

SELECTION & SPECIFICATION DATA

Generic Type	Two components, Epoxy - Amine.
Description	Carboguard 104 is solvent free and it is a very high solids self priming coating. Applied only by brush. SP-2884 is the same as and identical to Carboguard 104.
Features	<ul style="list-style-type: none"> • Excellent corrosion resistance to marine/chemical environments • Excellent corrosion resistance to sea and fresh water immersion • Excellent corrosion resistance to buried pipes and tanks • Excellent resistance to mechanical and abrasion damage • Excellent resistance to cathodic disbondment • Excellent resistance to electric insulation (12000 volts/mm)
Color	Green Before Mixing: Component Base (part A): yellow Component Hardener (part B): blue
Finish	Semi-Gloss
Primer	Self-priming. May be applied over old coats such as polyethylene, polypropylene, bitumen, Carboguard 102 or itself after suitable power tool cleaning or light blasting for roughness.
Wet Film Thickness	from 1,000 up to 2,000 micron Wet on wet, in single coat. May be applied in a single coat wet on wet at standard dry film thickness of 2,000 micron.
Dry Film Thickness	from 1,000 up to 2,000 micron
Typical Uses	<p>For industrial uses, where coatings are recommended as conform to EN10289 and ideal for long term high resistance, such as:</p> <ul style="list-style-type: none"> • 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 structures coating of steel and concrete piers. • Jackets coating of off-shore platforms. • Coating of immersed areas, topsides, splash zone of any steel or concrete surface to be immersed in sea or fresh water. • Lining of tanks designed to contain industrial or brackish water, crude oil or refined petroleum products. • Lining for penstocks. • External/Internal coat for sea water inlets • Touching up of Carboguard 102 coating on surface mechanically damaged <p>Immersion For Immersion service, consult Carboline Italia Technical Service, for specific recommendations, regarding fluids types, film thickness etc.</p>
Solid(s) Content	By volume: 98 % ± 2 %

Carboguard 104

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Theoretical Coverage Rates	0.98 sq.m./lt.at 1000 micron 0.65 sq.m./lt. at 1500 micron 0.49 sq.m./lt. at 2000 micron
VOC Values	As Supplied : 30 g/l
Dry Temp. Resistance	Dry temp. Resistance: from: -20 °C to: +110 °C. (14 - 230°F) Dry Buried Temp. Resistance: Continuous: 80°C (176°F)
Limitations	When exposed to atmospheric agents, condensation or ultraviolet rays, it will discolor, chalk and lose gloss as all epoxy.
Viscosity	Thixotropic product.

SUBSTRATES & SURFACE PREPARATION

General	Remove oil and grease from surface to be coated with clean rags soaked in suitable thinner, according to standard SSPC-SP1.
Steel	Grit blasting or other equivalent abrasives in accordance with ISO 8501-1 (SA 2 ½) to obtain a blast profile between 40-50 micron (Rz-DIN 30671). When working on site, the time between sandblasting and application must be assessed according to the environmental conditions , but must not extend beyond two hours.
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	SMALL up to 200 sq./cm. without substrate exposure. Power tool grinding of damaged areas and application by brush of one coat of Carboguard 104 up to specified DFT. LARGE or SMALL areas with substrate exposure. Blast in accordance with ISO 8501-1 (SA 2 ½) of all exposed substrate and roughing the close coating and then apply Carboguard 104 up to specified DFT.

MIXING & THINNING

Mixing	Power mix separately Component Base (part A)and Hardener (part B), then combine and mix to obtain a homogeneous green color.
Thinning	Carboguard 104 has not to be thinned.

MIXING & THINNING

Ratio	by Volume: Component Base (part A): 1 Component Hardener (part B): 1
	by Weight: Component Base (part A): 1 Component Hardener (part B): 1
Pot Life	60 minutes at 25°C (77°F) and less at higher temperatures Pot-Life ends when coating increases viscosity.
	CAUTION: The reaction between the two components is exothermic; so the mixture at the end of the pot-life grows heat.

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.

Brush	Apply with a brush having a width of about 5-10 cm., following this procedure: 1) Apply a first coat of Carboguard 104 properly working it by brush to obtain a good saturation and wetting. 2) Then, wet on wet, apply a homogenous coat to reach the required thickness. 3) Properly smooth surface, avoiding the removal of the under applied product. 4) During application check WFT frequently.
	When working in environments with low temperatures, it is recommended to heat the individual components in a water bath, with electric heating bands or other suitable systems, until the minimum application temperature of 20 ° C it's reached. THE EXCESSIVE HEATING REDUCES POT-LIFE

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	20°C (68°F)	5°C (41°F)	3°C (37°F)	0%
Maximum	35°C (95°F)	40°C (104°F)	35°C (95°F)	85%

Do not apply when the surface temperature is less than 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 value of 70±2%.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Final Cure Time
5°C (41°F)	120 Hours	20 Days
15°C (59°F)	48 Hours	10 Days
25°C (77°F)	24 Hours	7 Days
35°C (95°F)	18 Hours	3 Days

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CURING SCHEDULE

Hardness Testing	Temperature: 5°C
	Hardness: Min. Shore D: 60
	Hardness: Final Shore D: >75
	Temperature: 15°C
	Hardness: Min. Shore D: 60
	Hardness: Final Shore D: >75
	Temperature: 25°C
	Hardness: Min. Shore D: 60
	Hardness: Final Shore D: >75
	Temperature: 35°C
	Hardness: Min. Shore D: 60
	Hardness: Final Shore D: >75

Carboguard 104 is not recoatable without special surface preparation when it has Shore D value higher than 65.

CLEANUP & SAFETY

Cleanup	<p>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.</p> <p>In case of spillage, absorb and dispose in accordance with local applicable regulations.</p>
Safety	<p>Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.</p>
Ventilation	<p>When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved respirator.</p>
Caution	<p>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.</p> <p>The reaction between the two components is exothermic; so the mixture at the end of the pot-life grows heat.</p>

PACKAGING, HANDLING & STORAGE

Shelf Life	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% RH
Flash Point (Setaflash)	Part A: 27°C (81°F) Hardener (Part B): 30°C (86°F)
Storage	Store Indoors.

PACKAGING, HANDLING & STORAGE

Packaging	Component Base (part A): 4 liters Componente Hardener (part B): 4 liters
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WARRANTY

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