

SECTION 09 67 26-EPOXY FLOORING
REFLEXIONS OVER DUR-A-GARD SL, WITH ELAST-O-COAT, AND ARMOR TOP URETHANE TOPCOAT
wood substrate

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes the following:
 - 1. ReFlexions Self-Level Epoxy flooring with Elast-O-Coat membrane system as shown on the drawings and in schedules.

1.3 SYSTEM DESCRIPTION

- A. The work shall consist of preparation of the substrate, the furnishing and application of an elastomeric epoxy waterproof membrane, epoxy based self-level epoxy floor with ReFlexions system with urethane topcoat. The system shall have the color and texture as specified by the Owner with a nominal thickness of 3/16 inch. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
- B. Cove base to be applied where noted on plans and per standard details unless otherwise noted.

1.4 SUBMITTALS

- A. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.
- B. Manufacturer's Material Safety Data Sheet (MSDS) for each product being used.
- C. Samples: A 6 inch square sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system.

1.5 QUALITY ASSURANCE

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

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

1. The Applicator shall be provided with a storage area for all components. The area shall be between 60 F and 90 F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
2. Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Engineer or other personnel.

C. Waste Disposal

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

1.7 PROJECT CONDITIONS

A. Site Requirements

1. Application may proceed while air, material and substrate temperatures are between 60 F and 90 F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
2. The relative humidity in the specific location of the application shall be less than 85 % and the surface temperature shall be at least 5 F above the dew point.
3. The Applicator shall ensure that adequate ventilation is available for the work area.
4. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.

B. Conditions of wood substrate.

1. Substrate shall be structurally sound, dry and free of all coatings, paints and glue. Outside of these Parameters, the manufacturer shall be consulted.
2. Plywood - should be new and free from contaminate such as oil and moisture. Marine grade plywood is preferred due to its resistance to flexing and warping from moisture.
3. Installations over existing concrete or substrates with a possible chance of moisture contamination transfer should be isolated using a proprietary Polyethylene vapour barrier; all joints should be taped according to mfg instructions. Raised platforms should have consideration for air-bricks in outside walls to reduce the risk of rising damp.
4. It is recommended that plywood should be at least ¾" thick per layer. Minimum of 2 layers.
5. Plywood should be positively fastened with high quality construction adhesive and recessed screws at a 6" centres screw pattern.

C. Safety Requirements

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

1.8 WARRANTY

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

PART 2 – PRODUCTS

2.1 FLOORING

- A. Dur-A-Flex, Inc. ReFlexions Self-Level, Epoxy-Based seamless flooring system.

1. System Materials:
 - a. Membrane: Dur-A-Flex, Inc, Elast-O-Coat resin and hardener.
 - b. Self-Level Coat: Dur-A-Flex, Inc, Dur-A-Gard SL resin and hardener.
 - c. ReFlexions: Dur-A-Flex, Inc., Dur-A-Glaze #4 Water Clear with Metallic Pigment.
 - d. Topcoat: Dur-A-Flex, Inc. Armor Top resin and hardener.

Sloping Materials

- a. Shallow Fill and Patching: Use Dur-A-Flex, Inc. Dur-A-Glaze # 4 Cove-Rez.
- b. Deep Fill and Sloping Material (over ¼ inch): Use Dur-A-Flex, Inc. Dur-A-Crete.

2.2 MANUFACTURER

- A. Dur-A-Flex, Inc., 95 Goodwin Street, East Hartford, CT 06108, Phone: (860) 528-9838, Fax: (860) 528-2802
- B. Manufacturer of Approved System shall be single source and made in the USA.

