

Item No. 722S
Protective Coatings

722S.1 Description

- A. This item shall govern protective coatings and their application for the following conditions:
 - 1. Exterior surfaces.
 - 2. Interior surfaces.
 - 3. Anti-graffiti surfaces.
- B. "Protective coatings" shall be defined as any paint or paint system applied to a base material to provide protection from the elements, wear, or other harmful mechanisms of deterioration. The specified protective coating systems shall include primers or other layers as required to provide complete protection as intended.
- C. Also included are failure modes identification, cause, and repair.

This specification is optional and is applicable for projects or work involving either inch-pound or SI units. Within the text inch-pound units are given preference followed by SI units shown within parentheses.

722S.2 Submittals

- A. Protective Coatings Schedule
 - 1. Submit eight (8) copies of a protective coatings schedule which indicates the manufacturer and paint number, keyed to the drawings, prior to, or at the time of, submittal of samples required herein.
 - 2. The schedule shall indicate all shop and field coatings of items to receive protection, including all surfaces to be coated and the type and color to be applied to each. Identify each material by the manufacturer's catalog number and general classification. Where a color selection is required by the Owner, clearly mark on the submittal.
- B. Product Data
 - 1. Product data must verify compatibility with substrates and conditions to be encountered. Provide manufacturer's technical information, including label analysis and instructions for handling, storing and application of each material proposed for use. List each material and cross-reference the specific coating, finish system and application. Identify each material by the manufacturer's catalog number and general classification.
 - 2. Submit a full range of color choices, sheen, and textures for final selection.
 - 3. Submit complete documentation for all protective coatings and systems proposed for use that are not in accordance with those specified herein. The Owner reserves the right to reject alternates proposed in lieu of those specified.

- C. Prepare and submit two (2) protective coatings samples of each finish, including all coats thereof, to the Engineer or designated representative for approval. The samples shall be clearly marked with the manufacturer's name and product identification, and shall be submitted in sufficient time to allow for review, and, if necessary, resubmittal without delay to the project.
- D. Provide certification that the manufacturers' supplied products comply with state and federal regulations on controlling the use of Volatile Organic Compounds (VOC). "Low" (less than or equal to 50 g/l) or zero VOC products, where applicable, are recommended.
- E. The protective coatings applicator shall submit written documentation that they have a minimum of three (3) years' application experience with each product type and the equipment required to provide application.

722S.3 Cleaning and Preparation of Surfaces

- A. Surfaces to be coated, whether in the shop or field, shall be completely free of oil, grease, moisture, dirt, sand, overspray, welding contamination, loose or flaking mill scale, rust, or paint and free of any other conditions that will prevent the protective coating from forming a continuous, uniform tightly adhering film.
- B. Cleaning and surface preparation shall be in accordance with the Society for Protective Coatings (SSPC) requirements and as specified herein.
 - 1. SSPC-SP1, Solvent Cleaning. Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation. For complete instructions, refer to SSPC-SP1.
 - 2. SSPC-SP3, Power Tool Cleaning. Power tool cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Mill scale, rust, and paint are considered adherent if they cannot be removed by lifting with a dull putty knife. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1. For complete instructions, refer to SSPC-SP3.
 - 3. SSPC-SP6, Commercial Blast Cleaning. A commercial blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 33 percent of each square-inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods. For complete instructions, refer to SSPC-SP6.
 - 4. SSPC-SP7, Brush-Off Blast Cleaning. A brush-off blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, loose mill scale,

loose rust, and loose paint. Tightly adherent mill scale, rust, and paint may remain on the surface. Mill scale, rust, and coating are considered adherent if they cannot be removed by lifting with a dull putty knife. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods. For complete instructions, refer to SSPC-SP7.

5. SSPC-SP10, Near-White Blast Cleaning. A near-white blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 5 percent of each square-inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods. For complete instructions, refer to SSPC-SP10.
6. SSPC-SP13, Concrete. SSPC-SP13 gives requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems. The requirements of this standard are applicable to all types of cementitious surfaces including cast-in-place concrete floors and walls, precast slabs, masonry walls, and shotcrete surfaces. An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete, and dust, and should provide a dry, sound, uniform substrate suitable for the application of protective coating or lining systems. Depending upon the desired finish and system, a block filler may be required. For complete instructions, refer to SSPC-SP13.

