SECTION 09 96 00

HIGH PERFORMANCE COATINGS

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\*\* NOTE TO SPECIFIER \*\* Stainless Steel Coatings, Inc.; corrosion resistant coating products.
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This section is based on the products of Stainless Steel Coatings, Inc., which is located at:
835 Sterling Rd.
Lancaster, MA 01523
Tel: 978-365-9828
Fax: 978-365-9874
Email: [request info (tgutheil@steel-it.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Stainless+Steel+Coatings,+Inc.&coid=49858&rep=&fax=978-365-9874&message=RE:%20Spec%20Question%20(09960ste):%20%20&mf=)
Web: <http://www.steel-it.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos49/arc49858.html) ] for additional information.
Our comprehensive, cost-effective solutions protect metallic and nonmetallic surfaces against the harmful effects of ultraviolet rays, chemicals, oils, alkalis, food acids, water immersion, abrasion, and high-pressure washdowns. STEEL-IT anti-rust and anti-corrosion paints and coatings have achieved global market success in the processing, packaging, food, pharmaceutical, equipment manufacture and other industries where strong requirements exist for preventing premature destruction of surfaces caused by exposure to water or corrosive elements.
All our coatings are innovative chemical solutions based on proprietary formulas that include a unique leafing pigment. Our most popular coating products include epoxy and polyurethane systems. Additionally, our coatings can be made to order so as meet a range of special needs for industrial Custom Metallic Paint. We care a great deal about ecological issues and have recently created our High solids Paint system, which has no harmful effect on the natural environment and honors vigorous legislative regulations. Stainless Steel Coatings, Inc. is constantly working to ensure that every last gallon of stainless steel paint or each anti-corrosion coating that we produce meets or exceeds our customers' highest expectations.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Polyurethane Stainless Steel Coating System.
		2. Epoxy Stainless Steel Coating System.
		3. High Solids Epoxy Stainless Steel Coating System.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 05 13 - Shop-Applied Coatings for Metal: Shop Applied Coatings for Metal
		2. Section 05 12 16 - Fabricated Fireproofed Steel Columns.
		3. Section 05 50 00 - Metal Fabrications.
		4. Section 09 90 00 - Painting and Coating.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. SSPC SP-2: Hand Tool Cleaning
		2. SSPC SP-3: Power Tool Cleaning
		3. SSPC SP-5: White Metal Cleaning Standard.
		4. SSPC SP-6: Commercial Blast Cleaning Standard.
		5. SSPC SP-10: Near White Metal Cleaning Standard.
	1. DESIGN / PERFORMANCE REQUIREMENTS
		1. STEEL-IT coatings have been USDA approved for incidental contact with food constituents.
	2. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Application Instructions.
		3. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
	3. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products listed in this section with a minimum of 10 years documented experience.
		2. Applicator Qualifications: Company specializing in applying the work of this section with a minimum of 3 years documented experience.
		3. Product: Coating must be a complete system from a single source consisting of primer and topcoat.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. Before proceeding with the work, applicator will apply the primer and finish coat to a representative substrate section of 100 square feet in size. Finish area designated by Architect.
			2. Application must be witnessed by the Architect and is subject to their approval. Once accepted in writing mock-up will serve as a guide for the finished work.
			3. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
			4. Refinish mock-up area as required to produce acceptable work.
	1. DELIVERY, STORAGE, AND HANDLING
		1. Deliver materials in manufacturer's original, sealed, undamaged container with identification label intact.
		2. Store products in manufacturer's unopened packaging until ready for installation. Store materials in an area that is maintained within the acceptable temperature range, per manufacturer's instructions.
		3. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
	2. SEQUENCING
		1. Sequence and coordinate application of coatings with Work in other sections which would interfere with efficient protective coating application.
		2. Do not commence adjacent or adjoining Work until the application of the coatings is complete in that area.
	3. PROJECT CONDITIONS
		1. Project Environmental Requirements: Substrate and air temperature shall be in accordance with the manufacturers requirements.
			1. Protect work area from windblown dust and rain. Protect adjacent areas from over spray of coating material.
			2. Provide ventilation in areas to receive work of this section during application and minimum 24 hours after application.
		2. Temperature and Humidity Requirements: Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not apply coatings under environmental conditions outside manufacturer's absolute limits.
			1. Do not apply primers or coatings when temperature of substrate and/or surrounding ambient air temperature is below 40 degrees F (5 degrees C) for the Polyurethane Stainless Steel Coating System or below 50 degrees F (10 degrees C) for the Epoxy Stainless Steel Coating System or High Solids Epoxy Stainless Steel Coating System. Temporary protection and heat shall be maintained at this minimum temperature for 24 hours before, during and 24 hours after material application.
			2. Steel substrate temperature shall be a minimum of 5 degrees F (3 degrees C) above the dew point of the surrounding air for a period of 24 hours prior and during the application of the material.
			3. If necessary for job schedule, the Contractor shall provide enclosures and heat to maintain proper temperatures and humidity levels in the application areas.
			4. Relative humidity of the application area shall not exceed a maximum of 85 percent for 24 hours prior, during and 24 hours after the application of the material.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Stainless Steel Coatings, Inc., which is located at: 835 Sterling Rd.; Lancaster, MA 01523; Tel: 978-365-9828; Fax: 978-365-9874; Email: [request info (tgutheil@steel-it.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Stainless+Steel+Coatings,+Inc.&coid=49858&rep=&fax=978-365-9874&message=RE:%20Spec%20Question%20(09960ste):%20%20&mf=); Web: <http://www.steel-it.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs to include the items or surfaces to receive high performance coatings as required.

