**SECTION 099600 – EPOXY WALL SYSTEM**

# GLASLOK 270

**EPOXY FIBERGLASS WALL-LAYUP SYSTEM WITH FIBERLASS CHOP STRAND (120 mils)**

## PART 1 - GENERAL

### 1.1 SUMMARY

A. This section includes the following:

1. 100% solids epoxy wall coating system with fiberglass chop strand, as scheduled.
2. Wall Preparation and Protection.

### 1.2 RELATED SECTIONS

A. Related Sections include the following:

1. Division 3, Section 033900 "Concrete Curing" – for concrete slab surfaces.

### 1.3 SUBMITTALS

A. System Data:

1. Submit manufacturer's specifications on cured system and individual components of the epoxy wall system, including physical properties, performance properties and tests, and submit Material Safety Data Sheets.
2. Each individual component of the system will be evaluated on the basis of these standards.
3. Manufacturer's standard color chart shall also be submitted, and must afford the owner color selection from at least twelve (12) standard colors.

B. LEED Submittals:

1. Product Data for credit IEQ4.2 for liquid applied flooring components, documentation including printed statement of VOC content.
2. Product Data for Credit MR 4.1 and for products used to repair and maintain existing buildings, documentation detailing building reuse properties.

C. Samples:

1. The contractor shall submit a 12" x 12" cured system sample, applied to a rigid backing which the contractor has made for verification purposes and finish texture approval.

### 1.4 QUALITY ASSURANCE

A. Manufacturer's Qualifications:

1. Obtain the epoxy wall system materials from a single manufacturer with a minimum of five (5) years verifiable experience providing materials in the type specified in this section.

B. Contractor's Qualifications:

1. Installation must be performed by a manufacturer certified contractor with skilled mechanics not having less than three (3) years satisfactory experience in the installation of the type of system as specified in this section, and must be certified in writing by the manufacturer of the specified epoxy wall system.

### 1.5 DELIVERY, STORAGE AND HANDLING.

A. Primary wall system materials shall be delivered in the manufacturer's undamaged, unopened containers. Each container shall be clearly marked with the following:

1. Product name(s) and/or Number(s)
2. Manufacturer's name
3. Component designation (A, B, etc.)
4. Product Mix Ratio
5. Health and Safety Information

6. Infotrac Emergency Response Information

B. Provide equipment and personnel to handle the materials by methods which prevent damage.

C. The contractor shall promptly inspect direct jobsite material deliveries to assure than quantities are correct, comply with requirements and are not damaged.

D. The contractor shall be responsible for materials furnished by him, and he shall replace, at his own expense, such materials that are found to be defective in manufacture or that have become damaged in transit, handling or storage.

E. Store material(s) in accordance with manufacturer's instructions, with seals and labels intact and legible. Maintain temperatures within the required range. Do not use materials that exceed the manufacturer's maximum recommended shelf life.

### 1.6 PROJECT CONDITIONS

A. The contractor should visit the jobsite prior to beginning the installation of the epoxy wall system to evaluate substrate condition, including substrate moisture content, and the extent of repairs required, if any. Concrete substrates shall be tested to verify that the moisture content of the substrate does not exceed the epoxy wall system's manufacturer's recommendations.

B. The contractor should exercise care during surface preparation and system installation to protect surrounding substrates and surfaces, as well as in-place equipment. The contractor shall prepare the substrate to remove laitance and open the surface. This shall be achieved by light sand blasting or grinding the surface, to establish a clean, workable profile. Surface profile achieved shall be similar to medium grit sandpaper and free from bond-inhibiting contaminants. Costs incurred that are associated with damage from negligence or inadequate protection shall be the sole responsibility of the contractor.

C. The minimum temperature of the wall must be conditioned to a minimum of 50°F-70°F before commencing installation, during installation, and for at least 72 hours after installation is complete.

D. Maintain lighting at a minimum uniform level of 50 or more foot-candles in areas where the epoxy wall system is being installed. Permanent lighting shall be in place and working during the installation. If permanent lighting is not in place, simulate permanent lighting conditions during the epoxy wall installation.

E. Leaks from pipes and other sources must be corrected prior to the installation of the epoxy wall system.

### 1.7 WARRANTY

A. The contractor and the manufacturer shall furnish a standard guarantee of the epoxy wall system for a period for 3 years after installation. The labor and material guarantee shall include loss of bond and wear-through to the substrate from normal use.

