8.0 COATING SYSTEM GUIDELINES

COATING SYSTEM GUIDELINE

Coating System I.D. A-1

Coating System Description: 2 Coat Alkyd System

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Interior or Exterior, Non-Immersed, Non-Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Hand and power tool clean per SSPC-SP-2 and SSPC-SP-3. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where coatings have failed, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.0 to 1.5 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 1.0 to 1.5 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile. Follow CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together. Stripe coat all steel edges, etc. with finish coat also followed by application of full finish coat.

4. Carefully follow CSM's written instructions regarding mixing thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

   - Primer Coat – Spray, brush or roller apply at 2.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 2.0 – 2.5 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

a. Inspect or test in accordance with the requirements of Section 7, Part 4.01.

b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations. Check DFT carefully as coating system A-1 does not build well on edges.

3. Quality watchouts.

    a. Impending rain or drastic drops in ambient air temperature.

    b. Flash rusting of ferrous surfaces or flash rusting through previously applied coats.

COATING SYSTEM GUIDELINE
Coating System I.D. E-1

Coating System Description: 2 Coat Polyamide or Amidoamine Epoxy System

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Interior, Immersed or Non-Immersed, Mildly Corrosive, Splash/Spill,Wet.

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7. Check the latest Product Data Sheet from the manufacturer(s) for surface preparation for the specific substrate(s). The most stringent requirement shall be used.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous metal surfaces per SSPC SP 6 Commercial Blast Cleaning and impart a uniform 1.5 to 2.0 mil surface profile for non-immersed surfaces. Abrasive blast clean to SSPC-SP-10 with 1.5 to 2.0 mil profile for immersed surfaces. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 1.5 to 2.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile. Follow CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

- Primer Coat – Spray, brush or roller apply at 3.0 - 3.5 mils DFT.
- Finish Coat – Spray, brush or roller apply at 2.0 – 2.5 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and

comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

COATING SYSTEM GUIDELINE

Coating System I.D. E-1-G

Coating System Description: 2 Coat Polyamide or Amidoamine Epoxy System

A. SUBSTRATE

Galvanized Carbon Steel

B. ENVIRONMENTS

Interior, Non-Immersed, Mildly Corrosive, Splash/Spill

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7. Check the latest Product Data Sheet from the manufacturer(s) for surface preparation for the specific substrate(s). The most stringent requirement shall be used.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast galvanized carbon steel per SSPC SP 7 Brush-Off Blast Cleaning and impart 1.0 surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 1.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coating and provide a WJ-2 condition, however, do not remove zinc. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile.

4. Solvent wipe galvanized steel surfaces per SSPC-SP 1 Solvent Cleaning, using solvent as recommended by the CSM.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply prime coat within 8 hours of completion of surface preparation.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

   - Primer Coat – Spray, brush or roller apply at 3.0 - 3.5 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 2.0 – 2.5 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand-Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Solvent from solvent wiping is thoroughly dry prior to primer coat application.

COATING SYSTEM GUIDELINE

Coating System I.D. E-1-NF

Coating System Description: 2 Coat Polyamide or Amidoamine Epoxy System

A. SUBSTRATE

Non-Ferrous Metals

B. ENVIRONMENTS

Interior, Non-Immersed, Mildly Corrosive, Splash/Spill, Buried Piping in Non-Aggressive Soils

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7. Check the latest Product Data Sheet from the manufacturer(s) for surface preparation for the specific substrate(s). The most stringent requirement shall be used.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast non-ferrous metal surfaces per SSPC SP 6 Commercial Blast Cleaning and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 1.5 to 2.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation..

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

   - Primer Coat – Spray, brush or roller apply at 3.0 - 3.5 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 2.0 – 2.5 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

   c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or

replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand-Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

COATING SYSTEM GUIDELINE

Coating System No. E-2-C

Coating System Description: 2 Coat Polyamide or Amidoamine Epoxy System with Filler/Surfacer

A. SUBSTRATES

Concrete, CMU

B. ENVIRONMENT

Interior, Non-Immersed, Mildly Corrosive, Splash/Spill

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7. Check the latest Product Data Sheet from the manufacturer(s) for the surface preparation for the specific substrate(s). The most stringent requirement shall be used.

2. Grind concrete fins, splatter, overbuilt mortar joints, or other cementitious protrusions flush with adjacent surfaces.

3. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete and, as applicable SSPC-SP 7 Brush-Off Blast Cleaning, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-3 in accordance with ICRI 03732.

4. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

   - Filler/Surfacer – As recommended by CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
   - Primer Coat – Spray, brush or roller apply at 4.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply to 4.0 mils DFT.

4. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

   c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

   d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

    a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

    b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

    c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

    d. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

3. Quality watchouts.

    a. Substrate temperature should be dropping when coatings are applied.

    b. Impending rain or drastic drops in ambient air temperature.

    c. Substrates are too moist or wet.

