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Oak Ridge™
Foam & Coating Systems, Inc.

SPECIFICATION FOR TUNNEL WATERPROOFING
CONCRETE SURFACES
MIAMI-DADE APPROVED ORSLM PUR POLYUREA

NOTE: This specification is provided as a guide for the installation of Oak Ridge's waterproofing Membrane system which includes preparation of concrete surfaces, priming and the application of a **Miami-Dade approved** ORSLM pure Polyurea elastomeric coating.

I GENERAL

1.01 Work included: install Oak Ridge's E-41 Epoxy wash primer and OR80SLM Aluminum Polyurea elastomeric coating.

A. Provide all labor, materials, equipment and accessories to complete the installation of the waterproofing membrane system specified herein.

1. All surfaces to receive the specified waterproofing system shall be free of dirt, debris and other contaminants.
2. Area to be treated shall incorporate an air-recirculating process preventing any air contamination.
3. Preparation of all surfaces to receive work. In all cases, the substrates shall be clean, dry and stable.
4. Any and all metal surfaces receiving specified system shall be primed.

1.02 Work excluded:

A. Repair of structural components.

B. Replacement or modification of ductwork, mechanical equipment or other not to receive the specified system.

1.03 Approved materials and contractor:

A. The Contractor and specified products or materials associated with this shall be only if approved by Oak Ridge/Owner/Architect/Consultant

B. Oak Ridge shall be the Single source supplier.

C. The Contractor shall be experienced and an Approved Applicator for Oak Ridge Foam and Coating Systems, Inc.

1.04 Submittals:

A. Oak Ridge's published technical data including Safety Data sheets for components of the specified system.

B. Contractor's approval status confirmation from Oak Ridge Foam & Coating

Systems, Inc. issued before the provided bid due date.

C. Provide sample scope of maintenance agreement or guarantee.

1.05 Product, delivery and storage:

A. Deliver specified materials in unopened containers with labels intact and affixed. Included on each label is the Manufacturer's name, product name, type of product, batch number, mixing instructions and precautions.

B. Materials shall be delivered in sufficient quantities and in compliance with the supplied specification so as not to cause delays with its installation.

C. The Contractor shall be responsible for storage and protection of all materials required. Materials shall be stored in strict compliance with Oak Ridge's recommendations so as not to exceed temperature limitations and applicable safety regulatory agencies.

D. Owner's Representative and Contractor shall agree on staging area so as to limit any disruption to the daily operation.

1.06 Pre-construction conference: (optional)

A. Prior to commencement of work, a site tailgate meeting shall be held attended by the Contractor's Representative & employees, representative from Oak Ridge Foam & Coating Systems, Inc. and Owner's representative to review materials, application procedures and all items associated to this phase of the work.

1.07 Environmental requirements:

A. Install specified materials in strict compliance with all published safety, application and industry standards, including but not limited to climatic and temperature precautions.

B. The Contractor shall comply with all precautions to protect building, surrounding and adjacent facilities and property.

C. The Contractor shall post in accessible area safety data, product data and emergency exit information for review when requested.

1.08 Field Quality Program:

A. The following environmental conditions, including the overall conditions, shall be recorded by the Contractor on the Daily Quality Control Report and submitted with the finish structured guarantee request: General conditions, surface temperature, surface moisture, ambient temperature and relative humidity.

B. Equipment pressures and temperatures of spray equipment shall be monitored and recorded.

C. Product and components shall be maintained at 70° at the time of application for

proper dispensing. Polyurea product shall be mixed prior to use a minimum of 30 minutes.

D. Copies of photos, daily quality control reports and request for warranty (if applicable) shall be submitted to Oak Ridge Foam and Coating Systems, Inc. upon the successful completion of work.

II PRODUCTS:

2.01 Materials:

A. All products listed are manufactured, supplied or approved by Oak Ridge Foam and Coating Systems, Inc.

1. Primer: Oak Ridge's E-41 primer or as approved by Oak Ridge. OR-E41 is a four to one mix water-based primer. Must be 50°F or warmer to cure properly. For cooler temperatures, use Oak Ridge's single component urethane primer.

2. Polyurea Topcoat: Oak Ridge's OR80SLM pure Polyurea is a two component, 100% solids, 0 VOC, fast reactivity and curing coating system.

3. Sealants: One component moisture curing polyurethane sealant from the following manufacturers or approved equal; Pecora, Sika, Sonneborn.

III EXECUTION:

3.01 Surface Preparation:

A. Substrate Condition:

1. All loose paint, rust and scale shall be removed by power sanding to provide a clean surface.

a. Any defective metal substrate must be repaired.

B. Cleaning:

1. Power wash the designated surfaces of accumulated dirt, debris and other contaminants. Allow to thoroughly dry. Moisture content should be at the 7% reading.

a. Designated surfaces must be clean, dry and stable before primer is applied.

3.02 Priming:

A. Apply Oak Ridge's OR-E41 epoxy water-based primer at a minimum rate of 175 to 250 sq. ft. per gallon dependent on the surface profile and porosity of the concrete surfaces. Applied primer should be in the area of 3 to 6 mils dry.

3.03 NOA approved 3 lb. Spray Polyurethane Foam insulation:

A. Install 3lb density, NOA approved Polyurethane Foam to concrete surfaces parching the concrete surfaces filling in voids, cracks and other surface imperfections and providing an acceptable surface for the application of the Polyurea coating system. This stage of application shall be before the application of the primer.

3.04 Polyurea coating system:

A. Polyurea coating system:

1. Install a minimum of 3.75 gallons Theoretical or 60 dry mils. Any coating application that has not achieved the total dry mil thickness will require to be re-primed before applying any additional coating.

IV FIELD QUALITY CONTROL:

4.01 Inspection:

A. Coating thickness: The finished dry mil thickness will measure a minimum of 60 dry mils.

1. Any noted defects such as pinholes in the overall coating application shall be immediately corrected by the Contractor. Any blisters in the foam shall be removed and re-foamed. The area surrounding a repaired area shall be scuffed and primed before applying additional coating.

V Guarantee:

5.01Requirements:

A. Oak Ridge guarantees that the materials supplied will meet or exceed physical properties as published. Any additional warranty shall conform to the warranty requirements of Oak Ridge's warranty program.

1. The Contractor shall guarantee that all work performed will be free from defects in workmanship. Upon notice in writing to the Contractor and/or Oak Ridge Foam & Coating Systems, Inc., the Contractor shall make the necessary repairs or replacements of the defective work in question.