

## **SECTION 09 96 00 - HIGH-PERFORMANCE COATINGS**

### **PART 1 - GENERAL**

#### **1.1 SYSTEM REQUIREMENTS**

- A. Design Requirements:
  - 1. Provide high-performance coatings on all exterior surfaces and where durable finishes are required on interior surfaces.
  - 2. Provide fiber-reinforced epoxy paint at vivariums.

#### **1.2 SUBMITTALS:**

- A. MSDS: Contractor to provide Material Safety Data Sheets (MSDS) for all coating to the University Project Manager prior to application.

### **PART 2 - PRODUCTS**

#### **2.1 MANUFACTURERS**

- A. Basis-of-Design Product: Subject to compliance with requirements, provide listed products by Tnemec or a comparable product by one of the following:
  - 1. Carboline, an RPM company.
  - 2. PPG Architectural Finishes, Inc.

#### **2.2 BLOCK FILLERS**

- A. Block Filler, Waterborne Cementitious Acrylic:
  - 1. Basis-of-Design Product: Tnemec; Series 130 – Envirofill.

#### **2.3 METAL FILLER/SURFACER**

- A. Filler/Surfacer, Modified Amine Epoxy Filler.
  - 1. Basis-of-Design Product: Tnemec; Series 63-1500 – Filler and Surfacers.

#### **2.4 INTERIOR PRIMERS/SEALERS**

- A. Primer Sealer, Modified Polyamine Epoxy, Interior:
  - 1. Basis-of-Design Product: Tnemec; Series 201 – Epoxoprime.

#### **2.5 METAL PRIMERS**

- A. Primer, Zinc-Rich, Urethane:
  - 1. Basis-of-Design Product: Tnemec; Series 94-H20 – Hydro-Zinc.
- B. Primer, Epoxy:
  - 1. Basis-of-Design Product: Tnemec; Series 27WB – F.C. Typoxy.

#### **2.6 EPOXY COATINGS**

- A. Waterborne Epoxy, Semi-gloss:
  - 1. Basis-of-Design Product: Tnemec; Series 287 – Enviro-Pox.
- B. Polyamidoamine Epoxy, Semi-gloss:

1. Basis-of-Design Product: Tnemec; Series L69 – Hi-Build Epoxoline II.
- C. Modified Polyamine 100 Percent Solids Epoxy, Gloss:
  1. Basis-of-Design Product: Tnemec; Series 280 – Tneme-Glaze.
- 2.7 POLYURETHANE COATINGS
  - A. Aliphatic Acrylic Polyurethane, Two-Component, Semi-Gloss:
    1. Basis-of-Design Product: Tnemec; Series 750 – Endura-Shield
  - B. Ceramic-Modified, Waterborne, Aliphatic Polyurethane, Two-Component, Gloss.
    1. Basis-of-Design Product: Tnemec; Series 297 – Enviro-Glaze.
- 2.8 ELASTOMERIC COATINGS
  - A. Acrylate Elastomer, Matte:
    1. Basis-of-Design Product: Tnemec; Series 156 – Enviro-Crete.
- 2.9 FIBER REINFORCED EPOXY WALL COATING
  - A. Fiber reinforced epoxy: Two-part, spray-applied, fiber reinforced, 100 percent solids, accelerated aliphatic amine cured epoxy system with non-leaching antimicrobial additives.
    1. Basis-of-Design Manufacturer: Prim Coat Coating Systems.

### PART 3 - EXECUTION

- 3.1 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE
  - A. Concrete Substrates, Vertical Surfaces:
    1. Elastomeric System:
      - a. Surface Preparation: SSPC-SP 13/NACE 6. Clean and dry.
      - b. Prime Coat: To match topcoat; DFT 4.0 to 8.0 mils.
      - c. Topcoat: Acrylate elastomer, matte; DFT 4.0 to 8.0 mils. Total DFT: 8.0 to 16.0 mils.
  - B. CMU Substrates:
    1. Elastomeric System: At all CMU locations schedule to receive paint.
      - a. Surface Preparation: Clean and dry.
      - b. Block Filler: Block filler, waterborne cementitious acrylic.
      - c. Intermediate Coat: Acrylate elastomer, matte; DFT 4.0 to 8.0 mils.
      - d. Topcoat: Acrylate elastomer, matte; DFT 4.0 to 8.0 mils. Total DFT: 8.0 to 16.0 mils.
  - C. Steel Substrates:
    1. Pigmented Polyurethane over Zinc-Rich Primer System: At all exterior exposed structural steel and miscellaneous metals unless noted otherwise.
      - a. Surface Preparation: SSPC-SP 6/NACE 3.
      - b. Prime Coat: Primer, zinc-rich, urethane; DFT 2.5 to 3.5 mils.
      - c. Intermediate Coat: Polyamidoamine epoxy; DFT 2.0 to 4.0 mils.
      - d. Topcoat: Aliphatic, polyurethane, two-component, pigmented, semi-gloss; DFT 3.0 to 4.0 mils. Total DFT: 7.5 to 11.5 mils.
  - D. Galvanized-Metal Substrates:
    1. Pigmented Polyurethane System: At all exterior exposed galvanized metal.
      - a. Surface Preparation: Abrasive blast or chemically cleaned and etched.
      - b. Prime Coat: Primer not required; intermediate coat is self-priming.
      - c. Intermediate Coat: Polyamidoamine epoxy; DFT 2.0 to 4.0 mils.