B. Not included in the warranty are damage due to structural design deficiencies including, but not limited to, slab cracking from lateral, vertical or rotational movement, and gouging or other damage, delamination caused by vapor transmission, Acts of God, or other elements beyond the scope of protection of this system nor causes not related to the system materials. In case of a warranty claim, the owner will notify the manufacturer and contractor in writing within 30 days of the first appearance of problems covered under this warranty. The owner will provide free and unencumbered access to the area during normal working hours for warranty rework. Property protection is also the owner's responsibility. Remedy is limited to direct repair of the epoxy wall system.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER INFORMATION

A. Plexi-Chemie Inc.
606 Lane Avenue North, Suite #6, Jacksonville, FL 32254
Phone: (904) 693-8800
Fax: (904) 693-8700

## 2.2 WALL SYSTEM INFORMATION

A. GlasLok 270 Fiberglass Wall-Layup System with Fiberglass Chop Strand @ 120 mils.

1. System Breakdown:
   a. 1st coat- Primer coat: Plexi*Glaze* #4 Primer @ 7-10 mils
   b. 2nd coat- Fiberglass Thixotropic Troweled Coating @ 100 mils
   c. 3rd coat- Lock coat: Plexi*Glaze* IFF @ up to 20 mils
   d. 4th coat- Top coat: Plexi*Glaze* IFF @ 10 mils or Plexi*Crest* P @ 2-3 mils

2. Patching/Caulking: No pre-patching is required. For significant gouging, use Plexi*Patch* QC

The total system thickness will be roughly 120 mils.

## 2.3 WALL SYSTEM PROPERTIES

| | |
|---|---|
| Compressive Strength (ASTM C-579) | 11,000 psi |
| Tensile Strength: (ASTM D-638) | 7,400 psi |
| Elongation: (ASTM D-638) | 15.5% |
| Flexural Strength | 8,900 psi |
| Adhesion: (ASTM D-4541)<br>To metal:<br>To concrete: | <br>2,600 psi<br>350 psi (Concrete fails) |
| Hardness: (ASTM D-2240) | 80 (Shore D) |
| Thermal Coefficient of Expansion (ASTM D-696) | 0.000014 per inch per F |
| Thermo Shock Resistance (ASTM C-884 | passes |
| Water Absorption ((ASTM C-413) | 0.1% |
| Flammability (ASTM D-635) | Self-extinguishing |
| Abrasion Resistance (ASTM D-4060) | 35 – 38 mg |
| Flammability (ASTM D-635) | Self-extinguishing |
| Abrasion Resistance (ASTM D-4060) | 35 – 38 mg |
| CS – 17 wheel, 1 kg. Load, 1,000 rev. | Weight loss |
| Service Temperature | 75°F (immersion)<br>25°F (dry heat) |
| Impact Resistance (MIL D-3134 F) | 16 foot-pounds<br>Concrete fractures |

# PART 3- EXECUTION

## 3.1 PREPARATION

A. Surface Preparation
1. Surfaces receiving the epoxy wall system should perform proper surface preparation and cleaning procedures before installing the epoxy wall system. Substrate should be clean, sound and dry before application.
2. Surfaces receiving the epoxy floorings system should be lightly sand blasted or diamond ground.
3. Substrate should be free of oil, grease, curing compounds, dust particles and dirt.

## 3.2 SYSTEM APLICATION

A. General
1. Apply each component of the GlasLok 270 fiberglass epoxy wall system in compliance with manufacturer's written installation instructions and strictly adhere to mixing and installation methods, recoat windows, cure times and environmental restrictions.

2. 1st coat: Apply a coat of Plexi*Glaze* #4 Primer to wall @ 7-10 mils using a roller or brush. Let coating cure for a minimum of 3 hrs.

3. 2nd coat: Using a trowel, apply the fiberglass chopped coating coating to the wall, making sure all of the areas are covered. Let troweled coating cure for a minimum of 6-8 hrs. After coating has cured, sand all surface imperfections using a Zec Wheel® or similar. Surface must be smooth before lock coat is applied.

4. 3rd coat: Apply a lock coat of Plexi*Glaze* IFF (pigmented & reinforced epoxy) at up to 20 mils, using a roller or brush. Let coating cure for a minimum of 6-8 hrs.

5. 4th coat: Apply a topcoat of either Plexi*Glaze* IFF (pigmented epoxy) at 10 mils, or Plexi*Crest* P (urethane topcoat) at 2-3 mils. Topcoat depends on desired thickness. Let coating cure for minimum of 10 hrs.

## 3.3 CURING, CLEANING AND PROTECTION

A. Cure the epoxy wall system materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of the installation and prior to completion of the curing process.

B. Clean the epoxy wall system just prior to final inspection, using materials and procedures suitable to the system manufacturer.

C. Some cleaners will affect the color, gloss or texture of an epoxy wall surface. To determine how a cleaner will perform, Plexi-Chemie recommends that you first test each cleaner, in a small area, utilizing your cleaning technique. This precaution will demonstrate the effect of your cleaner and technique. If no deleterious effects are observed, continue with the procedure. If deleterious effects do occur, modify the cleaning material and/or procedure. For recommendations regarding the types of cleaners, contact Plexi-Chemie, Inc., or refer to the Plexi-Chemie Cleaning and Maintenance Guide, located on our website (www.plexi-chemie.com).

END OF SECTION 099600