722S.4 Protective Coating

- A. Protective coatings and systems are specified herein. Submit complete documentation for all protective coatings and systems proposed for use that are not in accordance with those specified.
- B. Exterior Surfaces to be Coated
 1. Exterior protective coatings are specified herein. For additional products refer to TxDOT “DMS-8000, Maintenance Paints”, “DMS-8101, Structural Steel Paints – Performance”, and “DMS-8110, Coatings for Concrete”.
 2. Exterior Condition 1 – Ferrous Metals other than Stainless Steel
 - a. EC-1a – Normal exterior exposure not exposed to chemical attack.
 - 1) Surface preparation: SSPC-SP6.
 - 2) Primer: alkyd, 2 mils (50 µm) minimum dry film thickness.
 - 3) 2nd and 3rd coats: polyurethane modified alkyd, 2 mils (50 µm) minimum dry film thickness each coat.

- b. EC-1b – Submerged or intermittently submerged in water, sludge, sewage, chemical or similar corrosive liquid; supports in contact with or attached to concrete.
 - 1) Surface preparation: SSPC-SP10.
 - 2) Primer and 2nd coat: high solids, high-build cycloaliphatic amine epoxy, 10 mils (250 µm) minimum dry film thickness each coat.
 - c. EC-1c – Subject to corrosive atmosphere and condensation.
 - 1) Surface preparation: SSPC-SP6.
 - 2) Primer: inorganic zinc, 3 mils (75 µm) minimum dry film thickness.
 - 3) 2nd coat: high solids, high-build cycloaliphatic amine epoxy, 4 mils (100 µm) minimum dry film thickness.
 - 4) 3rd coat: high-build aliphatic acrylic-polyester polyurethane, 3 mils (75 µm) minimum dry film thickness.
 - d. EC-1d – Galvanized.
 - 1) Surface preparation: in accordance with the manufacturer's recommendations for galvanized ferrous metal under service conditions.
 - 2) Primer and 2nd coat: polyamide epoxy, 3 mils (75 µm) minimum dry film thickness each coat.
3. Exterior Condition 2 – Non-ferrous Metals
- a. EC-2a – Non-ferrous metals other than aluminum.
 - 1) Surface preparation: SSPC-SP1 followed by SSPC-SP3 or SSPC-SP7 as required to establish a uniform anchor profile.
 - 2) Primer: polyamide epoxy, 3 mils (75 µm) minimum dry film thickness.
 - 3) 2nd coat: aliphatic acrylic polyurethane, 2.5 mils (65 µm) minimum dry film thickness.
 - 4) 3rd coat (optional as required for color/gloss retention): high solids fluoropolymer, 2.5 mils (65 µm) minimum dry film thickness.
 - b. EC-2b – Aluminum.
 - 1) Surface preparation: SSPC-SP1 and sanding with approved pads as required to establish a uniform anchor profile of 1 mil (25 µm).
 - 2) Primer: polyamide epoxy, 2 mils (50 µm) minimum dry film thickness.

- 3) 2nd coat: aliphatic acrylic polyurethane, 2 mils (50 µm) minimum dry film thickness.
 - 4) 3rd coat (optional as required for color/gloss retention): high solids fluoropolymer, 2.5 mils (65 µm) minimum dry film thickness.
4. Exterior Condition 3 – Concrete
- a. EC-3a – Submerged or intermittently submerged in water, sludge, sewage, chemical or similar corrosive liquid.
 - 1) Surface preparation: Allow concrete to cure 28 days minimum and test for moisture in accordance with ASTM D4263. When concrete is ready, complete surface preparation in accordance with SSPC-SP13.
 - 2) Primer: epoxy polyamide, 5 mils (125 µm) minimum dry film thickness.
 - 3) 2nd and 3rd coats: coal tar epoxy, 8 mils (200 µm) minimum dry film thickness each coat.
 - b. EC-3b – Subject to corrosive atmosphere and condensation.
 - 1) Surface preparation: Allow concrete to cure 28 days minimum and test for moisture in accordance with ASTM D4263. When concrete is ready, complete surface preparation in accordance with SSPC-SP13.
 - 2) Primer and 2nd coat: cycloaliphatic amine epoxy, 4 mils (100 µm) minimum dry film thickness each coat.
 - 3) 3rd coat: high-build aliphatic acrylic-polyester polyurethane, 3 mils (75 µm) minimum dry film thickness.
 - c. EC-3c – Concrete surfaces to be painted and not requiring service conditions of EC-3a or EC-3b.
 - 1) Surface preparation: Allow concrete to cure 28 days minimum and test for moisture in accordance with ASTM D4263. When concrete is ready, complete surface preparation in accordance with SSPC-SP13.
 - 2) Primer and 2nd coat: waterborne acrylate (54% ± 2% solids volume), 8 mils (200 µm) minimum dry film thickness each coat.
 - d. EC-3d – Concrete surfaces to be stained and not requiring service conditions of EC-3a or EC-3b.
 - 1) Surface preparation: Allow concrete to cure 28 days minimum and test for moisture in accordance with ASTM D4263. When concrete is ready, complete surface preparation in accordance with SSPC-SP13.
 - 2) Final appearance of EC-3d will be clear, but slightly darkened.