* 1. APPLICATION / SCOPE
		1. Exterior Surfaces To Be Painted:
		2. Interior Surfaces To Be Painted:

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs to include the products required and applicable to project requirements. Delete the paragraphs that are not applicable.
\*\* NOTE TO SPECIFIER \*\* STEEL-IT Polyurethane Coating System utilizes a unique stainless steel leafing pigment. STEEL-IT Polyurethane Coating System is USDA-approved for use in the food processing and handling industry where incidental food contact may occur. Also available in handy aerosols for easy touch-ups and small jobs.

* 1. POLYURETHANE STAINLESS STEEL COATING SYSTEM
		1. STEEL-IT Polyurethane Coating System:
			1. Materials:
				1. Primer: STEEL-IT Alkyd Weathering Primer #2203

Color: Red.

Sheen: Matte.

Total Solids: By weight: 65 percent. By volume: 38 percent.

* + - * 1. Finish Spray/Brush Grade: STEEL-IT Polyurethane Finish #1002

Color: Metallic.

Sheen: Low Gloss.

Total Solids: By weight: 49 percent. By volume: 28 percent.

* + - * 1. Finish Aerosol: STEEL-IT Polyurethane Finish #1002B

Color: Metallic.

Sheen: Low Gloss.

Total Solids: By weight: 49 percent. By volume: 28 percent.

* + - 1. System Recommendations:
				1. Atmospheric Service in Light-Moderate Duty Areas.

1 coat - STEEL-IT Alkyd Weathering Primer #2203.

1 coat - STEEL-IT Polyurethane Finish #1002 (within 4-24 hours of applying 2203 Primer).

* + - * 1. Heavy Duty Service. -

1 coat - STEEL-IT Alkyd Weathering Primer #2203.

2 coats - STEEL-IT Polyurethane #1002 (within 4-24 hours of applying 2203 Primer).

* + - 1. Surface Preparation:
				1. General use in light atmospheric service.

Hand or power tool clean SSPC-SP-2 and SSPC-SP -3 after thoroughly removing all oils, salts and other contaminants.

* + - * 1. Heavy Duty Service.

Sandblast to an SSPC-SP-6 (commercial blast)

Anchor pattern should be cut and angular (1.5-2.0 mils deep).

* + - 1. Film Thickness:
				1. General use.

1 coat of #2203 (3.0 dry mils)

1 coat of #1002 (3.0 dry mils minimum)

* + - * 1. Heavy Duty use. Film thickness on blasted surfaces should be measured up from the peaks of the anchor pattern.

