

## **Tnemec 237/280 Power-Tread Epoxy Seamless Flooring Specification**

### **PART I – GENERAL**

#### **1.01 QUALITY ASSURANCE**

##### **A. Acceptance Sample:**

1. A minimum one-foot square acceptance sample of the specified flooring system shall be prepared by the manufacturer's representative and submitted to the Owner prior to the bidding phase of the project. All bidders shall inspect the "acceptance sample" before submitting their bids. No contractor shall submit a bid that has not seen this sample.
2. The installed flooring system shall duplicate the acceptance sample in thicknesses of each respective film layer, color, texture and degree of overall appearance and finish.

##### **B. The finished floor coating shall be uniform in color, texture and appearance. All edges that terminate at walls, floor discontinuities and other embedded items shall be sharp, uniform and cosmetically acceptable with no thick or ragged edge. The Contractor shall work out an acceptable masking technique to ensure the acceptable finish of all edges.**

##### **C. Contractor Pre-qualification Requirements:**

1. Each bidder for this project shall be a pre-qualified and "Approved Applicator" at the time of bid submittal with 5 years minimum experience.
2. Each approved applicator shall have been pre-qualified in all phases of surface preparation and application of the specified floor coating system.

#### **1.02 SUBMITTALS**

- A. Acceptance Sample: The acceptance sample shall be a one foot square sample of Tnemec flooring system applied to hardboard or similar backing for rigidity and handling.
- B. Manufacturer's Literature: Descriptive data and specific recommendations for initiating, mixing, application and curing.
- C. Manufacturer's Material Safety Data Sheets (MSDS) for each respective product being used.

#### **1.03 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. All materials shall be delivered in original manufacturer's sealed containers with all pertinent labels intact and legible.
- B. Store materials in protected areas at a temperature between 70° F and 90° F.
- C. Follow all manufacturer's specific instructions and prudent safety practices for storage and handling.

#### **1.04 JOB CONDITIONS**

- A. The material, air and surface temperatures shall be in the range of 70° F to 85° F during application and cure.
- B. 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.
- C. The surfaces to be coated shall have been prepared as specified in Section 3.02 "Surface Preparation".
- D. Protect all adjacent surfaces not to be coated with masking and covers.

## **PART II – PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Tnemec Company Inc., 6800 Corporate Drive Kansas City, MO 64120-1372; (800) 863-6321.

### **2.02 APPROVED MATERIALS**

- A. Tnemec Series 237/280 Power-Tread Epoxy Flooring System:
  1. Saturating Prime Coat: Tnemec Series 237 100% Solids Epoxy Primer/Sealer.
  2. Intermediate Coat: Tnemec Series 237 with tint pack Power-Tread 100% Solids Epoxy with sand broadcast, to achieve to 1/8" thickness.
  3. Topcoat: Tnemec Series 280 100% solids epoxy topcoat.

Tnemec Company, Inc., is listed as the standard of excellence. Substitutions shall be considered but must be approved by Engineer prior to bid deadline. Offers for substitutions will not be considered which decrease film thickness, solids by volume or the number of coats to be applied or which propose a change from the generic type of coating specified herein. All substitutions shall include complete test reports to comply with specified performance criteria. Paint application shall be in strict accordance with manufacturer's printed instructions except that coating thickness specified in paint schedule herein shall govern.

### **COATING SYSTEMS PERFORMANCE**

**ABRASION METHOD:** ASTM D 4060, CS-17 Wheel, 1,000 grams load. **SYSTEM:** Series 280 Tnemec-Glaze cured seven days at 75°F (24°C). **REQUIREMENT:** No more than 55 mg loss, average of three tests.

**HARDNESS METHOD:** ASTM D 2240 (Shore D Durometer). **SYSTEM:** Series 280 Tnemec-Glaze cured 30 days at 75°F (24°C). **REQUIREMENT:** Not less than a Shore Type D hardness of 80, average of five tests. (TR5479)

**WATER VAPOR TRANSMISSION METHOD:** ASTM D 1653, Method B Wet Cup, Condition C. **SYSTEM:** Two coats Series 280 Tnemec-Glaze cured 30 days at 75°F (24°C). **REQUIREMENT:** No more than 2.75 g/m<sup>2</sup> per 24 hour water vapor transmission and no more than 0.20 perms water vapor permeability, average of three tests. (TR5314)

## 2.03 MATERIAL PREPARATION

- A. Mix all material in strict accordance with the manufacturer's specific instructions and procedures for the respective material being used.
- B. Pot life and cure times are very short; mix only enough product to satisfy immediate application requirements.