- 3) Primer: siloxane with diffused quartz carbide, 100 square feet per gallon (2.5 square meters per liter) application rate.
 - 4) 2nd coat: methylmethacrylate acrylic/hydrophobic fumed silica, 125 square feet per gallon (3.1 square meters per liter) application rate.
5. Exterior Condition 4 – Masonry
- a. EC-4a – Painted masonry surfaces.
 - 1) Surface preparation: SSPC-SP13.
 - 2) Primer and 2nd coat: waterborne acrylate (54% ± 2% solids volume), 8 mils (200 µm) minimum dry film thickness each coat.
 - b. EC-4b – Stained masonry surfaces.
 - 1) Surface preparation: SSPC-SP13.
 - 2) Final appearance of EC-3d will be clear, but slightly darkened.
 - 3) Primer: siloxane with diffused quartz carbide, 75 square feet per gallon (1.8 square meters per liter) application rate.
 - 4) 2nd coat: methylmethacrylate acrylic/hydrophobic fumed silica, 100 square feet per gallon (2.5 square meters per liter) application rate.

C. Interior Surfaces to be Coated

1. Interior protective coatings are specified herein. For additional products refer to TxDOT “DMS-8000, Maintenance Paints”, “DMS-8101, Structural Steel Paints – Performance”, and “DMS-8110, Coatings for Concrete”.
2. Interior Condition 1 (IC-1) – Ferrous, Non-ferrous, and Galvanized Metals
 - a. Surface preparation: SSPC-SP1 followed by SSPC-SP3 or SSPC-SP7 as required to establish a uniform anchor profile.
 - b. Primer: polyamide epoxy, 3 mils (75 µm) minimum dry film thickness.
 - c. 2nd coat: waterborne aliphatic polyurethane: 2 mils (50 µm) minimum dry film thickness.
3. Interior Condition 2 – Concrete
 - a. IC-2a – Vertical, non-traffic horizontal and overhead surfaces.
 - 1) Surface preparation: Allow concrete to cure 28 days minimum and test for moisture in accordance with ASTM D4263. When concrete is ready, complete surface preparation in accordance with SSPC-SP13.

- 2) Primer: acrylic epoxy, 4 mils (100 μm) minimum dry film thickness.
 - 3) 2nd coat: waterborne aliphatic polyurethane, 2.5 mils (65 μm) minimum dry film thickness.
- b. IC-2b – Floors.
- 1) Surface preparation: Allow concrete to cure 28 days minimum and test for moisture in accordance with ASTM D4263. When concrete is ready, complete surface preparation in accordance with SSPC-SP13.
 - 2) Primer and 2nd coat: waterborne epoxy-amine for horizontal surfaces, 3 mils (75 μm) minimum dry film thickness each coat.
4. Interior Condition 3 (IC-3) – Masonry
- a Surface preparation: SSPC-SP13.
 - b Primer: Waterborne cementitious acrylic, 100 square per gallon (2.5 square meters per liter) application rate.
 - c 2nd coat: acrylic epoxy, 4 mils (100 μm) minimum dry film thickness.
 - d 3rd coat: waterborne aliphatic polyurethane, 2.5 mils (65 μm) minimum dry film thickness.
5. Interior Condition 4 (IC-4) – Wood and Drywall
- a. Primer: latex enamel, 1.1 mils (28 μm) minimum dry film thickness.
 - b. 2nd and 3rd coats: acrylic enamel, 1.5 mils (38 μm) minimum dry film thickness each coat.
- D. Surfaces to be Anti-graffiti
1. Anti-graffiti Condition 1 (AGC-1) – Sacrificial
 - a. Acceptable for above-grade concrete, exposed aggregate concrete, CMU, brick, stone, painted steel, or aluminum.
 - b. Sacrificial anti-graffiti coatings require a pressurized water wash for graffiti removal. Wash shall not exceed 1,500 psi (10 MPa) and 180 F (82 C).
 - c. Biodegradable formulation in accordance with TxDOT DMS-8111, 3 mil (75 μm) minimum dry film thickness.
 2. Anti-graffiti Condition 2 (AGC-2) – Permanent
 - a. Acceptable for above-grade concrete, exposed aggregate concrete, CMU, brick, stone, painted steel, or aluminum.

