**DESCRIPTION:** SP-2888® R.G. is a range of surface coatings based on “State of the Art” epoxy / urethane chemistry. The urethane polymer is pre-bonded to the epoxy resin rendering the coating “isocyanate free”. The synergistic effect of co-polymerizing epoxy and urethane produces a coating with the superior adhesion and permeability of epoxy along with the added toughness and abrasion resistance of urethane. SP-2888® R.G. is available in Brush Grade and Spray Grade. SP-2888® R.G. is also available in Cartridges for coating repairs.

**ADVANTAGES:**
- 100% Solids – No VOCs.
- Isocyanate free.
- Excellent resistance to high temperature cathodic disbonding up to 80°C (176°F).
- Excellent adhesion to grit blasted steel surfaces, Fusion Bond Epoxy (FBE), and Fiber Reinforced Plastic (FRP).
- Excellent abrasion and impact resistance.

**USES:**
- Internal lining for pipelines.
- Exterior coating for pipelines in buried or immersed service.
- Coating of pipe, valves and fittings.
- Slip bore and directional drilling applications.
- Girth weld coatings.

**APPLICATION:**
- Spray Grade: Graco Hydra-Cat - Tip Size: .019 - .031
- Brush Grade: Brush or Roller
- Cartridge: Manual Dispenser

**CLEANING MATERIALS:**
- SP-100 Equipment Wash
- SP-110 Tool Cleaner
- SP-120 Internal Storage Lubricant
SURFACE PREPARATION:

Steel Substrate:  
- **Cleanliness:** Near White  
- **Standards:** NACE 2, Sa 2½ (Swedish Scale, ISO 8501-1)  
  SSPC SP-10 (The Society for Protective Coatings)  
- **Profile:** 62.5 microns minimum to 125 microns maximum  
  (2.5 mils to 5.0 mils)

FBE:  
- **Profile:** 62.5 microns (2.5 mils) minimum

MIXING RATIO:  
- Brush Grade or Spray Grade; By Volume: 3 Parts Base to 1 Part Hardener.  
- Cartridge; By Volume: 2 Parts Base to 1 Part Hardener.

HOSE BUNDLE:  
Heated hose bundle consisting of 3/8” ID base and ¼” ID hardener line with ¼” solvent flush line outside of the bundle. Glycol heat trace or equivalent capable of 80°C (176°F)  
* Insulated whip hoses not recommended for glycol heat trace*

TIP SIZE:  
.019 – .033

RECOMMENDED SPRAY PREHEAT TEMPERATURES IN DRUM / PAIL:

**BASE:**  
70°C (158°F) to 80°C (176°F)

**HARDENER:**  
20°C (68°F) to 30°C (86°F) (Ambient-typically not heated)

Pre-heating of the base material is required to balance the viscosity of base and hardener.

In cases of extreme weather conditions the recommended temperatures may change, please consult your SPC representative.
RECOMMENDED FILM THICKNESS:

- **Standard Corrosion Protection:** 0.50 mm minimum to 1.25 mm (20 mils to 50 mils).
- **Directional & Mechanical Protection:** 1.00 mm minimum to 1.78 mm (40 mils to 70 mils).
- Depends upon application; consult with SPC Representative.

BACKFILLING:
Mechanical stress including backfilling or lowering in, shall not be applied to the coating until it has reached a Shore D Hardness ≥80.

COMPATIBILITY WITH OTHER ANTI CORROSION COATINGS:
SP-2888® R.G. is compatible with all SPC and fusion bonded epoxy (FBE) anti-corrosion coatings.

For compatibility with other anti-corrosion coatings, please consult with SPC

RE-COAT INTERVAL:

**Brush Grade:**
- @ 25°C (77°F) Maximum: 120 Minutes
- @ 80°C (176°F) Maximum: 3 Minutes

**Spray Grade:**
- @ 25°C (77°F) Maximum: 120 Minutes
- @ 80°C (176°F) Maximum: 2 Minutes
HANDLING PROPERTIES:

<table>
<thead>
<tr>
<th>Property</th>
<th>Brush Grade</th>
<th>Spray Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pot Life [100 gm (3.5 oz) mass @ 25°C (77°F)]</td>
<td>15 Minutes</td>
<td></td>
</tr>
<tr>
<td>Gel time [200 gm (7.0 oz) mass, Base 70°C (158°F), Hardener 25°C (77°F)]</td>
<td></td>
<td>1.5 Minutes</td>
</tr>
<tr>
<td>Dry Time (ASTM D1640) [0.60 mm (25 mils) coating thickness @ 25°C (77°F)]</td>
<td>55 Minutes</td>
<td>40 Minutes</td>
</tr>
<tr>
<td>Dry Hard Time</td>
<td>3.5 Hours</td>
<td>2.5 Hours</td>
</tr>
</tbody>
</table>

Ambient Temperature .... Brush Grade, Spray Grade or Cartridge: -40°C to 50°C (-40°F to 122°F)

Substrate Temperature.... The acceptable substrate (metal surface) temperature range for the application of SP-2888® R.G. is 10°C (50°F) to 100°C (212°F). Preheating of the substrate is required if the surface to be coated is below 10°C (50°F). The substrate temperature must be a minimum of 3°C (5°F) above the dew point temperature before proceeding with the coating operation. Refer to the Curing Table (APPENDIX “A”).