COATING SYSTEM GUIDELINE

Coating System I.D. E-3

Coating System Description: 2 Coat Aluminum Filled Epoxy Mastic System

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Interior, Non-Immersed, Mildly or Non-Corrosive Corrosive, Minimal Surface Preparation Obtainable

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Prepare ferrous metal surfaces per SSPC SP 3 Power Tool Cleaning and impart a uniform 2.0 to 2.5 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 2.0 to 2.5 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-3 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile. Follow coating CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

   - Primer Coat – Spray, brush or roller apply at 3.5 - 4.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 3.5 – 4.0 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

   c. For abrasive blast preparation, do blotter test for compressed air and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (of grade appropriate for profile depth) and spring micrometer of surface profile gage.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

COATING SYSTEM GUIDELINE

Coating System I.D. E-3-NF

Coating System Description: 2 Coat Aluminum Filled Epoxy Mastic System

A. SUBSTRATE

Non-Ferrous Metals

B. ENVIRONMENTS

Interior, Non-Immersed, Mildly or Non-Corrosive Corrosive, Minimal Surface Preparation Obtainable

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Prepare non-ferrous metal surfaces per SSPC SP 3 Power Tool Cleaning and impart a uniform 2.0 to 2.5 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 2.0 to 2.5 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-3 condition. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers, to rough, sharp or edge areas. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Apply the coating materials by spray, brush, or roller. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

5. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

6. Apply the following:

   - Primer Coat – Spray, brush or roller apply at 3.5 - 4.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 3.5 – 4.0 mils DFT.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

   c. For abrasive blast preparation, do blotter test for compressed air and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage. Follow coating CSM's recommendations regarding the use of rust inhibitors.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

COATING SYSTEM GUIDELINE

Coating System I.D. E-4

Coating System Description: Cycloaliphatic Amine Cured Epoxy System (Apply zinc rich primer only for non-immersion conditions. Apply 2 coat epoxy system for immersion conditions.)

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Interior Corrosive, Immersion, Non-Immersion

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7. Check the latest Product Data Sheet from the manufacturer(s) for surface preparation for specific substrate(s). The most stringent requirement shall be used.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous metal surfaces per SSPC SP 6 Commercial Blast Cleaning and impart a uniform 2.5 to 3.0 mil surface profile for non-immersed substrates. For immersed substrates, abrasive blast clean per SSPC-SP-10, Near White Metal Blast Cleaning and impart a 2.5 to 3.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 2.5 to 3.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 2.5 to 3.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and

Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition. Follow CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat or intermediate coat within 8 hours of completion of surface preparation to prevent rustback. Only apply/use zinc rich primers on steel to be exposed to non-immersion conditions.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer or intermediate coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

- Primer Coat – Spray, brush or roller apply at 4.0 mils DFT. (For non-immersion conditions only.)
- Intermediate Coat – Spray, brush or roller apply at 6.0 mils DFT. (Apply at 6 to 8 mils DFT to immersion conditions.)
- Finish Coat – Spray, brush or roller apply to 6.0 mils DFT. (Apply at 6 to 8 mils DFT to immersion conditions.)

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

   c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

      For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

      For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

e. Perform holiday detection in accordance with ASTM D5162. Coating system must be holiday free.

3. Quality watchouts.

a. Impending rain or drastic drops in ambient air temperature.

b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

COATING SYSTEM GUIDELINE

Coating System No. E-4-C

Coating System Description: 3 Coat CycloaliphaticAmine Cured Epoxy System with Filler/Surfacer

A. SUBSTRATES

Concrete, CMU

B. ENVIRONMENT

Interior, Immersion, Non-Immersed, Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete and, as applicable SSPC-SP 7 Brush-Off Blast Cleaning, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-4 in accordance with ICRI 03732.

4. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

- Filler/Surfacer – As recommended by CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
- Primer Coat – Spray, brush or roller apply at 4.0 mils DFT.
- Intermediate Coat – Spray, brush or roller apply at 6.0 mils DFT.
- Finish Coat – Spray, brush or roller apply to 6.0 mils DFT.

4. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

   c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

   d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

e. Perform holiday detection in accordance with ASTM D4787. Coating system must be holiday free.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   c. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

3. Quality watchouts.

   a. Substrate temperature should be dropping when coatings are applied.

   b. Impending rain or drastic drops in ambient air temperature.

   c. Substrates are too moist or wet.

COATING SYSTEM GUIDELINE

Coating System I.D. E-5

Coating System Description: 2 Coat Blended Amine Cured Epoxy System

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Headspaces with 150 ppm (or lower) H_2S Gas, plus 1' – 0" Below Low Water Level.

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous metal surfaces per SSPC SP 5 White Metal Blast Cleaning and impart a uniform 3.5 to 4.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 3.5 to 4.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 3.5 to 4.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-1 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile. Follow CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

   - Primer Coat – Spray, brush or roller apply at 20.0 – 25.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 20.0 – 25.0 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

   c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual

Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Perform holiday detection in accordance with ASTM D5162. Coating system must be holiday free.

3. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

4. Quality watchouts.

    a. Impending rain or drastic drops in ambient air temperature.

    b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

    c. Correct proportioning of plural component application equipment (if utilized).

COATING SYSTEM GUIDELINE

Coating System No. E-5-C

Coating System Description: 2 Coat Blended Amine Cured Epoxy System

A. SUBSTRATES

Concrete

B. ENVIRONMENT

Overhead/Headspaces with 150 ppm (or lower) H_2S Gas, Plus 1' – 0" Below Waterline.

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-5 in accordance with ICRI 03732.

4. Allow to thoroughly dry for 5 days under warm dry weather (at least $75^{o}F$) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. As required, apply the filler/surfacer by squeegee, trowel, or broad knife

3. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

4. Apply the following:

   - Filler/Surfacer – As recommended by the CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
   - Primer Coat – Spray, brush or roller apply at 20.0 – 25.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 20.0 – 25.0 mils DFT.

5. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

6. Coating system to be pinhole and holiday free when complete.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

   c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

   e. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations. Also, inspect carefully visually for pinholes and holidays. Repair all holidays or pinholes in accordance with the recommendations of the CSM.

   f. Perform holiday detection in accordance with ASTM D4787. Coating system must be holiday free.