- b. Permanent anti-graffiti coatings require the use of a solvent or chemical for graffiti removal. Damage or pigment loss shall not occur during removal.
- c. Aliphatic polyurethane in accordance with TxDOT DMS-8111, 3 mil (75 µm) minimum dry film thickness.

722S.5 Source of Supply

All protective coatings shall be furnished with the manufacturer's labels on each can. Primers shall be produced by the same manufacturer as finish coats. Use only thinners approved by paint manufacturer and use only within recommended limits.

722S.6 Application of Protective Coatings

- A. The protective coatings applicator shall submit written documentation that they have a minimum of three (3) years' application experience with each product type and the equipment required to provide application.
- B. All equipment used for paint application shall be in accordance with the protective coating manufacturer's recommendations for the coating being applied. Brushes shall not exceed 4 inches (100 mm) in width, shall be springy and not flabby, and shall be kept free of contaminants. Equipment used for spraying shall have adequate provision for separation of moisture from any air stream in contact with the coating, shall be adequate for the type of coating being used, and shall be equipped with spray heads adequate to provide a smooth, uniform coating .
- C. Application
 - 1. Apply protective coatings in strict conformance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
 - 2. Protective coatings shall not be applied closer than 12 inches (300 mm) to a surface which is to be cleaned.
 - 3. Provide finish coats which are compatible with primers used.
 - 4. Apply additional coats when undercoats or other conditions show through final coat, until all surfaces are of uniform finish, color, and appearance. Give special attention to insure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 - 5. Coat surfaces behind movable equipment and furniture the same as similar exposed surfaces. Coat surfaces behind permanently fixed equipment or furniture with primer only before final installation of equipment.
 - 6. Coat interior surfaces of ducts, where visible through registers or grilles, with a flat black paint.
 - 7. Coat back sides of access panels and removable or hinged covers to match exposed surfaces.

8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
9. Each coat shall be applied so that it will dry to form a smooth, continuous, tightly adhering film of uniform thickness and appearance, free of brush marks, sags, runs, holidays, and overspray. Measure dry film coating thickness using an apparatus that can be adjusted to measure directly and exactly the known thickness of a shim placed on uncoated material similar to that bearing the coating to be measured. The apparatus shall be readable to at least ± 0.1 mil ($3 \mu\text{m}$) over the range of the instrument. Standard thickness shims shall be used for adjusting the apparatus and shall be made of non-magnetic material with a known thickness uniform over its entire area and accurate within the manufacturer's established tolerances.
10. Spray application of the first coat will be permitted only when the surfaces are cleaned by blasting. Any method of application approved by the Engineer or designated representative may be used to paint inaccessible areas.
11. Protective coatings shall not be applied to any surface containing moisture discernible with the eye or by the following test: if the temperature and humidity conditions are such that moisture is likely to condense upon the surface, a small area thereon shall be moistened with a damp cloth to apply a clearly defined, thin film of water. If this thin film evaporates within 15 minutes, the surface shall be considered safe to apply coatings from the standpoint of continued condensation at that particular time.
12. Protective coatings shall not be applied at an air temperature below 40 F (5 C) nor when there is likelihood of change in weather conditions within 2 hours after application which would result in air temperatures below 40 F (5 C) or deposition of moisture in the form of rain, snow, condensation, etc., upon the surface. The Engineer or designated representative reserves the right to require that no paint be applied when impending weather conditions might result in damage to fresh coatings.
13. If, in the opinion of the Engineer or designated representative, construction traffic produces an objectionable amount of dust, the Contractor shall, at the Contractor's expense, take precautions necessary to prevent dust and dirt from coming in contact with freshly coated surfaces or with surfaces before the coating is applied.
14. After all fabrication work is completed and has been tentatively accepted, all surfaces to be coated shall be cleaned and coated with the required primer. Materials shall not be loaded for shipment until coatings are thoroughly dry. No coating work shall be done after material is loaded for shipment. Erection marks for field identification of members shall be coated upon previously coated surfaces. Surfaces to be in contact after shop riveting or bolting shall be cleaned but not coated. Unless otherwise indicated, the top flanges of girders and I-beams shall be coated.
15. Unless otherwise indicated or exempted, the surfaces to be shop coated shall include the rolling faces of rockers and base plates, all surfaces of bearing plates, and all surfaces of iron or steel castings, whether or not such surfaces are milled.
16. If concreting operations have damaged the protective coatings, the surface shall be re-cleaned and re-coated in accordance with the manufacturer's recommendations. Primed surfaces shall be cleaned to remove dirt, grease, or other foreign material prior