## **PART III – EXECUTION**

### 3.01 PRE WORK INSPECTION

- A. Examine all surfaces to be coated with these materials and report any conditions that adversely affect the appearance or performance of the coating systems and which cannot be put into acceptable condition by the preparatory work specified in Paragraph 3.02.
- B. Do not proceed with surface preparation and application until the surface is acceptable or authorization to proceed is given by the Architect or Engineer.
- C. Ensure that floor drains, proximate equipment and any other items sensitive to dust and contamination are properly and adequately masked and protected.

### 3.02 SURFACE PREPARATION

#### A. General:

1. Initially, dislodge dirt, mortar spatter and other dry surface accumulations and contamination by scraping, brushing, sweeping, vacuuming or compressed air blow-down.
2. Surfaces that are heavily contaminated with petroleum or other process products shall be cleaned with the appropriate degreaser, detergent or other effective cleaner/surfactant followed by thoroughly rinsing with fresh water to remove the accumulation prior to mechanical cleaning efforts. Mechanical cleaning will not remove such deposits, but will only drive them deeper.

#### B. Mechanical Surface Preparation and Cleaning:

1. All accessible floor surfaces shall be mechanically cleaned using a "Blast-Trac" method or approved equivalent. All existing coated surfaces to be re-coated are to be scarified 100% surface profile per SSPC-SP13 / NACE 6, ICRI CSP 3-5.
2. Floor areas that are inaccessible to the cleaning machine shall be mechanically abraded to the specified degree of cleanliness, soundness and profile using vertical disc scarifiers, starwheel scarifiers, grinders, needle guns or other suitable effective equipment.
3. Expansion joints shall be routed out and filled with materials recommended by the manufacturer. Other significant surface discontinuities such as holes, pits, depressions and exposed aggregate areas shall be filled with similar materials.
4. Allow the surface to dry or force dry with heat and circulating air to ensure that all surface, especially discontinuities, are visibly dry.

5. All concrete floor terminations and leading edges shall be saw-cut and chiseled down to ¼ to ½” as to avoid feathered edge terminations. This includes drains, construction & expansion joints and all leading edges of concrete floor where they meet dissimilar materials.

### 3.03 APPLICATION

#### A. Floor

1. This application shall consist of applying the Primer/Intermediate/Sealer, allowing time for cure, and then applying the topcoats in the sequence and film thicknesses as specified herein below and in Paragraph 3.06.
2. Open only the containers of components to be used in each specific application. Refer to manufacturer’s data sheets for pot life/temperature relationship to determine size of batches to mix.
3. Pour the mix onto the floor surface, flat squeegee and backroll to form a uniform, continuous film, ensuring that all crevices, cracks and other surface discontinuities have been saturated and coated.
4. Allow for the Primer/Sealer to cure.
5. A slurry broadcast is used to accomplish the total of 1/8” thick intermediate coat flush with plane of concrete. Broadcast with sand to rejection.
6. After full cure, sweep, vacuum and apply topcoat. If a smooth surface is desired, a second topcoat may be necessary.

### 3.04 INSPECTION

- A. Request acceptance of the Primer/Intermediate coats before application of the Topcoat commences.
- B. All work that is not acceptable to the Architect, Engineer or Owner must be corrected before consideration of final acceptance.

### 3.05 CLEAN-UP

- A. Remove any material spatters and other material that is not where it should be. Remove masking and covers, taking care not to contaminate surrounding areas.
- B. Repair any damage that should arise from either the application effort or from the clean-up effort.

### 3.06 COATING SCHEDULE

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|----|----------------------------|---|
| A. | <u>Primer/Sealer Coat:</u> | Tnemec Series 237 100% Solids Epoxy primer/sealer saturation at 150-200 sq. ft per gallon. DFT of 8 mils.               |
| B. | <u>Intermediate Coats:</u> | Tnemec Series 237 Power-Tread 100% Solids Epoxy at 1/8” with sand covering 100% of surface.                             |
| C. | <u>Topcoat:</u>            | Tnemec Series 280/281 100% Solids Epoxy at 80-100 sq. ft. per gallon.<br>Note: Non-skid is to be approved by the owner. |