3. Quality watchouts.

   a. Substrate temperature should be dropping when coatings are applied.

   b. Impending rain or drastic drops in ambient air temperature.

   c. Substrates are too moist or wet.

COATING SYSTEM GUIDELINE

Coating System No. E-6

Coating System Description: Blended Amine Cured Trowel Applied Epoxy Lining System with Filler/Surfacer

A. SUBSTRATES

Concrete

B. ENVIRONMENT

Headspaces with 150 ppm (or lower) H_2S Gas, Plus 1' – 0" Below Low Waterline – Do not use for overhead surfaces. Use Coating System No. E-5 for overhead surfaces.

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Terminations for the coating system shall be prepared and installed in accordance with the CSM's standard details and drawings. See 1.07 B. 6 of Section 7.

4. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-7 in accordance with ICRI 03732.

5. Allow to thoroughly dry for 5 days under warm dry weather (at least $75^{o}F$) if wet abrasive or water blasting was used for surface preparation.

6. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

- Filler/Surfacer – As recommended by the CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
- Trowel Applied Coat – Apply by trowel at 125.0 mils DFT.

4. Coating system to be pinhole and holiday free when complete.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

    a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

    b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

    c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

    d. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

    e. Perform holiday detection in accordance with ASTM D4787. Coating system must be holiday free.

3. Quality watchouts.

    a. Substrate temperature should be dropping when coatings are applied.

    b. Impending rain or drastic drops in ambient air temperature.

    c. Substrates are too moist or wet.

    d. Devoid of trowel marks, wavy finish surface and having a uniform and closed finish texture.

    e. Do not featheredge filler/surfacers or lining. Carefully follow CSM's recommendations regarding minimum and maximum thickness requirements.

COATING SYSTEM GUIDELINE

Coating System No. EF-1

Coating System Description: 3 Coat Epoxy Broadcast Flooring System

A. SUBSTRATES

Concrete

B. ENVIRONMENT

Interior, Light Duty, Light Wheeled and Foot Traffic, Mildly Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Terminations for the coating system shall be prepared and installed in accordance with the CSM's standard detail drawings. See 1.07 B. 6 of Section 7.

4. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-7 in accordance with ICRI 03732.

5. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

6. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

- Filler/Surfacer – As recommended by CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
- Primer Coat - Brush or roller apply at 6.0 – 10.0 mils DFT.
- Broadcast Applied Coat – Brush or roller catalyzed resin and broadcast aggregate to rejection (should achieve 100 to 105 mils DFT).
- Topcoat – Brush or roller apply at 8.0 – 10.0 mils.
- Total System DFT = 125 mils.

4. Install all termination and transition details in accordance with the CSM's detail drawings.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

c. Check for moisture vapor emissions per ASTM F 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. Do not apply materials and consult with CSM if emission rates are 3.0 lbs./1,000 sq. ft./24 hr. or greater.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

3. Quality watchouts.

a. Substrates are too moist or wet. Test for moisture.

b. Ensure closed and even surfaces, uniform in color, gloss and surface texture with the desired established degree of slip resistance, finish surfaces that are devoid of trowel marks, waviness, ridges, depressions or protrusions, pitched to drains (as required) and flush with drain tops.

c. Mask drains to protect from clogging with abrasives and flooring materials.

d. Do not featheredge filler/surfacers or lining. Carefully follow CSM's recommendations regarding minimum and maximum thickness requirements.

COATING SYSTEM GUIDELINE

Coating System No. EF- 2

Coating System Description: 3 Coat Troweled Epoxy Mortar Flooring System

A. SUBSTRATES

Concrete

B. ENVIRONMENT

Interior, Heavy Duty, Heavy Wheeled and Foot Traffic, Mildly Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Terminations for the coating system shall be prepared and installed in accordance with the CSM's standard detail drawings. See 1.07 B. 6 of Section 7.

4. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-7 (minimum) in accordance with ICRI 03732.

5. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

6. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

- Filler/Surfacer – As recommended by the CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
- Primer Coat - Brush or roller apply at 6.0 – 10.0 mils DFT.
- Trowel Applied Coat – Trowel apply to 230 – 236 mils.
- Topcoat – Brush or roller apply at 8.0 – 10.0 mils. Cumulative dry film thickness.
- Total System Thickness is 250 mils.

4. Install all terminations and transition details in accordance with the CSM's detail drawings.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

c. Check for moisture vapor emissions per ASTM F 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. Do not apply materials and consult with the CSM if emission rates are 3.0 lbs./1,000 sq. ft./24 hr. or greater.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

   e. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

3. Quality watchouts.

   a. Substrates are too moist or wet. Test for moisture.

   b. Ensure closed and even surfaces, uniform in color, gloss and surface texture with the desired established degree of slip resistance, finish surfaces that are devoid of trowel marks waviness, ridges, depressions or protrusions, pitched to drains (as required) and flush with drain tops.

   c. Mask drains to protect from clogging with abrasives and flooring materials.

   d. Do not featheredge filler/surfacers or lining. Carefully follow CSM's recommendations regarding minimum and maximum thickness requirements.

COATING SYSTEM GUIDELINE

Coating System I.D. EU-1

Coating System Description: 3 Coat Epoxy, Epoxy, Polyurethane System

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Exterior

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous metal surfaces per SSPC SP 6 Commercial Blast Cleaning and impart a uniform 2.0 to 2.5 mil surface profile. Re-blast as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 2.0 to 2.5 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 2.0 to 2.5 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile. Follow coating CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

   - Primer Coat – Spray, brush or roller apply to 3.0 - 3.5 mils DFT.
   - Intermediate Coat – Spray, brush or roller apply to 6.0 - 7.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 2.5 –3.0 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

COATING SYSTEM GUIDELINE

Coating System I.D. EU-1-FRP

Coating System Description: 2 Coat Epoxy, Polyurethane System

A. SUBSTRATE

FRP

B. ENVIRONMENTS

Exterior - Exposed to chemical liquid spills or corrosive fumes.

