

SPECIAL SPECIFICATION

SECTION 09960S

HIGH-PERFORMANCE COATINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. High performance coatings and special preparation of surfaces.

1.02 RELATED SECTIONS

- A. Section 09900 – Painting.

1.03 REFERENCES

- A. ASTM E 84 - Surface Burning Characteristics of Building Materials.
- B. FS TT-C-535 - Coating, Epoxy, Two-Component, for Interior Use on Metal, Wood, Wallboard, Painted Surfaces, Concrete and Masonry.
- C. SSPC SP 2 - Hand Tool Cleaning.
- D. SSPC SP 3 - Power Tool Cleaning.
- E. SSPC SP 5 - White Metal Blast Cleaning.
- F. SSPC SP 6 - Commercial Blast Cleaning.
- G. SSPC SP 7 - Brush-Off Blast Cleaning.
- H. SSPC SP 10 - Near-White Blast Cleaning.
- I. SSPC SP 11 - Power Tool Cleaning to Bare Metal.
- J. SSPC Paint 17 - Chlorinated Rubber Primer.
- K. SSPC Paint 18 - Chlorinated Rubber Intermediate Coat Paint.
- L. SSPC Paint 19 - Chlorinated Rubber Topcoat Paint.

1.04 PERFORMANCE REQUIREMENTS

1.05 SUBMITTALS

- A. Product Data: Submit data indicating coating materials and performance ratings.
- B. Submit manufacturer's color samples showing full range of standard colors.
- C. Manufacturer's Installation Instructions: Submit special procedures and perimeter conditions requiring special attention.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Operation and Maintenance Data: Submit maintenance and cleaning requirements for coatings, repair and patching techniques.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing Work of this section with minimum three years documented experience.

1.07 MOCK-UP

- A. Provide 1 mock-up, 2 feet long by 2 feet wide, illustrating coating, color, and surface sheen, for each specified coating.
- B. Locate where directed.
- C. Mock-up may not remain as part of the Work.

1.08 PRE-INSTALLATION MEETING

- A. Convene minimum one week prior to commencing Work of this section.

1.09 ENVIRONMENTAL REQUIREMENTS

- A. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.
- B. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.
- C. Provide lighting level of 80 footcandles measured mid-height at substrate surface.

D. Restrict traffic from area where coating is being applied or is curing.

1.10 WARRANTY

A. Manufacturer shall furnish a single, written warranty covering both material and workmanship for a period of one (1) full year from date of installation.

B. Include coverage for bond to substrate and degradation of chemical resistance.

1.11 EXTRA MATERIALS

A. Supply one gallon of each color of each type of coating specified, for Owner's maintenance use.

B. Label each container with manufacturer's name, product number, color number, and room names and numbers where used.

1.12 DELIVER, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying:

1. Coating or material name.
2. Manufacturer.
3. Color name and number.
4. Bath or lot number.
5. Date of manufacture.
6. Mixing and thinning instructions.

B. Storage:

1. Store materials in a clean dry area and within temperature range in accordance with manufacturer's instructions.
2. Keep containers sealed until ready for use.
3. Do not use materials beyond manufacturer's shelf life limits.

C. Handling: Protect materials during handling and application to prevent damage or contamination.

PART 2 - PRODUCTS

2.01 HIGH PERFORMANCE COATINGS

A. Manufacturers:

1. Carboline Company.
2. Coronado Paints.
3. Duron Inc.
4. MAB Industrial Coatings.
5. Tnemec Co., Inc.

2.02 SYSTEMS

- A. General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.
1. Lead Content: None.
 2. Chromium Content, as Zinc Chromate or Strontium Chromate: None.
 3. Maximum VOC Content: As required by applicable regulations.
 4. Colors: Selected from manufacturer's standard colors.
- B. Modified Polyamine Epoxy (EP-1); Match or exceed the performance criteria and physical properties of "Series 280" by Tnemec Co. Inc. Refer to Section 3.5 Schedule for location of use.
- C. Polyamine Novalac Epoxy (EP-2); Match or exceed the performance Criteria and physical properties of "Series 282" by Tnemec Co. Inc. Refer to Section 3.5 Schedule for location of use.
- D. Waterborne Acrylic Epoxy (EP-3); Match or exceed the performance criteria and physical properties of "Series 113" by Tnemec Co. Inc. Refer to Section 3.5 Schedule for location of use. Primers: As recommended by coating manufacturer for specific substrate , unless otherwise specified.
- F. Shellac: Pure, white type.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.

3.02 PREPARATION

A. Surface Preparation Of Steel

1. Prepare steel surfaces in accordance with manufacturer's instructions.
2. Fabrication Defects:
 - a. Correct steel and fabrication defects revealed by surface preparation.
 - b. Remove weld spatter and slag.
 - c. Round sharp edges and corners of welds to a smooth contour.
 - d. Smooth weld undercuts and recesses.
 - e. Grind down porous welds to pinhole-free metal.
 - f. Remove weld flux from surface.
3. Ensure surfaces are dry.
4. Remove visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter in accordance with SSPC-SP 6/NACE 3, unless otherwise specified.
5. Abrasive Blast-Cleaned Surfaces: Coat abrasive blast-cleaned surfaces with primer before visible rust forms on surface. Do not leave blast-cleaned surfaces uncoated for more than 8 hours.
6. Shop Primer: Prepare shop primer to receive field coat in accordance with manufacturer's instructions.

3.03 INSTALLATION

- A. Apply coatings in accordance with manufacturer's instructions.
- B. Mix and thin coatings, including multi-component materials, in accordance with manufacturer's instructions.
- C. Keep containers closed when not in use to avoid contamination.

1. Do not use mixed coatings beyond pot life limits.
- D. Use application equipment, tools, pressure settings, and techniques in accordance with manufacturer's instructions.
- E. Uniformly apply coatings at spreading rate required to achieve specified DFT.
- F. Apply coatings to be free of film characteristics or defects that would adversely affect performance or appearance of coating systems.
- G. Stripe paint with brush critical locations on steel such as welds, corners, and edges using specified primer.

3.04 CLEANING

- A. Collect waste material which may constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. Clean surfaces immediately of overspray, splatter, and excess material.
- C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.05 SCHEDULE

See Attached.