



Deck Pro-EFS-50T

Textured, Epoxy Resin, Seamless Flooring System Double Broadcast

Application /Specification Guide

1. GENERAL

1.1 Scope: This specification covers the installation of chemical resistant epoxy coatings which consists of a 100% solids epoxy resin combined with an amine hardener and properly sized quartz aggregate to form an approximate 125 mil thick self-leveling flooring system. **DECK Pro EFS-50** cures completely at ambient temperature to form a textured chemical resistant topping which is intended for use in residential facilities. This system is suitable for heavy foot traffic and light vehicular traffic.

1.2 Work Included: Furnish and install the **DECK Pro EFS-50** seamless flooring as manufactured by BESSERN Building Products. The flooring is to be installed to an average 50 mils thickness(exclusive of aggregate). Apply in accordance with the architectural drawings and room finish schedules as specified and the latest instructions supplied by BESSERN. Include all material, labor and equipment required to complete the installation over the surfaces designated.

1.3 Work Not Included: Work under this section shall not include finishing and corrective work in connection with surfaces to receive the epoxy flooring system. Nor does it include furnishing and installation of on-grade vapor barriers, metal flashing, curbs, drains, vents, or any other penetration through the floor.

1.4 Condition of Concrete Substrate:

1.41 Concrete shall have been designed and installed to minimize random cracking and slab deflection and to provide sufficient control joints and isolation joints.

1.42 Variation in plane shall not be greater than plus or minus 1/8 inch in 10 feet in any direction. Proper slope to drain must be maintained.

1.43 A power steel trowel followed by a fine broom finish is preferred for best results and to minimize surface preparation.

1.44 Concrete shall be clean, crack free, sound and durable (3,000 psi compressive strength recommended) and dry (9% maximum moisture content). Concrete shall be free of fins, ridges, voids or air-entrained holes.

1.45 Concrete must be free of hydrostatic and/or capillary moisture pressure and should not be in direct contact with the ground without an effective vapor barrier and properly engineered soil. If in doubt, a rubber mat test in accordance with ASTM D-4263 or a RMC calcium chloride or insitu rH probe moisture test must be conducted and results evaluated.

1.46 Allow new concrete slabs to cure 28 days minimum before applying the seamless flooring.

1.47 Sealers, wax or resinous curing compounds shall not be used on concrete surfaces which are to receive this flooring system.

1.5 Temporary Services by General Contractor: Temporary electrical service, adequate hoisting where necessary, and water for installer's use shall be provided at no cost by the General Contractor to the installer. Adequate heat, without flame, to maintain a room temperature of not less than 70° F shall be provided 24 hours prior, during and after completion of the work at no cost to installer.

1.6 Protection:

1.61 During work, protect all surfaces of other trades against damage from work specified in this Section. Warn installation mechanics against breathing of vapors and contact of material with skin or eyes.

1.62 No smoking, gas flames, or sparking from electrical outlets, telephones or electrical motors shall be allowed in area of application.

1.63 Allow no light traffic on the seamless flooring for 24 hours after completion. The General Contractor shall be responsible for protection of surfaces after final coats and until final acceptance Repair of damage to professional installer but at the expense of the General Contractor.

2. QUALIFICATIONS

2.1 Professional Installer:

2.11 Shall be experienced in successfully applying the same or similar materials.

2.12 Shall be financially responsible and be ready and able to submit payment bonds and material and workmanship guarantees as required.

2.13 Shall submit to the General Contractor and the building owner necessary certificates of insurance prior to starting the project.

2.2 Sample Submittals: Submit samples not less than 2 1/2" X 4" in size, showing the approximate applied thickness, texture and color. 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 in order to demonstrate compliance with these specifications.

3. MATERIALS

All materials used under this specification, including primers, binders, thickeners, solvents and reinforcing materials, shall be furnished or approved by BESSERN. The components shall be delivered to the job site in factory-sealed containers clearly marked with identifying labels.

3.1 Epoxy Resin Primer: Shall be DECK Pro-EHB Clear, a low viscosity, two component, 100% solids, unfilled epoxy resin system and shall meet or exceed the following typical performance properties.

DECK Pro-EHB

Property	Typical Value	Test Method
Tensile Strength	12000 psi	ASTM D-2370
Abrasion Resistance Tabor CS-17	75 mg	ASTM D-4060
COF James Test	0.55/0.65w/NS36	ASTM D-2047
Impact Direct & Rev.	40 in lbs	ASTM D-2794
Adhesion to concrete	350 + psi	ASTM D-4541
Hardness(pencil)	2H	ASTM D-3363
Viscosity(mixed)	400-700 cps	ASTM D-2196
Volume Solids	100%	ASTM D-2369
Dry Time(tack free)	4-6 hours	ASTM D-5895

3.2 Epoxy Broadcast and Lock Coat(s): Shall be DECK PRO-EHB a self-leveling, two-component, 100% solids, chemical resistant and abrasion resistant, amine modified epoxy resin system and shall meet or exceed the following typical performance properties:

DECK Pro-EHB

Property	Typical Value	Test Method
Tensile Strength	12000 psi	ASTM D-2370
Abrasion Resistance Tabor CS-17	75 mg	ASTM D-4060
COF James Test	0.55/0.65w/NS36	ASTM D-2047
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Volume Solids	100%	ASTM D-2369
Dry Time(tack free)	4-6 hours	ASTM D-5895

3.4 Chemical Resistance: DECK Pro EFS-50 has excellent resistance to intermittent contact at room temperature with the following chemicals:

CHEMICAL RESISTANCE*:

