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Effective: March 3, 2023

Rev. 2

SP-9888® STRIPE COATING APPLICATION SPECIFICATION FOR COATING TANK INTERIORS

I. GENERAL

- 1.1 SP-9888® Stripe Coating (SC) is a 100% solids, thin film, two-component epoxy manufactured and marketed by **Specialty Polymer Coatings** (“SPC”), #14 – 1595 Cliveden Avenue, Delta, B.C., Canada, V3M 6M2, Telephone: (604) 514-9711, Fax: (604) 514-9722.
- 1.2 SP-9888® SC is to be applied by approved applicators.
- 1.3 This specification covers the brush or spray application of SP-9888® SC to the interior of tank nozzles, tank intake piping, striping of welds of tank interiors and as a general stripe coat. Only application to steel surfaces is recommended.
- 1.4 Mixing Ratio; Brush Grade or Spray Grade: 2.5 Parts Base to 1 Part Hardener (pre-measured) by volume.
- 1.5 Mixed Colour: Grey

II. SURFACE PREPARATION

- 2.1 All surfaces to be coated shall be abrasive blasted to NACE 2, SSPC SP-10 (Near White) cleanliness or equivalent. The resulting surface roughness profile shall be a minimum of 62.5 microns (2.5 mils) and a maximum of 125 microns (5.0 mils) peak to valley.
- 2.2 The underside and narrow edges of all angles, weld beads, pits and structural members must be blasted to the same surface condition as specified in Section 2.1. All surfaces must be cleaned of all blasting products, leaving no trapped particles or traces when blasting is completed.
- 2.3 All surfaces to be coated must be completely dry, free of moisture, soil, dust and abrasive material at the time the coating is applied. The total soluble salts shall measure no more than 5PPM. For acceptance ranges of individual readings of Sulphates, Nitrates or Chlorides please contact your SPC Representative. All weld spatter must be removed from the surface and rough welds must be ground smooth prior to coating.



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II. SURFACE PREPARATION (cont.)

- 2.4 Only that area that can be coated in a particular day shall be blast-cleaned. If proper environmental conditions are maintained, the time between blasting and coating can be extended. Blast-cleaning shall extend for at least 50 mm (2 in.) past the end of the coated area. Any area that is allowed to sit overnight must be returned to its original blast-cleaned condition. This requirement also applies to any blast-cleaned surface that has flash rusted as a result of exposure to water or moisture. Relative Humidity must be 80% or less prior to and during the application of SP-9888® SC.
- 2.5 If the coating operation is past the 48-hour maximum re-coat interval for SP-9888® SC, the edges of the area coated with SP-9888® SC are to be sanded down to the steel substrate after the coating has cured and before resumption of coating.
- 2.6 Sanding must be directed from the coated surface up to the substrate. Sanding should be initiated 150 mm (6 in.) onto the existing coating.
- 2.7 Prior to coating, all areas, including the floor, scaffolding, walkways, and decks within 15 m (50 ft.) of the coating site, shall be swept or cleaned of abrasive products to prevent windblown contamination of the coating surface.



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III. APPLICATION

- 3.1 SP-9888® SC must be applied to clean, dry surfaces only. Condensation, precipitation, water vapour or any other forms of contamination will **NOT** be acceptable on the blasted surface prior to coating. Surfaces subject to any of these conditions shall be cleaned with fresh water if necessary and re-blasted to return the surface to NACE #2, SSPC SP-10 cleanliness as per Section II.
- 3.2 The acceptable substrate temperature range for application of SP-9888® SC is 15°C (59°F) to 30°C (86°F). The substrate temperature must be a minimum of 3°C (5°F) above the dew point temperature before proceeding with the coating operation.
- 3.3 Coating application can be performed in cold temperature conditions if the tank substrate is preheated using heating/de-humidification units. Post-heating may be required for some applications to achieve an adequate cure depending upon the ambient temperature. The coating must not be allowed to freeze before an adequate cure is reached. Preheating and post-heating may also be utilized if an accelerated cure time is required.
- 3.4 Preheating/de-humidification, if required, must be initiated prior to blasting to raise the surface temperature to a minimum of 3°C (5°F) above the dew point temperature. Temporarily insulating by using scaffolding and tarps to encapsulate the exterior tank walls may be required in order to raise the interior temperature of the tank environment such that it is sufficient to perform the blasting and coating operations in extremely cold environments.
- 3.5 The appropriate preheat temperature and cure time can be determined from the SP-9888® SC Brush Curing Table (Appendix "A"). The maximum substrate preheat temperature shall not exceed 50°C (122°F).
- 3.6 SP-9888® SC shall be applied in one to two coats with each coat having a maximum Dry Film Thickness (DFT) of 203-254 microns (8-10 mils).
- 3.7 For Brush Grade, apply SP-9888® SC with a brush or roller.
- 3.8 For Spray Grade, SP-9888® SC is to be applied using a Graco High Pressure Airless Spray Equipment or approved equivalent.