1 coat of #2203 (3.0 dry mils)

2 coats of #1002 (3.0 dry mils per coat)

* + - 1. Application:
				1. Conventional spray techniques use a Binks #62 Gun with a 68PB Air Cap and a 66 Fluid Tip or similar equipment.
				2. Airless application use a DeVilbiss JGB-501 airless gun combination with a fluid tip orifice between 0.015 and 0.021. Pump ratio should be at least 28:1 or other compatible combinations.
			2. Drying Time:
				1. #2203 Primer is a fast drying material that is touch dry in 1 hour and should be recoated between 4 and 24 hours.
				2. #1002 Finish is dry to touch in 2 hours and should be recoated within 24 hours.
				3. The finished system can be put into light service in 36 hours. The system will continue to cure to maximum hardness and protection for 5-10 days.
			3. Coverage:
				1. #2203 Red Primer: theoretical coverage - 200 sq. ft./gallon at 3.0 dry mil.
				2. #1002 Finish: theoretical coverage150 sq. ft./gallon at 3.0 dry mil.
			4. Thinning and Clean Up:
				1. Thinning is not recommended. Thin only when mandatory.
				2. Air spray may require small amounts of mineral spirits, high flash naptha, xylene or toluene.
				3. Clean up with mineral spirits or xylene.
			5. Limitations:
				1. Apply only when surface and ambient temperatures are above 40 degrees F
				2. Relative humidity must be less than 86 percent.
				3. Surface temperature must be at least 5 degrees F above dew point.
				4. Recommended for Surfaces where operating temperatures will not exceed 200 degrees F.

\*\* NOTE TO SPECIFIER \*\* STEEL-IT Epoxy Coating System utilizes a unique stainless steel leafing pigment. STEEL-IT Epoxy Coating System is USDA-approved for use in the food processing and handling industry where incidental food contact may occur. Although designed primarily for the protection of ferrous metals, the coating may be applied directly to non-metallics such as wood, tile, glass, masonry, porcelain, plaster, fiberglass, masonite, and many other non-porous surfaces.

* 1. EPOXY STAINLESS STEEL COATING SYSTEM
		1. Materials:
			1. Primer: STEEL-IT Two Part Epoxy Primer #4210.
				1. Color: Gray.
				2. Sheen: Low Gloss.
				3. Total Solids: By weight: 60 percent. By volume: 50 percent.
			2. Finish: STEEL-IT Two Part Epoxy Finish #4907.
				1. Color: Metallic.
				2. Sheen: Satin.
				3. Total Solids: By weight: 50 percent. By volume: 36 percent.
			3. System Recommendations:
				1. 1 coat - STEEL-IT Lead Free Epoxy Primer #4210
				2. 2 coats - STEEL-IT Epoxy Coating #4907
		2. Surface Preparation:
			1. General Use:
				1. Sandblast to an SSPC-SP-6 (commercial) or SSPC-SP-10 (near white) blast quality.
			2. Immersion or Chemical Exposure:
				1. Sandblast to an SSPC-SP-5 (white) blast quality.
			3. Anchor Pattern - cut and angular 1.5 - 2.5 mils deep.
		3. Film Thickness:
			1. Atmospheric Service and Light Chemical Exposure 3 dry mils primer and 3 dry mils of finish.
			2. Immersion and heavy-duty chemical exposure 3 dry mils of primer and 2 coats of finish (3 dry mils each).
		4. Mixing:
			1. Thoroughly agitate each part separately, then blend one to one by volume (Part A and Part B). Allow 30 - 45 minutes induction time. Re-agitate and strain through filter before use.
		5. Application:
			1. For spray application use a DeVilbiss JGA and MBC gun with a 705FF Air-cap/Fluid Tip Combination.
			2. For airless application use a 28:1 pump (minimum) with a DeVilbiss JGB-501 Gun. Fluid Tip Orifice of .015 - .021 is recommended.
			3. May also be applied by brush or roller.
		6. Dry Time:
			1. Dry to touch in 2 hours. Allow 12 hours between coats. Subsequent coats will be tack free to handle in 24 hours. Light service in 36 hours. For complete cure (full protection and hardness) allow 6-7 days. Lower temperatures delay curing time
		7. Coverage:
			1. Theoretical coverage, Epoxy Primer #4210: 250-275 sq. ft. per gallon at 3 mils DFT.
			2. Theoretical coverage, Epoxy Finish #4907: 200 sq. ft. per gallon at 3 mils DFT.
		8. Thinning and Clean Up:
			1. Thinning is not recommended. Thin only when required, using STEEL-IT #6811 Epoxy Reducer or small amounts of aromatic, glycol ether based solvents.
			2. Clean-Up with aromatic, glycol ether, ketones or mixtures of the same.
		9. Limitations:
			1. Apply only when surface and ambient temperatures are above 50 degrees F.
			2. Relative humidity must be less than 86 percent.
			3. Surface temperature must be at least 5 degrees F above the dew point.
			4. Recommended for surfaces where the operating temperatures will not exceed 200 degrees F.