2.3 PRODUCT REQUIREMENTS

A. Membrane	Elast-O-Coat
1. Percent Solids	100 %
2. VOC	4.3 g/L
3. Elongation ASTM D 412	150 %
4. Tear Strength, ASTM D 624, DIEA	375 PLI
5. Water Vapor Transmission, ASTM E 96 Method B	0.252 perm
6. Recoat Time at 70 F	8 hours min. 36 hours max.
B. Base Coat	Dur-A-Gard SL
1. Percent Solids	100 %
2. VOC	0 g/L
3. Compressive Strength, ASTM D 695	16,000 psi
4. Tensile Strength, ASTM D 638	3,000 psi
5. Flexural Strength, ASTM D 790	4,000 psi
6. Abrasion Resistance, ASTM D 4060 C-10 Wheel, 1,000 gm load, 1,000 cycles	35 mg loss
7. Flame Spread/NFPA-101, ASTM E 84	Class A
8. Flammability, ASTM D 635	Self Extinguishing
9. Impact Resistance MIL D-3134	Pass
10. Water Absorption. MIL D-3134	0.04 %
11. Potlife @ 70 F	20-25 minutes
C. ReFlexions	Dur-A-Glaze #4
1. Percent Solids	100 %
2. VOC	3.8 g/L
3. Compressive Strength, ASTM D 695	11,200 psi
4. Tensile Strength, ASTM D 638	2,100 psi
5. Flexural Strength, ASTM D 790	5,100 psi
6. Abrasion Resistance, ASTM D 4060 C-10 Wheel, 1,000 gm load, 1,000 cycles	29 mg loss
7. Flame Spread/NFPA-101, ASTM E 84	Class A
8. Impact Resistance MIL D-24613	0.0007 inches, no cracking or delamination
9. Water Absorption. MIL D-24613	Nil
10. Potlife @ 70 F	20 minutes
C. Topcoat	Armor Top

1.	Percent Solids	95 %
2.	VOC	0 g/L
3.	Tensile Strength, ASTM D 2370	7,000 psi
4.	Adhesion, ASTM 4541	Substrate Failure
5.	Hardness, ASTM D 3363	4H
6.	60° Gloss ASTM D 523	70
7.	Abrasion Resistance, ASTM D4060 CS 17 wheel (1,000 g load) 1,000 cycles	14 mg loss
8.	Pot Life, 70 F, 50% RH	2 Hours

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
 1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

3.2 PREPARATION

A. General

1. Plywood to be clean prior to application of any material.
2. Drains or cleanouts should be set 3/16 inch above plywood substrate to ensure that finish floor is at a proper thickness at drain.

3.3 APPLICATION

A. General

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

B. Membrane

1. The membrane shall consist of a liquid resin and hardener that is mixed at the ratio of 2 parts resin to 1 part hardener per the manufacturer's instructions.
2. The membrane shall be applied by a notched squeegee and back rolled at the rate of 50 sf/gal to yield a dry film thickness of 30 mils.
3. Imbed 6 inch wide fiberglass tape into Elast-o-coat membrane thickened with No Sag #1 on all plywood seams.

C. Self-Level Epoxy

1. The base coat shall be comprised of three components, a resin, hardener, aggregate and fillers as supplied by the Manufacturer.
2. The resin shall be added to the hardener and thoroughly mixed into which the aggregate and fillers are added and mixed by suitably approved mechanical means.
2. The base coat shall be applied over horizontal surfaces using "v" notched squeegee to yield a thickness of 100 mils. The area is then backed rolled with a plastic spiked roller to ensure even distribution of aggregates.

D. ReFlexions Coat

1. The body coat shall be applied as specified by the Architect.
2. The body coat shall be comprised of three components, a resin, and hardener as supplied by the Manufacturer and mixed in the ratio of 2 parts resin to 1 part hardener and ReFLEXions pigment per the manufacturer's instructions.
3. The ReFLEXions pigment shall be added to the resin and mixed by suitably approved mechanical means followed by the addition of the hardener and again mixed.
4. The body coat shall be applied over horizontal surfaces using "v" notched squeegee and back rolled at the rate of 75-80 sf/gal. Allow material to fully cure.

E. Final Topcoat

1. The topcoat of Armor Top shall be roller applied at the rate of 500 sf/gal to yield a dry film thickness of 3 mils.
2. The topcoat shall be comprised of a liquid resin, hardener and duragript that is mixed per the manufacturer's instructions.
3. The finish floor will have a nominal thickness of 3/16 inch.

3.4 FIELD QUALITY CONTROL

A. Tests, Inspection

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

3.5 CLEANING AND PROTECTION

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