

SECTION 099600

High Performance Coatings – Field Applied Acrylic Urethanes (Solid Color, Pearl and Metallic Finishes)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Systems for field applied acrylic urethane coatings; opaque and metallic finishes.

1.2 REFERENCES

- A. ASTM D 16 - Terminology Relating to Paint, Varnish, Lacquer, and Related Products.
- B. SSPC-SP 1 - Solvent Cleaning.
- C. SSPC-SP 2 - Hand Tool Cleaning.
- D. SSPC-SP 3 - Power Tool Cleaning.
- E. SSPC-SP 6/NACE 3 - Commercial Blast Cleaning.
- F. SSPC-SP 10 - Near White Blast Cleaning
- G. SSPC-SP 13 –Concrete Surface Preparation

1.3 DEFINITIONS

- A. Definitions of Painting Terms: ASTM D 16, unless otherwise specified.

1.5 SUBMITTALS

- A. Comply with Section 01330 - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data for each coating, including generic description, complete technical data, surface preparation, and application instructions.
- C. Manufacturer's Quality Assurance: Submit manufacturer's certification that coatings comply with specified requirements and are suitable for intended application.
- D. Warranty: Submit manufacturer's standard warranty.

1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Manufacture of coatings shall demonstrate a minimum of 10 years successful experience.
 - 2. Manufacture shall supply a list of successful performance on comparable projects.
 - 3. Source Responsibility: Coatings and coating application accessories shall be products of a single supplier.

- B. Applicator's Qualifications:
 - 1. Experienced in application of specified coatings for a minimum of 2 years on projects of similar size and complexity to this Work.
 - 2. Applicator's Personnel: Supervisory personnel shall be trained in the successful application of the specified coatings.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying:
 - 1. Coating or material name.
 - 2. Manufacturer.
 - 3. Color name and number.
 - 4. Batch or lot number.
 - 5. Date of manufacture.
 - 6. Mixing and thinning instructions.

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

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

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Weather:
 - 1. Air and Surface Temperatures: Prepare surfaces and apply and cure coatings within air and surface temperature range in accordance with manufacturer's instructions.
 - 2. Surface Temperature: Minimum of 5 degrees F (3 degrees C) above dew point.
 - 3. Relative Humidity: Prepare surfaces and apply and cure coatings within relative humidity range in accordance with manufacturer's instructions.
 - 4. Precipitation: Do not prepare surfaces or apply coatings in rain, snow, fog, or mist.
 - 5. Wind: Do not spray coatings if wind velocity is above manufacturer's limit.

- B. Ventilation: Provide ventilation during coating evaporation stage in confined or enclosed areas in accordance with manufacturer's instructions.

- C. Dust and Contaminants:
 - 1. Schedule coating work to avoid excessive dust and airborne contaminants.
 - 2. Protect work areas from excessive dust and airborne contaminants during coating application and curing.

PART 2 PRODUCTS

2.1 Material shall be as manufactured by Precision Coatings Incorporated (PCI), Springfield, MO

2.1.1 Represented by Pacific Southwest Supply, Inc., Brea, CA (562) 691 9600

2.2 COATING SYSTEMS FOR STEEL - INTERIOR

A. Interior Acrylic Urethane Finish – Solid Color, Pearl or Metallic :

Mild Abuse Interior : Less than 250 grams per liter

1. System Type: direct to metal epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 2 and SSPC-SP3 Hand tool and power tool clean.
3. Primer: [PCI DTM 1300 Sanding Primer DFT 2.0 to 6.0 mils] [PCI DTM 1400 Non-Sanding Primer DFT 1.5-3.0 mils]
4. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
5. Total DFT: 3.0 to 9.0 mils.
6. Finish Color: [_____] [As indicated on the drawings].

Or

Low VOC Mild Abuse Interior: Less than 100 grams per liter

1. System Type: direct to metal polyurethane primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 6/NACE 3.
3. Primer: [PCI DTM 3000 Primer DFT 1.5 to 3.0 mils]
4. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
5. Total DFT: 2.5 to 5.5 mils.
6. Finish Color: [_____] [As indicated on the drawings].

Or

High Abuse Interior: Less than 250 grams per liter

1. System Type: direct to metal epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 6/NACE 3.
3. Primer: [PCI DTM 1300 Sanding Primer DFT 2.0 to 6.0 mils] [PCI DTM 1400 Non-Sanding Primer DFT 1.5-3.0 mils]
4. Intermediate Coat: [PCI DTM 1300 Sanding Primer DFT 2.0 to 6.0 mils] [PCI DTM 1400 Non-Sanding Primer DFT 1.5-3.0 mils]
5. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI

PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.