Storage / Shelf Life ...... Store in a cool, dry, well-ventilated area at temperatures between 5°C (41°F) and 50°C (122°F). Keep in a tightly sealed container when not in use. The Shelf Life of SP-2888® R.G. is a maximum of 24 months from the date of manufacture if the materials are in unopened containers.

LIQUID PROPERTIES:

<table>
<thead>
<tr>
<th>Property</th>
<th>BASE</th>
<th>HARDENER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White Viscous Liquid</td>
<td>Blue Liquid</td>
</tr>
<tr>
<td>Solids Content (%)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Specific Gravity (ASTM D1475)....</td>
<td>1.55 ± 0.03 (Spray Grade)</td>
<td>1.03 ± 0.03 (Spray Grade)</td>
</tr>
<tr>
<td>Specific Gravity (ASTM D1475)....</td>
<td>1.55 ± 0.03 (Brush Grade)</td>
<td>1.05 ± 0.03 (Brush Grade)</td>
</tr>
<tr>
<td>Specific Gravity (ASTM D1475)....</td>
<td>Base &amp; Hardener Mixed:</td>
<td>1.42 ± 0.03 (Spray Grade)</td>
</tr>
<tr>
<td>Specific Gravity (ASTM D1475)....</td>
<td>Base &amp; Hardener Mixed:</td>
<td>1.42 ± 0.03 (Brush Grade)</td>
</tr>
<tr>
<td>Coverage (Theoretical)</td>
<td>39.0 m²/Litre/25 microns</td>
<td>[1604 ft²/U.S. Gallon/mil]</td>
</tr>
</tbody>
</table>
PHYSICAL / MECHANICAL / ELECTRICAL PROPERTIES:

Taber Abrasion Resistance [Average Weight Loss (g)] (ASTM D4060-10) (CS-17 Wheel, 1000 gram load with 5000 cycles) .................................................. 0.3562

Adhesion to Steel:
  Dry Adhesion (Pull-off Strength) [MPa (psi)] (ASTM D4541-95-A4)
    (Self-Alignment Adhesion Tester, Type IV) [25°C (77°F)] .......................................... > 20 (> 3000)
  Wet Adhesion (Hot Water Soak) (CSA-Z245.20-10, Clause 12.14, 120 Days)
    [75°C ± 3°C (167°F ± 5°F)] ................................................................................ Rating #1

Cathodic Disbonding Test [Average Radius (mm)]
  [CSA-Z245.20-10, Clause 12.8, System 1A, 28 Days @ 65°C (149°F)] .............. 6.50
  [CSA-Z245.20-10, Clause 12.8, System 1A, 28 Days, modified to 80°C (176°F)] ... 7.00

Compressive Strength (psi) (ASTM D695) [25°C (77°F)] ........................................ 1.56 x 10⁴

Dielectric Strength (volt/10⁻³ in) (ASTM D149) ...................................................... 400

Dielectric Constant (60 cycles) (ASTM D150) ....................................................... 4.2

Elongation at Break (%) (ASTM D882 Method A)
  [25°C (77°F)] [DFT 0.50-0.75 mm (20-30 mils)] .................................................. 4.20

Hardness (Shore D) (ASTM D2240-91) [25°C (77°F)] ........................................... 85

Impact [Joules (ft-lbf)] (CSA-Z245.20-10, Clause 12.12) [-30°C ± 3°C (-22°F ± 5°F)]
  Spray Grade .......................................................... 3.0 (2.21)
  Brush Grade ......................................................... 3.0 (2.21)

Impact [Joules (ft-lbf)] (CSA-Z245.20-10, Clause 12.12) [25°C ± 3°C (77°F ± 5°F)]
  Spray Grade .......................................................... 5.0 (3.69)
  Brush Grade ......................................................... 5.0 (3.69)

Tensile Break Strength [MPa (psi)] (ASTM D882 Method A)
  [25°C (77°F)] [DFT 0.50-0.75 mm (20-30 mils)] .................................................. 44.86 (6506.40)

