



CORPORATE HEAD OFFICE  
Specialty Polymer Coatings  
#101, 20529 – 62<sup>nd</sup> Avenue, Langley, BC, CANADA V3A 8R4  
Tel: (604) 514-9711 • Fax: (604) 514-9722

U.S.A. HEAD OFFICE  
Specialty Polymer Coating USA, Inc  
22503 FM521, Angleton, Texas, 77515, USA  
Tel: (281) 595-3530 • Fax: (281) 595-3717

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## **SPECIALTY POLYMER COATINGS, INC. (SPC)**

### **SP-1386<sup>®</sup> SPRAY GRADE APPLICATION SPECIFICATION**

#### **CONCRETE SUBSTRATE**

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#### **I. GENERAL**

- 1.1 SP-1386<sup>®</sup> Spray Grade is a 100% solids, polyurethane manufactured and marketed by **Specialty Polymer Coatings, Inc.** (“SPC”), #104 - 20529 - 62nd Avenue, Langley, B.C., Canada, V3A 8R4, Telephone: (604) 514-9711, Fax: (604) 514-9722, and applied by approved applicators.
- 1.2 This specification covers only the spray application of the material to concrete surfaces.
- 1.3 Mixing Ratio: 3 Parts Base to 1 Part Activator (pre-measured) by volume.

#### **II. SURFACE PREPARATION**

- 2.1 All concrete surfaces to be coated shall be inspected prior to surface preparation for signs of surface defects, physical or chemical damage, contamination, and excess moisture. All concrete defects (honey-combs, scaling and spalling), damage or contamination that may affect the coating performance shall be repaired prior to surface preparation.
- 2.2 The concrete surfaces to be coated shall be prepared by grit blasting or mechanical scarification to remove laitance, contaminants (dirt, oil, grease, chemicals, and existing incompatible coatings) and weak concrete, to expose subsurface voids, and to produce a sound concrete surface with adequate roughness to promote adhesion of the protective coating.
- 2.3 Protrusions such as form burrs, sharp edges, fins, and concrete spatter shall be removed during the surface preparation if they will interfere with coating performance.
- 2.4 Following grit blasting or mechanical scarification, all grit, dust or loose material must be removed from the concrete surface.

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### II. SURFACE PREPARATION (cont.)

- 2.5 Areas where weak, deteriorated, or contaminated concrete have been removed by grit blasting shall be repaired with SP-1264 Bug Hole Filler. SP-1264 Bug Hole Filler shall also be used to patch all bug holes, surface voids, pinholes, and excessive porosity. SP-1264 Bug Hole Filler may be applied with a trowel or with a spatula.

### III. APPLICATION

- 3.1 Traditionally, new concrete is allowed to cure for 28 days before coating application. This will allow the concrete to sufficiently cure and allow excess moisture to evaporate prior to coating.
- 3.2 The concrete surface shall be tested for moisture content after the cleaning and drying process, but prior to the coating application. The moisture content shall not exceed 8%.
- 3.3 The prepared concrete surface must be sealed with SP-1264 Damp Concrete Primer Sealer prior to the application of SP-1386<sup>®</sup> Spray Grade. SP-1264 Damp Concrete Primer Sealer can be applied with airless spray equipment (56:1 pump or higher) or plural component airless spray equipment. SP-1264 Damp Concrete Primer Sealer may also be roller-applied which will aid in wetting the concrete surface.
- 3.4 The acceptable substrate temperature range for application of SP-1264 Bug Hole Filler and SP-1264 Damp Concrete Primer Sealer is 10°C (50°F) to 100°C (212°F). SP-1386<sup>®</sup> Spray Grade may be applied at temperatures from 1°C (33°F) to 100°C (212°F). The relative humidity prior to and during the application of the above products must be 80% or less. To avoid the risk of condensation, the coating application should be performed only when the temperature of the concrete substrate is a minimum of 3°C (5°F) above the dew point temperature.
- 3.5 SP-1386<sup>®</sup> Spray Grade shall be applied to the specified Dry Film Thickness (DFT) in a single application using Graco Hydra-Cat high pressure airless spraying equipment or approved equal. Wet Film Thickness (WFT) measurements shall be continuously performed to ensure the minimum film thickness specified.
- 3.6 SP-1386<sup>®</sup> Spray Grade can be over-coated without the need for an additional tie coat. The Re-coat Interval for SP-1386<sup>®</sup> Spray Grade is 12 hours at 25°C (77°F) and two (2) hours at 50°C (122°F). Should the Re-coat Interval be exceeded, the surface shall be blast roughened prior to application of the additional coat.