6. Total DFT: 5.0 to 16.0 mils.
7. Finish Color: [_____] [As indicated on the drawings].

2.3 COATING SYSTEMS FOR STEEL – EXTERIOR

A. Exterior Acrylic Urethane Finish – Solid Color, Pearl or Metallic:

Mild Atmospheric Exterior: Less than 250 grams per liter

1. System Type: direct to metal epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 2 and SSPC-SP3 Hand tool and power tool clean.
3. Primer: [PCI DTM 1300 Sanding Primer DFT 2.0 to 6.0 mils] [PCI DTM 1400 Non-Sanding Primer DFT 1.5-3.0 mils]
4. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
5. Total DFT: 3.0 to 9.0 mils.
6. Finish Color: [_____] [As indicated on the drawings].

Or

Low VOC Mild Abuse Exterior: Less than 100 grams per liter

1. System Type: direct to metal polyurethane primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 6/NACE 3.
3. Primer: [PCI DTM 3000 Primer DFT 1.5 to 3.0 mils]
4. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
5. Total DFT: 2.5 to 5.5 mils.
6. Finish Color: [_____] [As indicated on the drawings].

Or

High Abuse Exterior: Less than 250 grams per liter

1. System Type: direct to metal epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 6/NACE 3.
3. Primer: [PCI DTM 1300 Sanding Primer DFT 2.0 to 6.0 mils] [PCI DTM 1400 Non-Sanding Primer DFT 1.5-3.0 mils]
4. Intermediate Coat: [PCI DTM 1300 Sanding Primer DFT 2.0 to 6.0 mils] [PCI DTM 1400 Non-Sanding Primer DFT 1.5-3.0 mils]
5. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
6. Total DFT: 5.0 to 16.0 mils.
7. Finish Color: [_____] [As indicated on the drawings].

Or

Coastal Zone, Corrosive Environment, High Abuse Exterior: SCAQMD compliant

1. System Type: organic zinc epoxy primer / epoxy ketamine intermediate / aliphatic acrylic polyurethane topcoat.

2. Surface Preparation: SSPC-SP 6/NACE 3.
3. Primer: [Amercoat 68HS] DFT 3 to 4 mils
4. Intermediate Coat: [PCI DTM 1300 Sanding Primer DFT 2.0 to 6.0 mils]
[PCI DTM 1400 Non-Sanding Primer DFT 1.5-3.0 mils]
5. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
6. Total DFT: 5.5 to 16.0 mils.
7. Finish Color: [_____] [As indicated on the drawings].

2.4 COATING SYSTEMS FOR CONCRETE AND MASONRY - INTERIOR

A. Interior Acrylic Urethane Finish – Solid Color, Pearl or Metallic :

Moderate Conditions, Physical Contact and/or Abuse, Wall and Non-Floor Areas:

1. System Type: direct to concrete epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 13
3. Primer: [PCI DTM 1300 Sanding Primer DFT 4.0 to 6.0 mils]
4. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
5. Total DFT: 5.0 to 9.0 mils.
6. Finish Color: [_____] [As indicated on the drawings].

Or

Moderate to Severe Conditions, Physical Contact and/or Abuse, Wall and Non-Floor Areas:

1. System Type: direct to concrete epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 13
3. Primer: [PCI DTM 1300 Sanding Primer DFT 4.0 to 6.0 mils]
4. Intermediate: [PCI DTM 1300 Sanding Primer DFT 4.0 to 6.0 mils]
5. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
6. Total DFT: 9.0 to 11.0 mils.
7. Finish Color: [_____] [As indicated on the drawings].

2.5 COATING SYSTEMS FOR CONCRETE AND MASONRY - EXTERIOR

A. Exterior Acrylic Urethane Finish – Solid Color, Pearl or Metallic :

Mild to Moderate Conditions, Physical Contact and/or Abuse, Wall and Non-Floor Areas:

1. System Type: direct to concrete epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 13
3. Primer: [PCI DTM 1300 Sanding Primer DFT 4.0 to 6.0 mils]
4. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
5. Total DFT: 5.0 to 9.0 mils.
6. Finish Color: [_____] [As indicated on the drawings].

Or

Moderate to Severe Conditions, Physical Contact and/or Abuse, Wall and Non-Floor Areas:

1. System Type: direct to concrete epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: SSPC-SP 13
3. Primer: [PCI DTM 1300 Sanding Primer DFT 4.0 to 6.0 mils]
4. Primer: [PCI DTM 1300 Sanding Primer DFT 4.0 to 6.0 mils]
5. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
6. Total DFT: 9.0 to 11.0 mils.
7. Finish Color: [_____] [As indicated on the drawings].

