproof coating system manufacturer's instructions and recommendations except where more stringent requirements are indicated.
- B. Clean all deck surfaces to receive coating system in accord with manufacturer's instructions; vacuum clean or blow clean with oil-free compressed air all surfaces to receive sealants, detailing materials or coatings immediately prior to installation.
- C. Rout, clean, prepare and detail surface in accord with manufacturer's instructions
- D. Clean metal surfaces with xylene and apply metal primer to all metal surfaces to be coated.
- E. Prime surfaces in accord with manufacturer's instructions.
- F. Install Sealant or Deck Pro-P55BC mixed material at corner of all horizontal-to-vertical junctures subject to movement and cover with 1" detail cant of approved sealant; install 1" detail cants at projections, curbs and other horizontal-to-vertical junctures.
- G. Install detail coats, joint and crack treatments, and liquid flashings in accord with manufacturer's instructions.
- H. Fill all holes and rough areas in accordance with manufacturer's instructions.
- I. Allow detail applications to cure in accord with manufacturer's instructions prior to general application of coating.

3.03 APPLICATION

- A. Seal all plywood joints, cracks and flashings with Joint Sealant or Deck-Pro-P55BCmixed membrane.
- B. Bridge joints, cracks and flashing with 3" to 4" polyester tape. Embed tape into sealant or membrane with a trowel and apply a pre-stripe over tape and taper onto the adjacent surface. Alternately, a pressure sensitive tape (SuperSeal) may be used.

- C. Install waterproof coating system in accord with manufacturer's recommendations and instructions as applies to the Work except where more stringent requirements are indicated.
 - 1. Grid deck surfaces to assure proper coverage rates and verify coating wet-film mil thickness with gauges as work progresses.
 - 2. Retain empty product containers during course of work to aid in determining whether completed coating system complies with manufacturers average thickness requirements.
- D. Verify proper dry condition of substrate using method recommended by coating system manufacturer; perform adhesion checks prior to general application of coating system using field adhesion test method recommended by manufacturer.
- E. Mask off adjoining surfaces not to receive coating system.
- F. Wipe clean all detail coats with white rags wetted with Xylene solvent; do not saturate detail coat.
- G. Apply coating base coats uniformly and allow to cure in accord with manufacturer's instructions and as necessary to achieve a minimum of 35 dry mils or greater leaving risers sloped to drain with no excessive ponding water.
- H. Broadcast 16-30 mesh dry , clean angular silica sand aggregate to refusal while base coat is thumbprint tacky.
- I. Feather edge when entire area cannot be completed in one day; clean area 6" wide along edge of coating with Xylene solvent on clean white rags prior to startup on next working day; use interlaminary primer per manufacturer's instructions as needed; overlap existing work by 6" with new work.
- J. Apply two coating system finish coats of DECK Pro-P55ALT in accord with manufacturer's instructions as necessary to achieve a 20 mil dry film surface over the aggregate on horizontal surfaces and 12 mils over the vertical risers. The overall dry film thickness of the completed waterproofing system, excluding aggregate, shall average 55 mils on the horizontal and 47 mils on the vertical.

3.04 PROTECTION AND CLEAN-UP

- A. Promptly remove primer or coating material from adjacent surfaces with MEK, Toluene or Xylene; leave work area in broom clean condition.
- B. Allow completed Work to cure 24 hours before opening to pedestrian traffic.

END OF SECTION