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.
2. Sand FRP surfaces to produce a uniform surface roughness.
3. Solvent wipe per SSPC SP 1 Solvent Cleaning using solvent as recommended by the CSM.
4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.
2. Apply primer coat following completion of surface preparation.
3. Carefully follow CSM's written instructions regarding mixing, thinning, application, minimum and maximum recoat limitations and curing of coating materials.

4. Apply the following:

   - Primer Coat – Spray, brush or roller apply to 2.0 - 2.5 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 3.0 –3.5 mils DFT.

5. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01, as applicable.

   b. Inspect visually for surface roughness and cleanliness (with clean white rags).

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Solvent from solvent wiping has thoroughly evaporated prior to coating application.

   c. Do not expose fiberglass strands via surface preparation. If so, remove by cutting, sanding or other appropriate means. Do not burn off.

COATING SYSTEM GUIDELINE

Coating System I.D. EU-1-G

Coating System Description: 2 Coat Polyamide or Amidoamine Epoxy System

A. SUBSTRATE

Galvanized Carbon Steel

B. ENVIRONMENTS

Exterior, Non-Immersed, Mildly Corrosive, Splash/Spill

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast galvanized carbon steel per SSPC SP 7 Brush-Off Blast Cleaning and impart 1.0 surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.0. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 1.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition, however, do not remove zinc. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile.

4. Solvent wipe galvanized steel surfaces per SSPC-SP 1 Solvent Cleaning, using solvent as recommended by the CSM.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

- Primer Coat – Spray, brush or roller apply at 2.5 to 3.0 mils DFT.
- Intermediate Coat – Spray, brush or roller apply at 4.0 – 5.0 mils DFT.
- Finish Coat – Spray, brush or roller apply at 2.5 – 3.0 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

a. Impending rain or drastic drops in ambient air temperature.

b. Solvent from solvent wiping is thoroughly dry prior to primer coat application.

COATING SYSTEM GUIDELINE

Coating System I.D. EU-1-NF

Coating System Description: 3 Coat Epoxy, Epoxy, Polyurethane System

A. SUBSTRATE

Non-Ferrous Metals

B. ENVIRONMENTS

Exterior

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast non-ferrous metal surfaces per SSPC SP 6 Commercial Blast Cleaning and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile

   Where abrasive blasting has previously been done and a uniform 1.5 to 2.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation..

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

   - Primer Coat – Spray, brush or roller apply at 2.5 to 3.0 mils DFT.
   - Intermediate Coat – Spray, brush or roller apply at 4.0 – 5.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 2.5 – 3.0 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

   c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check degree of surface profile via surface profile comparator and

comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

COATING SYSTEM GUIDELINE

Coating System I.D. EU-2

Coating System Description: 3 Coat Organic Zinc, Epoxy, Polyurethane System

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Exterior, Mildly Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous metal surfaces per SSPC SP 6 Commercial Blast Cleaning and impart a uniform 2.0 to 2.5 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 2.0 to 2.5 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile

   Where abrasive blasting has previously been done and a uniform 2.0 to 2.5 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat via brushes or rollers. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

5. Apply the following:

   - Primer Coat – Spray, brush or roller apply at 3.0 - 3.5 mils DFT.
   - Intermediate Coat – Spray, brush or roller apply to 6.0 - 7.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 2.5 – 3.0 mils DFT.

6. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

    a. Impending rain or drastic drops in ambient air temperature.

    b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

COATING SYSTEM GUIDELINE

Coating System No. FP-2

Coating System Description: 3 Coat Flexible Polyurethane System w Filler/Surfacer

A. SUBSTRATES

Concrete

B. ENVIRONMENT

Interior, Exterior, Headspaces with 150 ppm (or lower) H_2S Gas where crack bridging is needed, Crack Bridging, Corrosive, or for Secondary Containment for Sodium Hydroxide or Ferric Chloride where crack bridging is needed.

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-5 in accordance with ICRI 03732.

4. Allow to thoroughly dry for 5 days under warm dry weather (at least $75^{o}F$) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

- Filler/Surfacer – as recommended by the CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
- Primer Coat – Spray, brush or roller apply at 20.0 – 25.0 mils DFT.
- Intermediate Coat - Spray, brush or roller apply at 20.0 – 25.0 mils DFT.
- Finish Coat – Spray, brush or roller apply at 20.0 – 25.0 mils DFT.

4. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

5. The completed coating system must be pinhole and holiday free.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

   e. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations. Also, perform holiday detection in accordance with ASTM D4787. Repair all holidays in accordance with the CSM's recommendations. Coating system must be holiday free.

3. Quality watchouts.

   a. Substrate temperature should be dropping when coatings are applied.

   b. Impending rain or drastic drops in ambient air temperature.

   c. Substrates are too moist or wet.

COATING SYSTEM GUIDELINE

Coating System No. FP-3

Coating System Description: 3 or 4 Coat Flexible Polyurethane Deck Coating System (Manufacturer dependent)

A. SUBSTRATES

Concrete

B. ENVIRONMENT

Exterior

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Consult with and perform surface preparation detail treatment for terminating edges, cracks, etc. per CSM's recommendations.

4. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-7 in accordance with ICRI 03732.

5. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

6. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Fill cracks wider than 1/16" as recommended by the CSM.