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III. APPLICATION (cont.)

- 3.9 Wet Film Thickness (WFT) measurements shall be continuously performed to ensure close adherence to the thickness specification. In general, a WFT of 203 to 254 microns (8-10 mils) of SP-9888® SC can be applied in a single application. If additional coats are required, they shall be applied while the preceding coat is still tacky. The minimum over-coating interval is two (2) hours at 25°C (77°F). The maximum over-coating interval **shall not** exceed forty-eight (48) hours without sanding the coated surface.
- 3.10 SP-9888® SC can be over-coated without the need for an additional tie coat. Should the over-coating interval exceed forty-eight (48) hours the surface should be sanded prior to application of the topcoat. Sanding should not be attempted until the coating has dried to a dry hard condition. The Re-coat Interval may vary depending upon the substrate temperature.
- 3.11 Scaffolding and items such as hoses, cable braces, etc. shall be a minimum of 457 mm (18 in.) from the surface to be coated or placed so as not to interfere with the space normally required for a spray gun operation.

IV. APPEARANCE OF FINISHED COATING

- 4.1 The finished coating shall be generally smooth and free of protuberances or holidays. All surfaces shall have the required minimum DFT. No drips, running, sagging or other discontinuities are acceptable.
- 4.2 The applicator shall exercise every reasonable precaution to assure proper application of the coating and satisfactory protection of the steel surface.



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V. INSPECTION

- 5.1 The Owner's appointed Representative must inspect the quality of the blasted surfaces, including the cleaning of abrasive from these surfaces prior to the application of SP-9888® SC. Acceptance to be given by said Representative to the Owner and Contractors Representative.
- 5.2 WFT measurements should be continuously taken to ensure the minimum film thickness specified. WFT measurements should be taken using SPC approved WFT gauges.
- 5.3 After the SP-9888® SC has cured to a dry hard condition, the Owners Representative and/or Contractors Inspector should measure the DFT with an SPC approved, calibrated, magnetic gauge. The appointed Inspector shall notify the applicator of their acceptance. Notification to the Applicator of all inadequately coated sections must be made immediately.
- 5.4 Holiday testing of the finished coating film may be performed to ensure adequate corrosion protection. The maximum voltage used for this testing shall not exceed 125 volts per 25 microns (1.0 mil). The holiday testing of SP-9888® SC coating is to be carried out in accordance with NACE SP0188-2006.
- 5.5 Immediately upon completion of the work, the coating application shall be subject to final inspection by SPC and/or the Owners Representative. Notification of all defects must be made within a reasonable time frame from completion of the work to allow for all repairs within the allowed time frame for the project.



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VI. REPAIRS

6.1 Pinholes and holidays 75 mm (3 in.) or less in diameter shall be repaired by using SP-9888® SC Brush Grade Kits. The procedure is as follows:

- The surface temperature prior to preparing the surface should be in accordance with Section II of this specification.
- Areas requiring repair shall be sanded using a carborundum cloth or sandpaper.
- The adjacent coating shall be abraded for a minimum distance of 25 mm (1 in.) to ensure inter-coat adhesion.
- Dust shall be removed by wiping with a clean paint brush or with compressed air. Wear a dust respirator during all sanding activities.
- All surfaces to be coated shall be clean and completely dry prior to the application of the coating. The minimum surface temperature for coating is 15°C (59°F). The substrate temperature must be a minimum of 3°C (5°F) above the dew point temperature.
- Coating application can be performed in cold temperature conditions if the tank interior is preheated using heating/de-humidification unit(s). Post-heating may be required for some applications to achieve an adequate cure depending upon ambient temperature. The coating must not be allowed to freeze before an adequate cure is reached. Preheating and post-heating may also be utilized if an accelerated cure time is required.
- Preheating/de-humidification, if required must be initiated prior to blasting in order to raise the surface temperature a minimum of 3°C (5°F) above the dew point temperature. Temporarily insulating by using scaffolding and tarps to encapsulate the exterior tank walls may be required to raise the interior temperature of the tank environment such that it is sufficient to perform the blasting and coating operations in extremely cold environments.
- The acceptable substrate temperature range for repair of SP-9888® SC is 15°C (59°F) to 30°C (86°F).
- Coat the repair area in accordance with the requirements detailed in Section III.



