



Deck Pro-PD160SM

SPRAY APPLIED URETHANE WATERPROOFING SYSTEM FOR PLAZA DECKS, GREEN ROOFS & PLANTERS

Application /Specification Guide

1. GENERAL

1.1 Scope: This specification covers the installation of a durable, abrasion resistant, urethane waterproofing system designed for concrete, plywood and metal surfaces. It is a monolithic system, designed to protect surfaces by excluding moisture penetration during low temperature freeze-thaw cycling or high temperature, high humidity thermal cycling. This waterproofing system has outstanding adhesion, impact and abrasion resistance, while exhibiting superior flexibility and weather resistance and can withstand ponding water.

1.2 Work Included: Install waterproofing consisting of caulking and flashing For joints, ENDURIT Deck Pro Primer-55LT, DECK Pro-S70BC Base Membrane, and Deck Pro-70ART2C Aromatic Top Coat. Apply In Accordance with these specifications and latest general instructions supplied by BESSERN Building Products.

1.3 Work Not Included: Work under this section shall not include finishing and corrective work in connection with the surfaces which are to receive the liquid-applied coating system. Nor does it include furnishing and installation of metal flashing, drains, vents, ducts, curbs or any other penetration through the deck.

1.4 Condition of Concrete Surfaces:

1.41 The concrete surfaces shall be of sound structural grade (3000 psi compressive strength recommended), of adequate design and thickness, and shall have a steel troweled followed by a fine broom finish or have a CSP 3-4 profile, free of fins, ridges, voids or air entrained holes.

1.42 Concrete shall be cured by water curing method or pure sodium silicate. Curing compounds or curing agents of any type shall not be used unless they have prior approval from BESSERN Building Products.

1.43 Concrete shall be cured at least 28 day. Green concrete may be coated after 7 days, however the DECK Pro Primer-55lt will need to be installed at 100 sq ft per gallon.

1.44 Saw-cut control joints and/or expansion joints shall have been properly installed at strategic points throughout the field of the deck to control cracking caused by deflection and shrinkage.

1.45 Any required crickets or drains should be installed at the time the main deck is poured (i.e. monolithic).

1.46 Voids, rock pockets and excessively rough surfaces shall be repaired with epoxy grout or ground to match the unrepaired areas.

1.47 When metal decking is used as the concrete form, it shall be of the "ventilating type".

1.48 All concrete decks poured over precast "T"s", planks or slabs, shall have control joints placed directly over all corresponding joints or openings in the precast units.

1.5 Condition of Plywood Surfaces:

1.51 The plywood shall be identified as conforming to U.S. Product Standard PS 1-66 and shall be 3/4 inch minimum thickness, tongue and groove, exterior grade B/C, or better. Install with B side up.

1.52 The tongue and groove plywood panels shall be tightly butted while leaving 1/16 inch separation between panels.

1.53 Plywood shall be fastened with non-corroding screws, 10d annular ring nails or twist shank nails. Space fasteners 6 inches on center along panel edges and 8 inches on center over intermediate supports.

1.54 All decks shall be designed to eliminate vertical deflection by the proper selection of plywood thickness and the proper spacing and thickness of supporting joists.

1.55 All plywood edges must be supported on blocking or primary framing with plywood panels continuous across two or more spans.

1.56 All adjacent metal flashing, scuppers, vents, etc. shall be galvanized or non-ferrous metal tightly screwed or nailed with ring shank nails, at intervals no greater than 4 inches on center.

1.57 The plywood deck shall be properly sloped so as to freely drain.

1.6 Job Conditions:

1.61 Before any waterproofing work is started the waterproofing applicator shall thoroughly examine all surfaces for any deficiencies. Should any deficiencies exist, the architect, owner, or general contractor shall be notified in writing and application shall not begin until corrections are made.

1.62 Do not proceed with application of materials when deck temperatures are less than 40°F or if precipitation is imminent.

1.63 Warn personnel against breathing of vapors and contact of material with skin or eyes. In confined areas, workmen shall wear the appropriate MSHA/NIOSH approved respiratory protective gear and protective clothing.

1.64 All gas flames and electrical apparatus shall be shut down prior to the start of and during coating application and curing.

1.65 Protect plants, vegetation, and animals which might be adversely affected by the coating operation.

1.66 This coating system should not be installed onto slabs over unvented metal pans without prior approval from BESSERN.

2. QUALIFICATIONS

2.1 Waterproofing Applicator:

2.11 Shall be experienced in successfully applying the same or similar materials and shall be specifically approved as a Factory Authorized Applicator in writing by BESSERN.

2.12 Shall be financially responsible and be ready and able to submit performance bonds, if required.

2.13 Shall submit to the general contractor and the building owner the required certificates of insurance prior to starting the project.

2.2 Sample Submittals: Submit samples not less than 3" X 4" in size, showing the approximate applied thickness, and texture. The submittal shall also include the manufacturer's application-specification sheet and a list of materials by name and quantity to be used on this project.

3. MATERIALS

The materials shall be delivered to the job site in the original sealed containers bearing the product name, color, manufacturer's lot number, directions for use and precautionary labels. All products listed are manufactured or supplied by BESSERN.

3.1 Caulking Compound: Shall be a one-component or two-component polyurethane compound approved by BESSERN Building Products.

3.2 Flashing Reinforcement: Shall be non-staining, uncured neoprene sheet at 45-60 mils thickness, woven polyester or woven fiberglass reinforcing fabric. BESSERN Building Products recommends Super Seal polyester tape.

3.3 Primer: Shall be DECK Pro Primer-55LT Epoxy, low viscosity, low temperature, two-component primer/sealer.

3.4 Base Membrane: Shall be Deck Pro-S70BC two-component, spray applied, high adhesion, fast cure, polyurethane membrane and shall meet or exceed the following typical properties:

Deck Pro-S70BC Base Coat

PROPERTY	TYPICAL VALUE	TEST METHOD
Composition	Urethane	
Weight Solids	100 %	ASTM D-2369
VOC Content	0 gm/l	ASTM D-2240
Hardness, Shore D	55	ASTM D-2240
Tensile Strength	4089 psi	ASTM D-412
Ultimate Elongation	378 %	ASTM D-412
Tear Resistance Die C	677 pli	ASTM D-624
Water Absorption (wt)	<1.0 %	ASTM D-453

See product data sheet for more detailed information

3.5 Abrasion-Resistant Top Coat: Shall be Deck Pro-55ART2C two component, high tensile strength, abrasion resistant and weather-resistant aromatic polyurethane coating and shall meet or exceed the following typical performance properties:

Deck Pro-55ART2C Aromatic Wearcoat

PROPERTY	TYPICAL VALUE	TEST METHOD
Composition	Aliphatic, Urethane	
Weight Solids	100 %	ASTM D-2240
VOC Content	0 gm/l	ASTM D-2369
Hardness, Shore D	56	ASTM D-2240
Tensile Strength	1873 psi	ASTM D-412
Ultimate Elongation	88 %	ASTM D-412
Tear Resistance	213 pli	ASTM D-1004
Water Permeability	< 0.1 Perm	ASTM E-96

See product data sheet for more detailed information

4. SUBSTRATE PREPARATION

4.1 Concrete Surfaces:

- 4.11 The concrete surface must be thoroughly clean, dry and free from any surface contaminates or cleaning residue. Acceptable methods of cleaning are sandblasting, shotblasting or mechanical grinding followed by the complete and thorough removal of any residue.
- 4.12 All cracks over 1/16 inch in width and all moving cracks under 1/16 inch in width shall be routed out to ¼ inch minimum in width and depth and filled flushed with polyurethane elastomeric sealant.
- 4.13 All cracks shall be stripe-coated with a 4 inch wide by 30 mils thick detail coat of Deck Pro-55BC.
- 4.14 Apply a ¼ inch cant of sealant around all pipes, and drains. junctions.
- 4.15 All expansion and contraction joints shall be cleaned, primed, fitted with a backing rod and caulked with elastomeric polyurethane sealants. Joints under ½ inch in width and all caulked cracks shall be stripe-coated with a 30 mil preparatory coat of Deck Pro-55BC.
- 4.16 Prior to commencing with the application, all surfaces to be coated shall be dry and free from any surface contaminates or cleaning residues.

4.2 Plywood Surfaces:

- 4.21 Sweep all plywood joints clean and free of sawdust. Fill all separations over 1/16 inch in width with polyurethane sealants. Apply joint reinforcement consisting of a brush coat of Deck Pro-55BC Detail Coat 30 mils thick, 5 inches wide, centered over all joints and transitions to metal flashings, drip-edges, etc. Imbed 3 to 4 inch wide reinforcing fabric into the wet membrane. Allow the detail membrane to cure overnight or until firm.
- 4.22 Damaged plywood panels shall be repaired or replaced prior to coating.