\*\* NOTE TO SPECIFIER \*\* High Solids, Epoxy System is a high-performance, two-coat barrier coating system that complies fully with the latest environmental regulations while maintaining the same high-performance profile and superior application characteristics associated with more traditional STEEL-IT compositions. Free of lead and chromium salt-based pigmentations, the system has VOC levels substantially less than all current regulated thresholds.

* 1. HIGH SOLIDS EPOXY STAINLESS STEEL COATING SYSTEM
		1. Materials:
			1. Primer: STEEL-IT HS/LVOC Two Part Epoxy Primer #4220.
				1. Color: Red.
				2. Sheen: Satin.
				3. Total Solids: By weight: 84 percent. By volume: 72 percent.
			2. Finish: STEEL-IT High solids Two Part Epoxy Finish #4908.
				1. Color: Metallic Grey.
				2. Sheen: Satin.
				3. Total Solids: By weight: 78 percent. By volume: 68 percent.
		2. System Requirements:
			1. 1 Coat - STEEL-IT High Solids Epoxy Primer #4220
			2. 1 or 2 Coats - STEEL-IT High Solids Epoxy Finish #4908
		3. Surface Preparation:
			1. General Use: Sandblast to an SSPC-SP-6 (commercial) or SSPC-SP-10 (near white) blast quality.
			2. Immersion or Chemical Exposure: Sandblast to SSPC-SP-5 (white metal) blast quality.
			3. Anchor Pattern: Cut and angular, 2-3 mils deep. High solids/high build systems demand deep anchor profiles for proper adhesion.
		4. Film Thickness:
			1. Atmospheric Service and Light Chemical Exposure: 3 dry mils of primer followed by 3 dry mils of finish.
			2. Immersion and Heavy Duty Chemical Exposure: 5 dry mils of primer followed by two coats of finish (4 dry mils each).
		5. Mixing:
			1. Stir both components separately. Combine equal parts by volume and mix thoroughly. Allow newly combined paints to stand for 15 minutes prior to use.
		6. Application:
			1. Conventional Spray: Use Binks #95 gun with 66SS/66SK fluid tip/air cap or similar equipment.
			2. Airless Application: Use a DeVilbiss JBG-501 gun with a fluid tip orifice between 0.015 and 0.021. Pump should be at least 28:1 or other compatible combinations.
		7. Dry Time:
			1. #4220 Primer: Dry to touch in 3 hours. Allow to dry 12 hrs between coats.
			2. #4908 Finish: Dry to touch in 4 hrs. Allow to dry 12 hrs between coats.
			3. Light service in 36 hours.
			4. Cure continues to advance for two weeks until full hardness and chemical resistance is achieved. Lower temperatures delay curing time.
		8. Coverage:
			1. Theoretical Epoxy Primer #4220: At 3 dry mils is 380 sq. ft./gal.
			2. Theoretical Epoxy Finish #4908: At 3 dry mils is 365 sq. ft./gal.
		9. Thinning and Clean Up:
			1. Thinning is not normally necessary. If required, up to 5 percent xylene or aromatic naphtha may be added to facilitate application without exceeding VOC thresholds. We offer our 6811 Epoxy Reducer for all STEEL-IT epoxies..
		10. Limitations:
			1. Apply only when relative humidities are below 85 percent.
			2. Apply only when surface temperature is more than 5 degrees F above dewpoint.
			3. Apply at temperatures above 50 degrees F and less than 100 degrees F.
			4. The maximum service temperature is 250 degrees F.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. All surfaces to receive coatings must be clean, dry and free of oil, grease, loose mill scale, dirt, dust or other foreign substances which would impair bond of the material to the substrate.
		3. Verify that substrate and workspace temperature and humidity conditions are in accordance with requirements of this section.
	2. PREPARATION
		1. Provide masking, drop cloths or other suitable coverings to prevent overspray onto surfaces not intended to be affected by Work in this section.
		2. Clean surfaces thoroughly prior to installation.
		3. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
		4. Clean substrate free of dust, dirt, grease or other foreign substances that would impair the bond of the coating. Clean substrate in accordance with the SSPC Cleaning Standard specified.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions.
	4. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION