SELECTION & SPECIFICATION DATA

Generic Type	Two-Component Epoxy Amine.
Description	An ultra high solids, self-priming epoxy coating with excellent corrosion resistance to marine and petrochemical environments. SP-2881 is used primarily for the corrosion protection of buried pipes and tanks. SP-2881 is the same as and identical to Carboguard 101.
Features	• Outstanding protection of buried pipes and tanks to mechanical and abrasion damage • Excellent corrosion protection for structures in marine and chemical environments • Excellent corrosion resistance to sea and fresh water immersion • Excellent resistance to cathodic disbondment • Excellent resistance to electric insulation (12000 volts/mm)
Color	Standard color: Green
Finish	Semi-Gloss
Primer	Self-priming. Can be overlapped over old coats such as polyethylene, polypropylene, bitumen or itself to fill the gap between the linings.
Wet Film Thickness	1016 - 3048 microns (40 - 120 mils) Can be applied in a single coat. Standard dry film thickness is 1524 microns (60 mils). Maximum dry film thickness in a single coat: 3048 microns (120 mils)
Dry Film Thickness	1016 - 3048 microns (40 - 120 mils) in one or two coats.
Typical Uses	• External surfaces for sea lines and pipelines, buried or immersed in sea and fresh water • External coating for elbows, valves, joints, fittings etc., buried or immersed in sea and fresh water • Piles and related structures • Steel and concrete piers • Jackets for off-shore platforms • Coating of immersed areas, topsides, or splash zones of any steel or concrete surface to be immersed in sea or fresh water • External/Internal coat for sea water inlets **Immersion Service:** Consult Carboline Technical Service for specific recommendations regarding fluids types, film thickness, etc.
Solid(s) Content	By volume: 98% ± 2%
Theoretical Coverage Rates	38.6 m²/l at 25,4 microns (1572 ft²/gal at 1.0 mils) 1.0 m²/l at 1016 microns (39 ft²/gal at 40.0 mils) 0.3 m²/l at 3048 microns (13 ft²/gal at 120.0 mils) Allow for loss in mixing and application.
VOC Values	**As Supplied** : 50 g/l

SELECTION & SPECIFICATION DATA

Dry Temp. Resistance	Dry temp. Resistance: from: -20°C to: +93°C. (14°F - 200°F) Buried Temp. Resistance:* Continuous: 65°C (149°F) Not - Continuous: 80°C (176°F). *Contact Technical Service Carboline to obtain specific information
Limitations	When exposed to atmospheric agents, condensation or ultraviolet rays, SP-2881 will discolor, chalk and lose gloss as is common with all epoxies. A urethane topcoat can be applied to add UV stability in atmospheric environments before the maximum recoat window has passed or the surface has been properly abraded.

SUBSTRATES & SURFACE PREPARATION

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
Steel	Prepare in accordance with ISO 8501-1 (Sa 2 ½) with profile Medium G per ISO 8503.
Concrete or CMU	Concrete must be cured 28 days at 24°C (75°F) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing.
Special Instruction	**Repair For SMALL Areas (Up to 200 sq./cm.):** Power tool grind to profile steel or concrete and apply by brush of one coat of SP-2881 or SP-2884 as specified. **Repair for LARGE areas with substrate exposure:** Blast in accordance with ISO 8501-1 (SA 2 ½) of all exposed substrate and roughening the coating close to the edge of the bare substrate, and then apply SP-2881 or SP-2884 up to the specified DFT.

PERFORMANCE DATA (TYPICAL VALUES)

All test data was generated under laboratory conditions. Field testing results may vary.

