SECTION 09 96 56-EPOXY COATING

**RESUWALL FGR (fiberglass reinforced) EPOXY COATING with URETHANE TOPCOAT**

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

1. This section includes the following:
2. Epoxy wall coating system as shown on the drawings and in schedules.
3. Related sections include the following:

1. Concrete Curing, section 03 39 00

2. Unit Masonry, section 04 20 00

3. Plaster and Gypsum Board, section 09 20 00

1.3 SYSTEM DESCRIPTION

1. The work shall consist of preparation of the substrate, the furnishing and application of a epoxy based wall coating system, with fiberglass reinforcing and urethane topcoats. The system shall have the color and texture as specified by the Owner with a nominal thickness of 42 mils. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.

1.4 SUBMITTALS

1. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.
2. Manufacturer’s Safety Data Sheet (SDS) for each product being used.
3. Samples: A 3 x 3 inch square sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.
4. Mock-up: provide 4’x4’ to be approved in writing by owner.

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 experience in installation of the flooring system as confirmed by the 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. System shall be in compliance with the Indoor Air Quality requirements of California section

 01350 as verified by a qualified independent testing laboratory.

F. 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. PRODUCT DELIVERY, STORAGE, AND HANDLING
1. Packaging and Shipping
2. 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 Safety Data Sheets (SDS) 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

1. Site Requirements
2. 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.
3. 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.
4. The Applicator shall ensure that adequate ventilation is available for the work area.
5. 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 substrate to be coated with epoxy material.

 1. Concrete shall be cured for a minimum of twenty eight days prior to the application of the coating system.

 2. Block wall mortar joints have cured no less than 7 days under good conditions.

 3. Sealers and curing agents should not to be used.

 4. Drywall shall be completely clean and free of any oils, soap residue, and gypsum dust and prepared to a #4 to #5 finish.

 C. Safety Requirements

 1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.

1. "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. WARRANTY
1. Sherwin-Williams warrants that material shipped to buyers at the time of shipment substantially free from material defects and will perform substantially to Sherwin-Williams published literature if used in accordance with the latest prescribed procedures and prior to the expiration date.
2. Sherwin-Williams liability with respect to this warranty is strictly limited to the value of the material purchase. One-year standard warranty.

PART 2 – PRODUCTS

2.1 COATING

 A. Sherwin-Williams Resuwall FGR, epoxy seamless wall system with urethane topcoat

 1. System Materials:

 a. Base Coat and Grout Coats: Sherwin-Williams Resuflor Gard No Sag resin and hardener.

 b. Fiberglass: Sherwin-Williams PMG fiberglass mat

 c. Topcoats: Sherwin-Williams Armor Top (2 coats)

1. Patch Materials

 a. Shallow Fill and Patching: Use Sherwin-Williams Resuflor Cove Rez

2.2 MANUFACTURER

 A. The Sherwin-Williams High Performance Flooring, 866-540-1299 swflooring@sherwin.com Website: <https://industrial.sherwin-williams.com/na/us/en/resin-flooring.html>

 B. Manufacturer of Approved System shall be single source and made in the USA.

 C. Alternates must be approved 10 days prior to bid.

2.3 PRODUCT REQUIREMENTS

 A Base Coat, Grout Coat Resuflor Gard

 1. Percent Solids 100 %

 2. VOC 3.45 g/L

 3. Compressive Strength, ASTM D 695 16,000 psi

 4. Tensile Strength, ASTM D 638 3,800 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 0.025 inch Max

 10. Water Absorption. MIL D-3134 0.04 %

 11. Potlife @ 70 F 20-25 minutes

 B. Topcoats Armor Top

 1. Percent Solids 95.2 %

 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. 600 Gloss ASTM D 523 Gloss: 75 +/- 10 Satin: 50 +/- 10

 7. Abrasion Resistance, ASTM D4060 Gloss Satin

 CS 17 wheel (1,000 g load) 1,000 cycles 4 8 mg loss with grit

 10 12 mg loss without grit

 8. Pot Life, 70 F, 50% RH 45 mins

 9. Full Chemical Resistance 7 days

PART 3 – EXECUTION

* 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 coating performance.

 1. Verify that substrates and conditions are satisfactory for installation and comply with requirements specified.

3.2 PREPARATION

1. General

 1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, loose particles, moss,

 algae growth, laitance, friable matter, and dirt.

 2. There shall be no visible moisture present on the surface at the time of application of the system.

1. Remove loose mortar spatter, joint compounds etc.
2. Create a surface profile on concrete with sandblasting apparatus and/or dust-free diamond grinders.
3. Masonry block shall be clean, dry and coated with a high solids block filler.
4. Drywall shall be completely clean and free of any oils, soap residue, gypsum dust etc.
5. Prime with a “gripper” based primer
	1. APPLICATION
6. General

 1. The system shall be applied in five distinct steps as listed below:

 a. Substrate preparation

b. Priming

1. Base coat application with fiberglass mat
2. Grout coat application
3. Topcoat applications (2 coats)

 2. 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.

 3. The system shall follow the contour of the substrate.

 4. A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.

 B. Priming

Sherwin-Williams Heavy Duty Block Filler is recommended to fill any pores in the substrate when applying over concrete or block walls. Consult Sherwin-Williams for block filler at continuous wet areas. When applying over sheet rock, prime with Sherwin-Williams Extreme Bond Primer.

 C. Base Coat

 1. The base coat shall be comprised of Resuflor Gard No-Sag resin, and hardener.

 2. The resin shall be added to the hardener and thoroughly mixed by suitably approved mechanical means.

1. The base coat shall be applied by a roller at the rate of 300 sf/gal to yield a dry film thickness of 6 mils.
2. Hang semi-rigid fiberglass mat directly into wet epoxy resin so that seams are uniform and even per Manufacturers instructions.
3. Apply another coat to saturate mat.

 D. Grout Coat

 1. The grout coat shall be comprised of Resuflor Gard No-Sag resin, and hardener.

 2. The resin shall be added to the hardener and thoroughly mixed by suitably approved mechanical means.

3. The grout coat shall be applied by a roller at the rate of 100 sf/gal to yield a dry film thickness of 16mils.

4. Second grout coat yields 200 sf/gal at 8mils

 E. Performance Topcoats

 1. The topcoats shall be comprised Armor Top resin and hardener mixed at the ratio per the manufacturer’s instructions.

 2. The topcoat of Armor Top is typically applied using the dip and roll method at the rate of 500 sf/gal. Armor Top should not be applied more than 3 mils wet.

 3. Repeat steps 1 through 3

 4. The finish coating will have a nominal thickness of 42 mils.

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.

* 1. CLEANING AND PROTECTION

 A. Cure 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 to leave cleanable surface for subsequent work of other sections.

5/9/2025 RESUWALL FGR STANDARD SPECIFICATION