3. Apply the coating materials by spray, brush, roller, gage rake, squeegee/notched squeegee per CSM's recommendations.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating, crack filler and other materials. Also, follow the CSM's standard detail drawings for all coating system terminations or transitions.

5. Apply the following:

- Primer Coat – Type, application equipment and thickness/coverage rate as recommended by CSM for condition of concrete surface.
- Base Coat – Application equipment and thickness/coverage rate as recommended by the CSM.
- Intermediate Coat – Application equipment, thickness/coverage and uniform aggregate broadcast rate as recommended by CSM. Per CSM, aggregate may be broadcasted into topcoat as opposed to intermediate coat.
- Topcoat – Application equipment and thickness/coverage rate as recommended by the CSM.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

a. Substrates are too moist or wet. Test for moisture.

b. Ensure closed and even surfaces, uniform in color, gloss and surface texture with the desired established degree of slip resistance/aggregate distribution, finish surfaces that are devoid of waviness, ridges, depressions or protrusions, pitched to drains (as required) and flush with drain tops.

c. Mask drains to protect from clogging with abrasives and flooring materials.

COATING SYSTEM GUIDELINE

Coating System I.D. HT-1

Coating System Description: 2 Coat Heat Resistant Silicone System

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Interior, Exterior – Up to 500^{o} F

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous and non-ferrous metal surfaces per SSPC SP 10 Near–White Blast Cleaning and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 1.5 to 2.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-1 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile. Follow coating CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat, via brushes or rollers, to rough, sharp or edge areas. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Apply the coating materials by spray, brush, or roller. Note that the ability to obtain specified thickness may be compromised when brush methods are used.

5. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

6. Apply the following:

- Primer Coat – Spray, brush or roller apply at 2.0 - 2.5 mils DFT.
- Finish Coat – Spray, brush or roller apply at 2.0 – 2.5 mils DFT.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

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For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

    a. Impending rain or drastic drops in ambient air temperature.

    b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

    c. Do not exceed recommended thickness.

COATING SYSTEM GUIDELINE

Coating System I.D. HT-2

Coating System Description: 2 Coat Aluminum Filled Heat Resistant Silicone System

A. SUBSTRATE

Ferrous Metals or Non-Ferrous

B. ENVIRONMENTS

Interior, Exterior – 500^{o} F to 1200^{o}F (intermittent to 1200^{o}F only)

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous metal surfaces per SSPC SP 10 Near–White Blast Cleaning and impart a uniform 1.0 to 1.5 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.0 to 1.5 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 1.0 to 1.5 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-1 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile. Follow CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

4. Apply the following:

- Primer Coat – Spray, brush or roller apply at 2.0 mils DFT.
- Finish Coat – Spray, brush or roller apply at 1.5 – 2.0 mils DFT.

5. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

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For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for surface profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

   c. Do not exceed recommended thickness.

COATING SYSTEM GUIDELINE

Coating System I.D. L-1

Coating System Description: 2 Coat Latex System with Filler/Surfacer

A. SUBSTRATE

CMU, Plaster, Sheetrock, Cloth Insulation

B. ENVIRONMENTS

Interior, Non-Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.
2. Sand wood, plaster and dry wall compound (sheetrock joints) with fine sandpaper.
3. Scrape CMU to remove all loose or delaminated coatings or mortar splatter, etc.
4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.
5. Surface preparation must produce clean, dirt free surfaces having no loose materials on them.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.
2. Apply prime coat within 8 hours of completion of surface preparation.

3. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

5. Apply the following:

   - Filler/Surfacer – As recommended by CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
   - Primer Coat – Spray, brush or roller apply at 2.0 - 3.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply at 2.0 – 3.0 mils DFT.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01, as applicable.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record air temperature and substrate temperature twice per shift.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

COATING SYSTEM GUIDELINE

Coating System I.D. L-1 -W

Coating System Description: 2 Coat Latex System

A. SUBSTRATE

Wood

B. ENVIRONMENTS

Interior, Non-Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. For wood, clean substrate to remove dirt, mildew, or foreign substances with mineral spirits, scrapers, or sandpaper to produce a clean wood substrate. Wood surfaces shall be cleaned of dirt, oil or other foreign substances with mineral spirits, scrapers, sandpaper or wire brush. Finished surfaces exposed to view shall be smoothed by planning or sandpapering. Millwork shall be sandpapered and given a coat of the specified primer on all sides and edges before installation. Glazing rabbets and beads in exterior sash and doors shall be double primed. Small, dry, seasoned knots shall be surfaced scraped, sandpapered, and thoroughly cleaned and shall be given a thin coat of an acceptable knot sealer before application of the priming coat. Large, open, unseasoned knots, and beads or streaks of pitch shall be scraped off; however, if the pitch is still soft, it shall be removed with mineral spirits or turpentine, and the resinous area shall be coated with knot sealer as recommended by the CSM. After priming, holes and imperfections shall be filled with putty or plastic wood, colored to match the finish coat, allowed to dry and sandpapered smooth.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply prime coat within 8 hours of completion of surface preparation.

3. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

4. Carefully follow CSM‘s written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/putty materials.

5. Apply the following:

- Follow Section C. SURFACE PREPARATION for treatment of knots, pitch, streaks holes and imperfections.
- Primer Coat – Spray, brush or roller apply at 2.0 - 3.0 mils DFT. Built in surfaces of window sills shall be double primed.
- Finish Coat – Spray, brush or roller apply at 2.0 – 3.0 mils DFT.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   Follow general requirements of Section 7, Part 4.01, as applicable.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record air temperature and substrate temperature twice per shift.