4.3 Flashing Reinforcement:

- 4.31 All required metal or neoprene flashing and fabric flashing reinforcement and all sealant cants shall be installed at this time.
- 4.32 All metal shall be delivered shop primed and then be field primed with Deck Pro Primer 55lt Epoxy Primer. (For metal surfaces which may exhibit adhesion difficulties, first prime with Deck Pro-Primer M2C).
- 4.33 ENDURIT Deck Pro-55BC Base Membrane is used as an adhesive for the reinforcing fabric. The reinforcing fabric shall be laid into the wet base membrane with roller, brush or broad blade knife. The fabric shall be laid relaxed, smooth and wrinkle-free and thoroughly embedded in the base membrane.
- 4.34 Flashings and polyester reinforcing fabric shall be coated with base and wear coats.

4.4 Priming:

- 4.41 Stir each side (A & B) separately and then mix all of part A with all of part B. Do not thin! Use a mixing paddle on slow speed, to minimize air entrainment, drill motor for 2 to 3 minutes before applying.

5. APPLICATION OF MEMBRANE

5.1 Primer: Apply ENDURIT Deck Pro Primer-55LT with a notched squeegee at the approximate rate of 150 square feet per gallon or 10 mil WFT and back roll with a 1/2 medium nap roller. Spread rates will vary depending on substrate and substrate conditions.

5.11 Broadcast to rejection 20-30 mesh dry clean silica sand into wet primer (0.25 lbs/sq ft). Allow primer to dry and remove excess sand before application of the DECK Pro-S70BC. If the primer is contaminated by rain, then reprime.

5.12 Test the coated area for moisture using ASTM 4263 before proceeding with DECK Pro-S70BC application. Notify BESSERN if moisture passed through primer application.

5.2 Deck Pro-S70BC Base Membrane: shall be applied using a suitable plural component spray machine with at least 2500 psi pressure and heated lines at the rate of 110 mils/sq ft or 1500 sq ft per drum kit.

5.21 The S70BC should be applied evenly to ensure the 110 mil application rate.

5.22 If the DECK Pro-S70BC is going to be applied in sections, each section needs to be overlapped by at least 4 inches. The overlapping or recoating must take place within 48 hours and the S70BC membrane to be recoated must be dry and contamination free.

5.3 Deck Pro-55ART2C Wearcoat: shall be ⅛” notched squeegee and and back roller applied in one uniform coat at the rate of 1 gallon minimum per 54 square feet (180 sq ft/kit) in order to obtain an average coating thickness of 30 dry mils.

5.31 The DECK Pro-55ART2C Wearcoat should be applied after 1 hour minimum and 48 hours maximum cure time.

5.32 Broadcast to rejection dry, clean 20-30 mesh silica sand onto the wet wearcoat (1.0 lbs/sq ft). Remove excess sand after 4 hour using a broom, industrial blower or vacuum.

5.4 Deck Pro-PD160SM should be applied to walls curbing, parapets etc. above the expected water level.

5.5 Thickness: The overall dry film thickness of the completed waterproofing system, including aggregate, shall average a minimum of 160 mils.

6. ADDITIONAL REQUIREMENTS

Concrete substrates to receive coatings must be structurally sound, stable, absorptive, and meet concrete standards as defined in the American Concrete Institute (ACI) Committee 201 Report (ACI 201.2R-08) “Guide to Durable Concrete”. Surfaces must be free of adhesives, coatings, curing compounds, sealers, efflorescence, dust, grease, oils and any other material or compound that may interfere with adhesion or cure of the coating.

Concrete should be prepared in accordance to ASTM D 4259 “Practice for Abrading Concrete”.

It is recommended that on decks with prior coating failures, core samples be taken to determine failure mode.


7. GUARANTEE / WARRANTY

BESSERN warrants that its product shall be in accordance with the specifications published in the current product data sheet. BESSERN will, in the event any of its products fail to meet their published specifications, replace those products proved to be defective.

BESSERN shall not be responsible for any incidental or consequential damages due to the breach of its warranties. Notwithstanding the foregoing, BESSERN’s sole liability hereunder shall not exceed the cost of the defective product originally purchased.

EXCEPT AS SET FORTH ABOVE, BESSERN MAKES NO OTHER WARRANTIES EXPRESS OR IMPLIED AND MAKES NO WARRANTY AS TO THE MERCHANTABILITY OR FITNESS OF THE PRODUCT FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

The user must determine if the product is suited for the intended use and the user must bear the risks and liabilities associated with it.



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