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### **IV. APPEARANCE OF FINISHED COATING**

- 4.1 The finished coating shall be generally smooth and free of protuberances or holidays and pinholes. All surfaces shall have the required minimum DFT. In general, the surface of the coating shall be no rougher than the base or substrate material. 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 concrete surface.

### **V. INSPECTION**

- 5.1 The owner's appointed representative must inspect the quality of the prepared surfaces prior to the application of the coating systems. Acceptance to be given by said representative to the owner and contractor's representative.
- 5.2 WFT measurements should be continuously taken to ensure the minimum film thickness specified. WFT measures should be taken using SPC approved WFT gauges.
- 5.3 After the SP-1386<sup>®</sup> Spray Grade has cured to a tack-free condition, the owner's representative and / or contractor's inspector shall measure the DFT with an SPC approved, calibrated, magnetic gauge or electronic DFT gauge. The appointed inspector shall notify the applicator of their acceptance. Notification to the applicator of any 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 100 volts per mil (25 microns). Refer to NACE RP0274-93.
- 5.5 Immediately upon completion of the work, the coating application shall be subject to final inspection by SPC and / or the owner's representative. Notification of all defects must be made within a reasonable time period from completion of the work to allow for all repairs within the allowed time frame for the project.

### **VI. REPAIRS**

- 6.1 Coating holidays and pinholes can be repaired by spray or roller applying SP-1264 Damp Concrete Primer Sealer and then spray applying SP-1386<sup>®</sup> Spray Grade or brushing or rolling SP-1386<sup>®</sup> Brush Grade. Refer to the SP-1386<sup>®</sup> Product Data Sheet and the SP-1386<sup>®</sup> Brush Grade Application Specification.

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### VI. **REPAIRS** (cont.)

- 6.2 Depending on the size of the coating defect, areas requiring repair shall be prepared or roughened using a carborundum cloth, sandpaper, file, surface grinder, or by abrasive blasting.
- 6.3 The adjacent coating should be abraded for a minimum distance of 24 mm (1”) to ensure inter-coat adhesion.
- 6.4 If necessary on larger repairs, the edges of the adjacent coating are to be feathered.
- 6.5 Wipe with a clean cloth to remove dust. A dust respirator should be worn for all sanding or grinding activities.
- 6.6 All surfaces to be coated shall be clean and completely dry prior to application of the coating.

### 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 workflow of the coating application.
- 7.3 SPC coating systems are **HARMFUL IF ABSORBED THROUGH THE SKIN, INHALED OR SWALLOWED**. They are skin and eye irritants. Personal protective equipment is required. Refer to the **Material 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. A dust respirator should be worn for any activity such as sanding or grinding of cured coating.
  - 7.3.3 Wear splash proof chemical safety goggles and / or face shield.

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### VII. SAFETY PRECAUTIONS (cont.)

- 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.
- 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, wash thoroughly after exposure to the coating application, particularly before eating or going on breaks.

### VIII. EQUIPMENT

- 8.1 Graco Hydra-Cat high-pressure spray equipment or approved equal must be used to apply SP-1386<sup>®</sup> Spray Grade coating systems in accordance with SPC's recommendations and specifications.

### 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 SPC coatings products shall be given, sold or exchanged without express written permission from SPC.
- 9.3 The acceptable shipping and storage temperature range for SP-1386<sup>®</sup> Spray Grade coating is between 20°C (68°F) and 35°C (95°F). **DO NOT FREEZE THE ACTIVATOR.**

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### **IX. MATERIALS (cont.)**

9.4 SPC coating products shall be stored in a cool, dry, well-ventilated area. Keep the lids sealed. The Shelf Life of SP-1386<sup>®</sup> Spray Grade is a maximum of 12 months in unopened containers. The Shelf Life of SP-1386<sup>®</sup> Brush Grade is a maximum of 12 months in unopened containers. The Shelf Life of SP-1264 Bug Hole Filler and SP-1264 Damp Concrete Primer Sealer is a maximum of 24 months in unopened containers.

### **X. SUBSTRATE TYPES**

10.1 This specification is applicable to concrete surfaces only.

### **XI. INSURANCE**

11.1 The contractor will provide all necessary insurance to protect itself and its employees during the application of SPC coating products.

11.2 SPC will provide all necessary coverage to protect SPC employees on site.

### **XII. DISPOSAL**

12.1 Dispose of empty Base and Activator / 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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### **Corporate Head Office**

#104 - 20529 - 62nd Avenue  
Langley, B.C., Canada V3A 8R4

Phone: (604) 514-9711

Fax: (604) 514-9722

### **USA Head Office**

6202 Brookdale Drive  
League City, TX 77573 USA

Phone: (713) 248-3951

Fax: (281) 332-6948