to the application of the final coat(s). Coatings that have become defective shall be removed, the base material properly cleaned, and the required primer reapplied. Excessive amounts of coatings that fail to properly dry or that improperly cure shall be removed and replaced in accordance with the manufacturer's recommendations. In no case shall a succeeding coat be applied until the previous coat and all touch up has dried throughout the full thickness of the coating. At the time of acceptance, the protective coatings shall present an even and uniform appearance throughout.

D. Improperly Applied Protective Coatings

1. To uncover evidence of improperly applied protective coatings , the Engineer may, at any time during construction, explore underneath the surface of any coatings already applied.
2. All protective coatings which have been applied improperly, applied to improperly cleaned surfaces, fail to dry and harden properly, fail to adhere tightly to underlying material or other parts of the coating system, or do not evidence a normal appearance in conformance with these specifications, shall be repaired or completely removed and replaced.
3. When the final coat does not have a uniform color and appearance throughout, it shall be corrected.
4. Freshly applied coatings which have not yet set shall be removed with the use of suitable solvents.
5. All work required to correct improperly applied protective coatings shall be to the satisfaction of the Engineer **or designated representative** and at the expense of the Contractor.

722S.7 Protective Coatings for Existing Structures

Unless otherwise indicated, existing materials shall receive the same protective coatings as those required for new materials .

722S.8 Responsibility for Hazards

The Contractor is responsible for the safety of all protective coatings operations and personnel. The City of Austin is thus absolved from liability in the event of harm to persons or property due to the Contractor's work specified herein.

722S.9 Failure Modes – Causes, Identification, and Repair

Refer to Table A for identification, cause, and repair of common protective coatings failure modes.

TABLE A			
Failure Mode	Identification	Cause	Repair

Alligatoring	Very large macro-checking, usually with a cross-hatched pattern	Internal stresses where surface shrinks more rapidly than body of coating, hard topcoat over soft undercoat	Apply thin coats in accordance with manufacturer and thoroughly dry before applying additional coats
Biological failure	Softening or slime reaction, blotchy brown or black spots on coating surface causing poor/dirty appearance	Biodegradation of the coating by bacteria or fungi, coating is used as a source of nourishment	Use coatings that contain permanent fungicides, bactericides, or non-biodegradable modifiers
Brush marks	Linear hills and valleys with considerable difference in thickness from hills to valleys, rusting in valleys	Application of a very heavy-bodied coating	Brush coating out well, finishing by light brushing in one direction
Chalking	Surface soft and powdery, easily removed by wiping surface	Surface disintegration by the sun, improper pigmentation	Use coatings formulated with radiation-resistant resins and non-catalytic, non-chalking pigments
Checking	Uneven, small, non-continuous fissures that do not penetrate to the substrate	Surface stresses caused by shrinkage due to weathering and continued surface polymerization and oxidation	Use coatings formulated with weather resistant resins and inert reinforcing pigments, as well as non-catalytic colored pigments
Cracking	Small breaks in coating to substrate, may be linear, cross-hatched, or curved, may be continuous or not	Stress set up in coating due to continued polymerization and oxidation, improper pigmentation	Use coatings formulated with weather-resistant resins and inert reinforcing pigments, as well as non-catalytic colored pigments
Cratering	Pinpoint rust forming in thin areas of bug eyes, fish eyes, or craters randomly dispersed, may be more prevalent in thicker sections	Improper solvent mixture, surface contamination, oil in atomizing air, particulate fallout during application, high surface tension	Sand or roughen crater area, apply second coat by brush, working coating into cratered area
Discoloration	Yellowing, graying, or darkening of coating	Resin or pigment color change due to weather or chemical reaction	Use coatings formulated with both color-stable resins and pigments
Erosion	Similar to chalking, surface removed on high spots and brush marks to base coating or primer	Chalking mechanism with coating surface removed by weathering	Use chalk-resistant coatings with good flow out to a smooth film
Holidays	General corrosion in bare or thin areas that were uncoated, most often in difficult locations to coat	Poor, inconsistent application, lack of care	Apply in careful, consistent manner, making certain that no areas remain uncoated, overlap each pass 50%
Improper thickness	Areas of pinpoint corrosion between areas of solid coating, areas where coating is too thick, possible checking and cracking	Thin areas, spatter, holidays, runs, puddles, excessive number of spray passes in areas where coating is difficult	Careful application, even spray passes with each pass overlapped 50%, use cross-spray technique
Mud cracking	Fine to fairly large segments, flaking or curling from surface	Rapid drying, application of coating too heavy, rapid drying conditions	Use coatings with strong adhesion, apply under proper drying conditions, prevent sags, puddles, or excessive thickness