3. Quality watchouts – N/A

COATING SYSTEM GUIDELINE

Coating System I.D. L-2

Coating System Description: 2 Coat Latex System

A. SUBSTRATE

Cloth Insulation, PVC/CPVC, Concrete, CMU with Filler/Surfacer

B. ENVIRONMENTS

Exterior, Non-Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. PVC/PVC and plastic pipe, conduit, etc. shall be solvent cleaned per SSPC-SP 1 Solvent Cleaning with solvent as recommended by the CSM and sanded with fine grit sandpaper to uniformly abrade plastic surfaces.

3. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete and, as applicable SSPC-SP 7 Brush-Off Blast Cleaning, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-3 in accordance with ICRI 03732.

4. Allow concrete and CMU substrates to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation.

3. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

4. Apply the following:

- Filler/Surfacer for Concrete and CMU – As recommended by CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
- Primer Coat – Spray, brush or roller apply at 2.0 - 3.0 mils DFT. Built in surfaces of window sills shall be double primed.
- Finish Coat – Spray, brush or roller apply at 2.0 – 3.0 mils DFT.

5. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01, as applicable.

b. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

c. For concrete, check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record air temperature and substrate twice per shift.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Substrate temperatures should be dropping for concrete and CMU when the coatings are applied.

   c. Substrates are too moist or wet. Test for moisture.

   d. Solvent for solvent cleaning wasn't permitted to dry thoroughly prior to coating of PVC/CPVC or plastic surfaces.

COATING SYSTEM GUIDELINE

Coating System I.D. L-2 -W

Coating System Description: 2 Coat Latex System

A. SUBSTRATE

Wood

B. ENVIRONMENTS

Exterior, Non-Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. For wood, clean substrate to remove dirt, mildew, or foreign substances with mineral spirits, scrapers, or sandpaper to produce a clean wood substrate. Wood surfaces shall be cleaned of dirt, oil or other foreign substances with mineral spirits, scrapers, sandpaper or wire brush. Finished surfaces exposed to view shall be smoothed by planning or sandpapering. Millwork shall be sandpapered and given a coat of the specified primer on all sides before installation. Glazing rabbets and beads in exterior sash and doors shall be double primed. Small, dry, seasoned knots shall be surfaced scraped, sandpapered, and thoroughly cleaned and shall be given a thin coat of an acceptable knot sealer before application of the priming coat. Large, open, unseasoned knots, and beads or streaks of pitch shall be scraped off; however, if the pitch is still soft, it shall be removed with mineral spirits or turpentine, and the resinous area shall be coated with knot sealer. After priming, holes and imperfections shall be filled with putty or plastic wood, colored to match the finish coat, allowed to dry and sandpapered smooth.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation.

3. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

4. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/putty materials.

5. Apply the following:

   - Follow Section C. SURFACE PREPARATION for treatment of knots, pitch, streaks holes and imperfections.
   - Primer Coat – Spray, brush or roller apply at 2.0 - 3.0 mils DFT. Built in surfaces of window sills shall be double primed.
   - Finish Coat – Spray, brush or roller apply at 2.0 – 3.0 mils DFT.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   Follow general requirements of Section 7, Part 4.01, as applicable.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record air temperature and substrate temperature twice per shift.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

COATING SYSTEM GUIDELINE

Coating System I.D. L-3

Coating System Description: 2 Coat Direct to Metal Acrylic System

A. SUBSTRATE

Ferrous Metals, Non-Ferrous

C. ENVIRONMENTS

Interior, Exterior

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous or non-ferrous metal surfaces per SSPC SP 6 Commercial Blast Cleaning and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 1.5 to 2.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 1.5 to 2.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and

provide a WJ-2 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile. Follow coating CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat, via brushes or rollers, to rough, sharp or edge areas. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Apply the coating materials by spray, brush, or roller. Note that the ability to obtain specified thickness may be compromised when brush methods are used.

5. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

6. Apply the following:

- Primer Coat – Spray, brush or roller apply at 3.0 - 4.0 mils DFT.
- Finish Coat – Spray, brush or roller apply at 3.0 – 4.0 mils DFT.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01.

b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

    a. Impending rain or drastic drops in ambient air temperature.

    b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

COATING SYSTEM GUIDELINE

Coating System No. L-4

Coating System Description: 2 Coat Textured Acrylic System with Filler/Surfacer

A. SUBSTRATES

Concrete, CMU

B. ENVIRONMENT

Exterior

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete and, as applicable SSPC-SP 7 Brush-Off Blast Cleaning, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-3 in accordance with ICRI 03732.

4. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

   - Filler/Surfacer – As recommended by CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
   - Primer Coat – Spray, brush or roller apply at 4.0 mils DFT.
   - Finish Coat – Spray, brush or roller apply to 4.0 mils DFT.

4. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

   c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

   d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

    a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

    b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

    c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

    d. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

3. Quality watchouts.

    a. Substrate temperature should be dropping when coatings are applied.

    b. Impending rain or drastic drops in ambient air temperature.

    c. Substrates are too moist or wet.

COATING SYSTEM GUIDELINE

Coating System I.D. MIOX -1

Coating System Description: 3 Coat Micaseous Iron Oxide Filled Moisture Cured Polyurethane System

A. SUBSTRATE

Ferrous Metals

B. ENVIRONMENTS

Interior, Exterior, Non-Immersed, Moisture Vapor, Mildly Corrosive

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Abrasive blast ferrous metal surfaces per SSPC SP 6 Commercial Blast Cleaning and impart a uniform 2.5 to 3.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting is impractical or for small area coating system installation, prepare surfaces per SSPC SP 11 Power Tool Cleaning to Bare Metal and impart a uniform 2.5 to 3.0 mil surface profile. Inspect and re-prepare as required, to obtain the level of cleanliness and degree of surface profile.