2.6 COATING SYSTEMS FOR GALVANIZED STEEL AND NONFERROUS METAL – Interior or Exterior

A. Interior / Exterior Acrylic Urethane Finish – Solid Color, Pearl or Metallic :

Atmospheric Interior Overhead Deck, Ductwork, Conduit, Dry: Less than 250 grams per liter

1. System Type: direct to metal epoxy-ketamine primer / aliphatic acrylic polyurethane topcoat.
2. Surface Preparation: Treat the surface with PCI Metal Conditioner to remove galvanize process preservatives or lightly abrasive blast to remove galvanize process preservatives.
3. Primer: [PCI DTM 1300 Sanding Primer DFT 2.0 to 6.0 mils] [PCI DTM 1400 Non-Sanding Primer DFT 1.5-3.0 mils]
4. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
5. Total DFT: 3.0 to 9.0 mils.
6. Finish Color: [_____] [As indicated on the drawings].

2.7 COATING SYSTEMS FOR GYPSUM BOARD - INTERIOR

A. Interior Acrylic Urethane Finish – Solid Color, Pearl or Metallic:

1. Low VOC Mild Abuse Interior: Less than 100 grams per liter
2. System Type: Acrylic primer / aliphatic acrylic polyurethane topcoat.
3. Surface Preparation: Level 5 Drywall Finish.
4. Primer: Frazee 168 Prime Plus Primer DFT 1.5 to 3.0 mils]
5. Finish Coat: [PCI PC3V100 Matte Finish] [PCI PC3V100 Satin Finish] [PCI PC3V100 Semi-Gloss Finish] [PCI PC3V100 High Gloss Finish]. DFT 1.0 to 3.0 mils.
6. Total DFT: 2.5 to 5.5 mils.
7. Finish Color: [_____] [As indicated on the drawings]

2.9 ACCESSORIES

A. Coating Application Accessories:

1. Accessories required for application of specified coatings in accordance with

- manufacturer's instructions, including thinners.
2. Products of coating manufacturer:
 1. [PCI 12030 Urethane Accelerator]
 2. [PCI 15000 Surface Tension Eliminator]
 3. [PCI 16050 VOC Exempt Reducer]
 4. [PCI 17000 VOC Exempt Gun Cleaner]
 5. [PCI 02150 Metal Conditioner]

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions under which coating systems are to be applied. Notify Architect of areas or conditions not acceptable. Do not begin surface preparation or application until unacceptable areas or conditions have been corrected.

3.2 PROTECTION OF SURFACES NOT SCHEDULED TO BE COATED

- A. Protect surrounding areas and surfaces not scheduled to be coated from damage during surface preparation and application of coatings.
- B. Immediately remove coatings that fall on surrounding areas and surfaces not scheduled to be coated.

3.3 SURFACE PREPARATION OF STEEL

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

3.4 SURFACE PREPARATION OF CONCRETE AND MASONRY

- A. Prepare concrete and masonry surfaces in accordance with manufacturer's instructions,

SSPC-SP 13/NACE 6, and ICRI 03732.

- B. Ensure surfaces are clean, dry, and free of oil, grease, dirt, dust, and other contaminants.
- C. Test concrete for moisture in accordance with ASTM D 4263 and F 1869.
- D. Allow concrete and mortar to cure for a minimum of 28 days before coating and determine that concrete is dry enough to coat.
- E. Level protrusions and mortar spatter.

3.6 SURFACE PREPARATION OF GALVANIZED STEEL AND NONFERROUS METAL

- A. Prepare galvanized steel and nonferrous metal surfaces in accordance with manufacturer's instructions. Surface preparation recommendations will vary depending on substrate and exposure conditions.

3.7 SURFACE PREPARATION OF GYPSUM BOARD

- A. Prepare gypsum board surfaces in accordance with Level 5 Drywall Finish.
- B. Ensure surfaces are clean, dry, and free of oil, grease, dirt, dust, and other contaminants.
- C. Sand joint compound smooth and feather edge.
- D. Avoid heavy sanding of adjacent gypsum board surfaces, which will raise nap of paper covering.
- E. Do not apply putty, patching pencils, caulking, or masking tape to gypsum board surfaces to be painted.
- F. Lightly scuff-sand tape joints after priming to remove raised paper nap. Do not sand through primer.

3.8 APPLICATION

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

3.9 REPAIR

- A. Materials and Surfaces Not Scheduled To Be Coated: Repair or replace damaged materials and surfaces not scheduled to be coated.
- B. Damaged Coatings: Touch-up or repair damaged coatings. Touch-up of minor damage shall be acceptable where result is not visibly different from adjacent surfaces. Recoat entire surface where touch-up result is visibly different, either in sheen, texture, or color.
- C. Coating Defects: Repair in accordance with manufacturer's instructions coatings that exhibit film characteristics or defects that would adversely affect performance or appearance of coating systems.

3.11 CLEANING

- A. Remove temporary coverings and protection of surrounding areas and surfaces.

3.12 PROTECTION OF COATING SYSTEMS

- A. Protect surfaces of coating systems from damage during construction.

END OF SECTION