Test Method	System	Results
EN10289 Annex C Impact Test	1 coat / 1500 micron DFT	-5°C (23°F): 4.5Joule
EN10289 Annex C Impact Test	1 coat / 1500 micron DFT	23°C (73°F):10Joule
EN10289 Annex D Adhesion Test - Resistance to Removal	1 coat / 1500 micron DFT	23°C (73°F): 7mm
EN10289 Annex D Adhesion Test - Resistance to Removal	1 coat / 1500 micron DFT	70°C (158°F): 13mm
EN10289 Annex E Cathodic Disbonding	1 coat / 1500 micron DFT	23°C (73°F) / 28 days: Max. Radius 4.0mm / Area 50mm2
EN10289 Annex E Cathodic Disbonding	1 coat / 1500 micron DFT	60°C (140°F) / 2 days: Max. Radius 5.0mm / Area 78.5mm2
EN10289 Annex F Specific Eletrical Insulation Resistance	1 coat / 1500 micron DFT	70°C (158°F) / 30 days: 5.8x10^6 Ohm m2
EN10289 Annex F Specific Eletrical Insulation Resistance	1 coat / 1500 micron DFT	80°C (176°F) / 30 days: 9.1x10^4 Ohm m2
EN10289 Annex H Indentation Resistance	1 coat / 1500 micron DFT	23°C (73°F): 0.15mm
EN10289 Annex H Indentation Resistance	1 coat / 1500 micron DFT	80°C (176°F): 0.40mm
EN10289 Annex J Thermal Ageing	1 coat / 1500 micron DFT	100°C (212°F) / 100 days: Adhesion Test =12MPa
ISO 4624 Pull-off	1 coat / 1500 micron DFT	9.05 N/mm2

MIXING & THINNING

Mixing

Pre-mix the components (Base Part A and Hardener Part B) separately with suitable mechanical mixer, then combine and power mix until homogenous. DO NOT MIX PARTIAL KITS.

Component Details for Color: Green: The base (part A) is yellow (0600) and the hardener (part B) is blue (0100).

Thinning

Do not thin.

Ratio

1:1, by volume
42:58 A to B, by weight

Pot Life

15 minutes at 40°C (104°F)
6 minutes at 60°C (140°F)
Pot life ends when coating thickens and loses application properties.

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Plural Component Airless Spray

The application method utilizes a fixed ratio (1:1 by volume) plural component spray rig with these characteristics:
Tanks heated with dielectric oil or electric resistances with thermostats.
Pneumatic mixers.
Heaters with thermostats.
Main pump ratio 45:1.
P.C.U. (Plural Components Unit) for use of paint hoses up to 30 meters and over, insulated and/or heated.
Material hose: 3/8”
Tip Size: 0.018-0.029”
Fluid Filters: not lower than 30 Mesh to be placed before the mixing.

Pre-heat temperatures:
Component Base (Part A) - (Yellow):
Standard: 45°C (113°F)
Maximum: 60°C (140°F)
Component Hardener (Part B) - (Blue):
Standard: 45°C (113°F)
Maximum: 60°C (140°F)

Brush & Roller (General)

For touch-up only of SMALL areas without substrate exposure.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	40°C (104°F)	5°C (41°F)	5°C (41°F)	0%
Optimum	60°C (140°F)	50°C (122°F)	40°C (104°F)	85%

Apply when the surface temperature will be 3°C (5°F) above the dew point.
Inspection and tests, such adhesion, holiday test, impact test and DFT measurements, must be done only when hardness Shore D reaches a minimum value of 70.

CURING SCHEDULE

Curing Details

Backfilling Time: Shore D Hardness =70
.
These times are based on recommended DFT applied by PCU with components pre-heated up to 40°C (104°F).
Higher film thickness, insufficient ventilation, cooler ambient temperatures and or high RH% will require longer cure times.

CURING:
Temperature of the Mix.: 40°C (104°F).
Drying Time : 8 hours - Hardness Shore D: 65
Drying Time: 20 hours - Hardness Shore D: 75
Drying Time: 30 hours - Hardness Shore D: 85 maximum.
Maximum Recoat Window: SP-2881 is not recoatable without special surface preparation after it has Shore D value higher than 65 (or after 8 hours at 40°C).

CLEANUP & SAFETY

Cleanup	The pumps must be cleaned every time the application is interrupted, even for short periods. Flush into the Thinner#2 or Thinner#76 system until it comes out clean and without residues or colored. In case of spillage, absorb and dispose in accordance with local applicable regulations.
Safety	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.
Ventilation	When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. Use MSHA/NIOSH approved supplied air respirator.
Caution	All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	Base (Part A): 18 months at 24°C (75°F) Hardener (Part B): 18 months at 24°C (75°F)
Storage Temperature & Humidity	4-35°C (39-95°F) 0-90% Relative Humidity
Flash Point (Setaflash)	Base (part A): 96°C (205°F) Hardener (part B): 57°C (135°F)
Storage	Store indoor.
Packaging	Base (Part A): 10-190 liters (2.6-50 gallons) Hardener (Part B): 10-190 liters (2.6-50 gallons)

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.