- d. Topcoat: Aliphatic, polyurethane, two-component, pigmented, semi-gloss; DFT 3.0 to 4.0 mils.
- e. Total DFT: 5.0 to 8.0 mils.

### 3.2 INTERIOR HIGH-PERFORMANCE COATING SCHEDULE

#### A. Concrete Substrates, Vertical Surfaces:

##### 1. Epoxy/Polyurethane System:

- a. Surface Preparation: SSPC-SP 13/NACE 6, clean and dry.
- b. Prime Coat: To match intermediate coat; DFT 2.0 to 3.0 mils.
- c. Intermediate Coat: Waterborne epoxy, semi-gloss; DFT 2.0 to 3.0 mils. Topcoat: Ceramic-modified, waterborne, two-component, aliphatic polyurethane, gloss; DFT 2.0 to 3.0 mils.
- d. Total DFT: 6.0 to 9.0 mils.

#### B. CMU Substrates:

##### 1. Epoxy/Polyurethane System: At all CMU locations scheduled to receive paint unless otherwise indicated.

- a. Surface Preparation: Clean and dry.
- b. Block Filler: Block filler, waterborne cementitious acrylic.
- c. Primer: To match intermediate coat; DFT 2.0 to 3.0 mils.
- d. Intermediate Coat: Waterborne epoxy, semi-gloss; DFT 2.0 to 3.0 mils.
- e. Topcoat: Ceramic-modified, waterborne, two-component, aliphatic polyurethane, gloss; DFT 2.0 to 3.0 mils.
- f. Total DFT: 6.0 to 9.0 mils.

##### 2. 100 Percent Solids Epoxy System: At all CMU locations in areas subject to continuous wetting, for example, shower stalls.

- a. Surface Preparation: Clean and dry.
- b. Block Filler: Block filler, waterborne cementitious acrylic.
- c. Primer: To match topcoat; DFT 6.0 to 8.0 mils.
- d. Topcoat: Modified polyamine, 100 percent solids epoxy, gloss; DFT 6.0 to 8.0 mils.
- e. Total DFT: 12.0 to 16.0 mils.

#### C. Steel Substrates:

##### 1. Pigmented Polyurethane System: At all exposed structural steel, miscellaneous metals.

- a. Surface Preparation: SSPC-SP 6/NACE 3.
- b. Prime Coat: To match intermediate coat; DFT 2.0 to 3.0 mils.
- c. Intermediate Coat: Polyamidoamine epoxy; DFT 2.0 to 3.0 mils.
- d. Topcoat: Aliphatic, polyurethane, two-component, pigmented, semi-gloss; DFT 3.0 to 4.0 mils.
- e. Total DFT: 7.0 to 10.0 mils.

##### 2. Pigmented Polyurethane System over Manufacturer's Standard Primer: At all interior painted hollow metal doors and frames, handrails, guardrails, stairs, ladders and ship's ladders.

- a. Prime Coat: Manufacturer's standard universal primer.
- b. Intermediate Coat: Polyamidoamine epoxy; DFT 2.0 to 3.0 mils.
- c. Topcoat: Aliphatic, polyurethane, two-component, pigmented, semi-gloss; DFT 3.0 to 4.0 mils.

#### D. Galvanized-Metal Substrates:

##### 1. Pigmented Polyurethane System: At all interior exposed galvanized metal.

- a. Surface Preparation: Abrasive blast or chemically cleaned and etched.
- b. Prime Coat: Primer not required; intermediate coat is self-priming.
- c. Intermediate Coat: Polyamidoamine epoxy; DFT 2.0 to 4.0 mils.
- d. Topcoat: Aliphatic, polyurethane, two-component, pigmented, semi-gloss; DFT 3.0 to 4.0 mils.
- e. Total DFT: 5.0 to 8.0 DFT.

- E. Gypsum Board Substrates:
  - 1. Epoxy/Polyurethane System: At all gypsum board surfaces scheduled to receive high-performance coatings.
    - a. Surface Preparation: Level 5 finish.
    - b. Prime Coat: Primer sealer, modified polyamine epoxy; DFT 4.0 to 6.0 mils.
    - c. Intermediate Coat: Waterborne epoxy, semi-gloss; DFT 2.0 to 3.0 mils.
    - d. Topcoat: Ceramic-modified, waterborne, two-component, aliphatic polyurethane, gloss; DFT 2.0 to 3.0 mils.
    - e. Total DFT: 8.0 to 12.0 mils.

**END OF SECTION 09 96 00**