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VII. SAFETY PRECAUTIONS

- 7.1 The Contractor will provide safe and secure scaffolding for ready access to work areas.
- 7.2 Other contract services will be halted as necessary so as not to interfere with the work flow of the coating application.
- 7.3 SP-9888® SC is **HARMFUL IF ABSORBED THROUGH SKIN, INHALED OR SWALLOWED.** SP-9888® SC is classified as Flammable Liquid. Avoid inhalation of solvent vapours or paint mist. Avoid contact of liquid paint on the skin or with the eyes. Forced ventilation should be provided when applying paint in confined spaces. As a general safety practice, respiratory, skin and eye protection are always recommended during the brush and/or spray grade application of paint or coating. SP-9888® SC is a skin and eye irritant. Personal protective equipment is required. Refer to the Safety Data Sheets.
- 7.3.1 Chemical resistant gloves with a long cuff that will overlap the clothing sleeves should be worn when handling this product. The glove/clothing overlaps should be sealed by tape. Check with the glove manufacturer to determine the proper glove type.
- 7.3.2 Wear an appropriate, properly fitted vapour respirator (NIOSH / OSHA approved) during application where vapour/mist are likely to be encountered, e.g., confined spaces and during winter construction or when the substrate is preheated. For outdoor application and areas with adequate ventilation, the use of a respirator is normally not required. Follow the respirator manufacturer's recommendations. Wear a dust respirator for any activity such as sanding of cured coating.
- 7.3.3 Wear splash proof chemical safety goggles and/or face shield.
- 7.3.4 Wear impervious boots.
- 7.3.5 Long-sleeved clothing is to be worn over regular clothing to cover all exposed areas of arms, legs or torso during mixing and application of the coating. Breathable clothing, such as cotton or disposable coveralls, is recommended.
- 7.3.6 Emergency eyewash and a shower should be in close proximity, where possible. A barrier cream may be used, in conjunction with the stated protective measures, as an additional safeguard against skin contact.



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VII. SAFETY PRECAUTIONS (Cont.)

- 7.4 Keep the containers closed when not in use. In case of spillage, absorb with inert material and dispose of in accordance with Federal, Provincial and Municipal regulations in Canada and Federal, State and County regulations in the United States of America.
- 7.5 No open flames, smoking or welding will be allowed in the immediate vicinity during the coating application.
- 7.6 All personnel on the application crew shall be informed of regulations regarding smoking, auto traffic restrictions, the meaning of warning bells, horns and whistles, fire warnings and restricted areas. Members of the coating crew shall maintain good personal hygiene and wash thoroughly after exposure to the coating application, particularly before eating or going on breaks.

VIII. EQUIPMENT

- 8.1 Graco High Pressure Airless Spray equipment or approved equivalent must be used to apply SP-9888® SC Spray Grade coating systems in accordance with SPC's recommendations and specifications.
- 8.2 For further Plural Component set up information contact SPC's Technical Department at 604-514-9711.

IX. MATERIALS

- 9.1 All coating containers must be sealed prior to use. Product exposed to the atmosphere must be protected with a blanket of nitrogen gas.
- 9.2 **NO** amount of SP-9888® SC Spray Grade or Brush Grade coating shall be given, sold or exchanged, without the express written permission of SPC.
- 9.3 The acceptable shipping and storage temperature range for SP-9888® SC Spray Grade or Brush Grade coating is between 5°C (41°F) to 50°C (122°F).
- 9.4 Store SP-9888® SC coating product in a cool, dry, well-ventilated area. Keep the container lids sealed when not in use. The Shelf Life of SP-9888® SC coating products is a maximum of 24 months from the Date of Manufacture in unopened containers.



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X. SUBSTRATE TYPES

- 10.1 This specification is applicable to standard steels.
- 10.2 Exotic metals, stainless steel or other special types of steel or alloys may require different consideration as to surface preparation and SPC formulations. Notification of the use of such metals must be made to SPC prior to the coating application.

XI. INSURANCE

- 11.1 The Contractor will provide all necessary insurance to protect itself and its employees during the application of SP-9888® SC.
- 11.2 SPC will provide all necessary coverage to protect SPC employees on site.

XII. DISPOSAL

- 12.1 Dispose of empty Base and Hardener containers according to Federal, Provincial, and Municipal regulations in Canada and Federal, State, and County regulations in the United States of America. Allow all mixed material to complete gel prior to disposal.

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APPENDIX “A”

SP-9888 STRIPE COATING CURING TABLE

SUBSTRATE TEMPERATURE	DRY HARD CURING TIME
50°C (122°F)	2 Hours
40°C (104°F)	4.5 Hours
30°C (86°F)	8 Hours
20°C (68°F)	15 Hours
15°C (59°F)	20 Hours

Substrate: 12 mm (0.5 in.) Thick Steel Panels

Dry Film Thickness: 250 microns (10 mils) as per ASTM D1640

Material Temperature: Brush Grade: Base and Hardener: 25°C (77°F)

Spray Grade: Base: 25°C (77°F)

Hardener: 25°C (77°F)

Note: The information above is to serve as a guide only. The test results were compiled under laboratory-controlled conditions. Field results may vary due to variable conditions such as radiant heat loss and the cooling effects of wind.

Effective Date: March 3, 2023