   Where abrasive blasting has previously been done and a uniform 2.5 to 3.0 mil surface profile is present, remove existing coatings per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating. Water pressure shall be sufficient to remove existing coatings and provide a WJ-2 condition. Inspect and re-prepare to obtain the level of cleanliness and degree of surface profile. Follow coating CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Prior to overall coating, stripe coat all welds, edges of metal cut-out, pits, rough surfaces and steel edges with primer coat. This involves applying a separate coat, via brushes or rollers, to rough, sharp or edge areas. Stripe coat via spray application is not permitted nor is applying the stripe coat and primer coat together.

4. Apply the coating materials by spray, brush, or roller. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

5. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating materials.

6. Apply the following:

- Primer Coat – Spray, brush or roller apply at mils DFT.
- Intermediate Coat – Spray, brush or roller apply to 3.5 - 4.0 mils DFT
- Finish Coat – Spray, brush or roller apply at 3.5 - 4.0 mils DFT.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH.

c. For abrasive blast preparation, do blotter test for compressed air per ASTM D4285 Test Method for Indicating Oil or Water in Compressed Air and check level of cleanliness via comparison with SSPC VIS I Visual Standards (Abrasive Blast Cleaning) and degree of surface profile via surface profile comparator and comparator surface profile replica disc for type of abrasive used (Sand Blast, Grit Slag Blast or Shot Blast) or replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gauge in accordance with ASTM D4417 Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel.

For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (with grade appropriate for profile depth) and spring micrometer or surface profile gage.

For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (of grade appropriate for profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

COATING SYSTEM GUIDELINE

Coating System No. PU-1

Coating System Description: 3 Coat Polyurea Lining System

A. SUBSTRATES

Concrete

B. ENVIRONMENT

Interior, Exterior, Moderately Corrosive, Secondary Containment, Crack Bridging

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-5 in accordance with ICRI 03732.

4. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

   - Filler/Surfacer – As recommended by CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
   - Primer Coat – Spray, brush or roller apply at 5.0 mils DFT.
   - Finish Coat – Plural Component Spray apply at 40 – 50 mils DFT.

4. For primer coat, note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

5. The completed coating system, if used for secondary containment, must be pinhole and holiday free.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

   c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

e. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations. Also, carefully inspect the completed coating work for pinholes or holidays. Repair any such discontinuities in accordance with the CSM's recommendations.

f. Perform holiday detection per ASTM D4787. Coating system must be holiday free.

3. Quality watchouts.

a. Substrate temperature should be dropping when coatings are applied.

b. Impending rain or drastic drops in ambient air temperature.

c. Substrates are too moist or wet.

d. Plural component pumps are properly functioning and metering/proportioning components per CSM's recommendations.

COATING SYSTEM GUIDELINE

Coating System No. S-1

Coating System Description: 2 Coat Penetrating Acrylic Sealer/Stain System

A. SUBSTRATES

Concrete, CMU

B. ENVIRONMENT

Exterior

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete and, as applicable SSPC-SP 7 Brush-Off Blast Cleaning, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-3 in accordance with ICRI 03732.

4. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of sealer/stain.

3. Apply the following:

- Primer Coat – Spray, brush or roller apply at 4.0 mils DFT. Follow CSM data sheet for coverage rate based on surface type and porosity.
- Finish Coat – Spray, brush or roller apply to 4.0 mils DFT. Follow CSM's data sheet for coverage rate based on surface type and porosity.

4. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

a. Follow general requirements of Section 7, Part 4.01, as applicable.

b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for sealer/stain if no moisture is present.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements, as applicable.

    a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

    b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

    c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

    d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

    a. Substrate temperature should be dropping when coatings are applied.

    b. Impending rain or drastic drops in ambient air temperature.

    c. Substrates are too moist or wet.

COATING SYSTEM GUIDELINE

Coating System I.D. TW-1

Coating System Description:

A. SUBSTRATE

Ferrous Metal Pipe

B. ENVIRONMENTS

Interior, Exterior, Mildly Corrosive, Minimal Surface Preparation Obtainable

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. Round or smooth via grinding all sharp welds, edges of metal cut-outs, pits, rough surfaces and edges.

3. Prepare ferrous metal surfaces per SSPC SP 3 Power Tool Cleaning. Remove all loose detrimental matter that can be removed by a dull putty knife. Inspect and re-prepare as required, to obtain the level of cleanliness. Follow coating CSM's recommendations regarding the use of rust inhibitors.

4. Thoroughly remove all dust and debris from surfaces to be wrapped by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat within 8 hours of completion of surface preparation to prevent rustback.

3. Apply filler/surfacer, primer coat and tape per individual wrap CSM's recommendations regarding paste/liquid component thicknesses, tape wrap overlap requirements, tape roll unwind direction and tape wrap type based on exposure temperature.

4. Treat inside/outside corners, bends, flanges, nuts/bolts, valves, pipe hangers, brackets, couplings, supports, structural shapes, etc. per respective tape wrap CSM.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01 as applicable.

   b. Test for surface pH.

   c. For power and hand-tool preparation, do blotter test for compressed air when using air powered tools and check level of cleanliness via comparison with SSPC VIS 3 Visual Standard for Power and Hand–Tool Cleaned Steel and degree of surface profile via replica tape (of grade appropriate for surface profile depth) and spring micrometer or surface profile gage.