Water Vapour Permeability (perm-in) (ASTM D1434) ........................................ <0.003

Water Absorption (% 24h, r.t.) (ASTM D570) ......................................................... 0.1

Volume Resistivity (ohm-cm) (ASTM D257) ........................................................... 1.0 x 10¹⁴
CHEMICAL RESISTANCE (ASTM G20) (90 days immersion @ ambient temperatures):

- Ammonium Chloride, 10% solution
  - No change observed.
- Bio Diesel
  - No change observed.
- Calcium Chloride, 10% solution
  - No change observed.
- Chromic Acid 5% solution
  - No change observed.
- Diesel
  - No change observed.
- Hydrochloric Acid, 5% solution
  - No change observed.
- Jet Fuel
  - No change observed.
- Mineral Oil
  - No change observed.
- Monoethylene Glycol
  - No change observed.
- Naphtha
  - No change observed.
- Nitric Acid, 5% solution
  - No change observed.
- Potassium Chloride, 10% solution
  - No change observed.
- Sodium Carbonate, 10% solution
  - No change observed.
- Sodium Chloride, 10% solution
  - No change observed.
- Sodium Silicate solution
  - No change observed.
- Sodium Hydroxide, 10% solution
  - No change observed.
- Sulphuric Acid, 5% solution
  - No change observed.
- Zinc Sulphate, 10% solution
  - No change observed.

SAFETY: Read the Material Safety Data Sheets before use.

REFER TO COLOUR CHART AT END OF PRODUCT DATA SHEET.

EFFECTIVE DATE: August 28, 2015 Rev. 4
## BRUSH GRADE COATING KITS

### COLOUR CHART

Match Base & Hardener Based on Colour Coded Dots Below. Mixing Ratio By Volume: 3 Parts Base to 1 Part Hardener.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>COLOUR</th>
<th>VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BASE</td>
</tr>
<tr>
<td>0.50 Litres</td>
<td>PINK</td>
<td>0.3750 L</td>
</tr>
<tr>
<td>0.75 Litres</td>
<td>FL GREEN</td>
<td>0.5625 L</td>
</tr>
<tr>
<td>0.90 Litres</td>
<td>FL YELLOW</td>
<td>0.6750 L</td>
</tr>
<tr>
<td>1.00 Litres</td>
<td>RED</td>
<td>0.7500 L</td>
</tr>
<tr>
<td>1.25 Litres</td>
<td>PURPLE</td>
<td>0.9375 L</td>
</tr>
<tr>
<td>1.50 Litres</td>
<td>YELLOW</td>
<td>1.1250 L</td>
</tr>
<tr>
<td>1.75 Litres</td>
<td>ORANGE</td>
<td>1.3125 L</td>
</tr>
<tr>
<td>2.00 Litres</td>
<td>BLACK</td>
<td>1.5000 L</td>
</tr>
<tr>
<td>2.25 Litres</td>
<td>BLUE</td>
<td>1.6875 L</td>
</tr>
<tr>
<td>2.50 Litres</td>
<td>GREEN</td>
<td>1.8750 L</td>
</tr>
<tr>
<td>2.75 Litres</td>
<td>WHITE</td>
<td>2.0600 L</td>
</tr>
</tbody>
</table>

**Note:** FL = Fluorescent
### SP-2888® R.G. CURING TABLE

<table>
<thead>
<tr>
<th>SUBSTRATE TEMPERATURE</th>
<th>DRY HARD CURING TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°C (194°F)</td>
<td>2 Minutes</td>
</tr>
<tr>
<td>80°C (176°F)</td>
<td>3 Minutes</td>
</tr>
<tr>
<td>70°C (158°F)</td>
<td>5 Minutes</td>
</tr>
<tr>
<td>60°C (140°F)</td>
<td>9 Minutes</td>
</tr>
<tr>
<td>50°C (122°F)</td>
<td>37 Minutes</td>
</tr>
<tr>
<td>40°C (104°F)</td>
<td>1 Hour 20 Minutes</td>
</tr>
<tr>
<td>30°C (86°F)</td>
<td>1 Hour 45 Minutes</td>
</tr>
<tr>
<td>25°C (77°F)</td>
<td>3 Hours 30 Minutes</td>
</tr>
<tr>
<td>20°C (68°F)</td>
<td>5 Hours 40 Minutes</td>
</tr>
<tr>
<td>10°C (50°F)</td>
<td>16 Hours</td>
</tr>
</tbody>
</table>

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

**Spray Grade Material Temperature:** Base: 70°C (158°F)  
Hardener: 25°C (77°F)

**Dry Film Thickness:** 0.50 mm (20 mils) DFT as per ASTM D1640

**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.

**Date:** August 28, 2015

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