DECK Pro ETC-20	1 Day	7 Days
ACIDS, INORGANIC		
10% Hydrochloric	E	E
30% Hydrochloric	F	P
10% Nitric	E	E
50% Phosphoric	G	F
37% Sulfuric	E	E
ACIDS, ORGANIC		
10% Acetic	G	F
10% Citric	E	G
Oleic	E	E
ALKALIES		
10% Ammonium Hydroxide	E	E
50% Sodium Hydroxide	E	E
SOLVENTS		
Ethylene Glycol	G	G
Isopropanol	E	E
Methanol	P	P
d-Limonene	E	E
Jet Fuel	E	E
Gasoline	G	F
Mineral Spirits	E	E
Xylene	E	G
Methylene Chloride	P	P
MEK	P	P
PMA	G	G
MISCELLANEOUS		
20% Ammonium Nitrate	E	E
Brake Fluid	E	E
Bleach	E	E
Motor Oil	E	E
Skydrol®500B	E	E
Skydrol®LD4	E	E
20% Sodium Chloride	E	E
10% TSP	E	E

*Based on spot testing of the neutral coating after 14 days of cure. Pigmented versions may see reduced chemical resistance and staining.

Legend:

- E- Excellent (Not Effected) - Recommended
- G-Good (Limited Negative Effect) - Short Term Exposure
- F-Fair (Moderate Negative Effect) - Not recommended
- P-Poor (Unsatisfactory) - No Resistance to Exposure

4. SUBSTRATE PREPARATION

- 4.1** The concrete surface must be thoroughly cleaned by shot blasting, acid-etching or mechanical grinding, followed by the complete and thorough removal of the resulting residue.
- 4.2** If Acid etching is used, apply a solution of 1:1 muriatic acid and water at the rate of 2 gallons solution per 100 square feet. Scrub with a stiff broom or mechanical scrubber. Neutralize with a solution of ammonia or TSP in water and give a final rinse by flushing with fresh water using a high pressure washer (2500 psi minimum).
- 4.3** Cracks or non-moving control joints shall be routed out to ¼ inch minimum in width and depth and filled flush with high hardness elastomeric caulking and imbedded with polyester reinforcing fabric.
- 4.4** Surfaces to receive coves or base shall be strong, durable, dry and free of contaminants. Surfaces with weak backings, such as drywall or plaster, are not acceptable unless reinforced with lath.

5. APPLICATION OF MEMBRANE

Application shall be in strict accordance with the latest printed instruction of BESSERN. The epoxy flooring system shall be installed when the temperature of the concrete floor is above 45° F and the ambient temperature is not less than 50° F and rising. Areas to receive the primer and epoxy flooring shall be well ventilated. Mechanics shall wear rubber gloves and goggles of face shield should be used during mixing operations.

5.1 Primer: Most concrete substrates will require priming with one coat of DECK Pro-EHB Clear epoxy primer. Apply primer by using a medium-nap roller or rubber squeegee. Primer-20 is mixed at the ratio of 2 gallons of Part A to one gallon of Part B. For proper primer penetration, the mixed DECK Pro-EHB Clear may be thinned up to 10% with toluene (or as local VOC Regulations allow). Apply at a rate of 250-350 square feet per mixed gallon.

5.2 Broadcast Coat: Mix the DECK Pro-EHB Clear at the ratio of 2 gallons of Part A to 1.0 gallon of Part B to 0.25 gallon of Part C(color pack if used). Immediately spread all of the mixed DECK Pro-EHB epoxy Top Coat onto the designated area of the properly prepared floor with a 1/16 inch notched trowel or squeegee. Backroll with a short nap roller. Apply at the approximate rate of 100 square feet per gallon of mixed material. Coverage of the epoxy binder will vary due to finishing techniques and porosity of the concrete.

5.3 Broadcast: Immediately broadcast in colored quartz aggregate to excess into the wet material at the rate of 0.5 lbs/sf. Make sure aggregate covers the broadcast coat completely. Allow material to fully cure. Vacuum, sweep and/or blow to remove all loose aggregate.

5.4 2nd Broadcast: Repeat steps 5.2 and 5.3 above.

5.5 Grout Coat/Lock Coat: To completely lock in the aggregate it is recommended to apply a lock coat. As before, mix the DECK Pro-EHB at the ratio of 2 gallons of Part A to 1.0 gallon of Part B to 0.25 gallon of Part C (color pack if used). Immediately spread all of the mixed DECK Pro-EHB epoxy Top Coat onto the designated area of the properly prepared floor with a 1/16 inch notched trowel or squeegee. Backroll and cross-roll with a short nap roller. Apply at the approximate rate of 115 square feet per gallon of mixed material.

5.6 Optional Top Coat. If UV resistance or additional chemical resistance is required, apply DECK Pro 55ALT2 at 500 square feet per gallon applied by roller.

5.7 Allow the floor to cure 24 hours at 77° F before subjecting to light traffic.

5.8 Finished floor will have a nominal thickness of 1/8".

6. MAINTENANCE

This Epoxy Seamless Flooring should be cleaned with a free-rinsing, non-abrasive detergent as often as necessary following recommended practices of the maintenance industry. Tar, chemical or mineral deposits and scuff marks should be removed with xylene or isopropyl alcohol. Please remember that when greater slip-resisting characteristics are needed, increasing the textured qualities of the chemical resistant flooring also increases the maintenance efforts to remove dirt and film residue.

7. GUARANTEE / WARRANTY

When this Seamless Epoxy Flooring System is installed by a Professional Installer, is inspected and approved in accordance with these specifications, and after receipt of the final payment, the Professional Installer shall issue the applicator's standard installation guarantee covering defects in material and workmanship.

BESSERN Building Products warrants its products to be free of defects in workmanship and materials only at the time of shipment from our factory. If any BESSERN materials prove to contain manufacturing defects that substantially affect their performance BESSERN will, at its option, replace the material or refund the purchase price.



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