      Prepare per SSPC-SP 12 Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Recoating via High-Pressure Water Cleaning (HP WC) and provide a WJ-4 condition.

      For waterjet preparation, check level of cleanliness via SSPC-VIS 4 Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting and degree of existing surface profile via replica tape (of grade appropriate for surface profile depth) and spring micrometer or surface profile gage.

2. Application testing and inspection requirements, as applicable.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

d. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations.

3. Quality watchouts.

a. Impending rain or drastic drops in ambient air temperature.

b. Flashback rusting of ferrous surfaces or flashback rusting through previously applied coats.

c. Tape overlap requirements.

COATING SYSTEM GUIDELINE

Coating System I.D. TW-1-P

Coating System Description:

A. SUBSTRATE

PVC/CPVC

B. ENVIRONMENTS

Interior, Exterior, Mildly Corrosive, Minimal Surface Preparation Obtainable

C. SURFACE PREPARATION REQUIREMENTS

1. Follow general requirements of Section 7.

2. PVC/PVC and plastic pipe, conduit, etc. shall be solvent cleaned per SSPC-SP 1 Solvent Cleaning with solvent as recommended by the CSM and sanded with fine grit sandpaper to uniformly abrade plastic surfaces.

3. Thoroughly remove all dust and debris from surfaces to be wrapped by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Apply primer coat and tape per individual wrap CSM's recommendations regarding paste/liquid component thicknesses, tape wrap overlap requirements, tape roll unwind direction and tape wrap type based on exposure temperature.

3. Treat inside/outside corners, bends, flanges, nuts/bolts, valves, pipe hangers, brackets, couplings, supports, structural shapes, etc. per respective tape wrap CSM.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01, as applicable.

2. Application testing and inspection requirements, as applicable.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

3. Quality watchouts.

   a. Impending rain or drastic drops in ambient air temperature.

   b. Solvent for solvent cleaning wasn't permitted to dry thoroughly prior to coating of PVC/CPVC or plastic surfaces.

   c. Tape overlap requirements.

COATING SYSTEM GUIDELINE

Coating System No. VE-1

Coating System Description: 3 Coat Vinyl Ester System with Filler Surfacer

A. SUBSTRATES

Concrete

B. ENVIRONMENT

Interior, Exterior, Immersion, Non-Immersed, Corrosive, Secondary Containment

C. SURFACE PREPARATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Grind concrete fins, splatter or other cementitious protrusions flush with adjacent surfaces.

3. Remove all loose dirt, grease, laitance, efflorescence, scale, and otherwise deleterious or weak surface materials using either mechanical cleaning, abrasive or wet abrasive blast cleaning, or high pressure water blast cleaning. Prepare in accordance with SSPC-SP 13 Surface Preparation of Concrete and, as applicable SSPC-SP 7 Brush-Off Blast Cleaning, SSPC-TU 2 Wet Abrasive Blast Cleaning or SSPC-SP 12 Surface Preparation and Cleaning of Steel and other Hard Materials by High and Ultrahigh Pressure Water Jetting Prior to Recoating. Preparation shall produce a minimum concrete surface profile of CSP-3 in accordance with ICRI 03732.

4. Allow to thoroughly dry for 5 days under warm dry weather (at least 75^{o}F) if wet abrasive or water blasting was used for surface preparation.

5. Thoroughly remove all dust and debris from surfaces to be coated by vacuum cleaning.

D. APPLICATION REQUIREMENTS

1. Follow the general requirements of Section 7.

2. Carefully follow CSM's written instructions regarding mixing, thinning, application, recoat limitations (windows) and curing of coating and filler/surfacer materials.

3. Apply the following:

   - Filler/Surfacer – As recommended by the CSM, apply by trowel, squeegee or broadknife to fill bugholes, air voids and other depressions to produce a smooth coatable surface.
   - Primer Coat – Spray, brush or roller apply at thickness recommended by CSM.
   - Intermediate Coat – Spray, brush or roller apply at thickness recommended by CSM.
   - Finish Coat – Spray, brush or roller apply at thickness recommended by CSM.

4. Note that the ability to obtain specified thickness may be compromised when brush methods are used and, therefore, more coats may need to be applied to achieve the specified dry film thickness.

5. The completed coating system must be pinhole and holiday free.

E. QUALITY CONTROL & TESTING REQUIREMENTS

1. Surface preparation inspection requirements.

   a. Follow general requirements of Section 7, Part 4.01.

   b. Test for surface pH in accordance with ASTM D4262 Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces.

   c. Check for moisture per ASTM D4263 Test Method for Indicating Moisture in Concrete by The Plastic Sheet Method. Surfaces shall be considered acceptable for coating if no moisture is present.

d. Check degree of surface profile via comparison with molded replicas per ICRI Guideline No. 03732 Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

2. Application testing and inspection requirements.

   a. Inspect and test in accordance with the requirements of Section 7, Part 4.01.

   b. Check to be certain that all environmental conditions affecting good coating application work are acceptable.

   c. Measure and record relative humidity, air temperature, and substrate temperature every 2 hours during application.

   d. Visually inspect filler/surfacer application to be sure that all voids are filled and that substrate roughness has been smoothed out so that imperfections do not show through coatings.

   e. Inspect or test for correct mixing of products, pot life limits, wet film thickness, dry film thickness, proper cure of coating system, and recoat limitations. Also, carefully visually inspect completed coating film for pinholes and holidays. Repair such discontinuities in accordance with the CSM's recommendations.

3. Quality watchouts.

   a. Substrate temperature should be dropping when coatings are applied.

   b. Impending rain or drastic drops in ambient air temperature.

   c. Substrates are too moist or wet.