Overspray	Very rough coating surface, may appear like sand in surface, pinpoint corrosion throughout rough areas	Improper spraying technique, uneven spray passes with gun too far from surface	Apply with even, wet spray passes overlapped 50%, remove overspray before applying additional coats
Pinholes	Small, visible holes – 1/32 inch (1 mm) – generally random and in concentrations, pinpoint corrosion in pinholes	Improper spray technique, spray gun too close to surface	Apply with spray gun at the optimum distance from the surface
Pinpoint rusting	Pinpoint spots of corrosion progressing from a small area to a larger area, early failure can ruin entire surface	Zinc pigment mask by other pigmentation or improper zinc-to-binder ratio, uneven coating thickness with thin areas failing first	Remove coating and reapply properly, apply maintenance coat at first sign of pinpoint failure
Runs, sags, and curtains	Heavy areas in coating that flow down vertical surface in streaks or curtains	Improper application	Remove runs and sags with a brush prior to initial set of coating, smooth area with light spray coat
Spatter coat	Pinpoint rusting in thin areas, small spots of coating that are non-continuous over substrate, in poor light may seem continuous	Inconsistent spray passes not overlapped 50%, spray gun flipped at end of spray passes	Use even, wet spray with each pass overlapped 50%, use cross-spray technique
Wrinkling	Furrows and ridges, may be linear or random, fine or quite large	Surface reaction where surface expands during drying more rapidly than the body of the coating	Use coatings with even, thorough drying characteristics, apply evenly, avoid excessive thickness

722S.10 Measurement

Unless otherwise indicated on the Drawings or contract bid form, individual items including the furnishing of all materials, equipment, supervision, labor, scaffolding, protection of traffic, and incidentals necessary to complete the work required by this item will not be measured for payment.

722S.11 Payment

The work performed as prescribed by this item will be paid for at the unit bid price per lump sum of "Protective Coating New Structures" and "Protective Coating Existing Structures". The bid price shall include full compensation for the cost of all individual items including the furnishing of all materials, equipment, supervision, labor, scaffolding, protection of traffic, and incidentals necessary to complete the work required by this item.

Payment will be made under:

Pay Item No. 722S-A:	Protective Coating New Structures -	Lump Sum.
Pay Item No. 722S-B:	Protective Coating Existing Structures -	Lump Sum.

End

SPECIFIC Cross Reference Materials
Specification Item 722S, "Paint and Painting"

American Society for Testing and Materials (ASTM)

Designation	Description
D4263	Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method

The Society for Protective Coatings (SSPC)

Designation	Description
SP1	Solvent Cleaning
SP3	Power Tool Cleaning
SP6	Commercial Blast Cleaning
SP7	Brush-Off Blast Cleaning
SP10	Near-White Blast Cleaning
SP13	Concrete

TxDOT Specifications

Designation	Description
DMS-8000	Maintenance Paints
DMS-8101	Structural Steel Paints – Performance
DMS-8110	Coatings for Concrete
DMS-8111	Anti-Graffiti Coatings

RELATED Cross Reference Materials
Specification Item 722S, "Paint and Painting"

City of Austin Standard Specification Items

Designation	Description
Item 720S	Metal for Structure
Item 721S	Steel Structures

TxDOT Specifications

Designation	Description
DMS-8100	Structural Steel Paints – Formula