

Selection & Specification Data

Generic Type	Carboguard 101 (formerly Apsacoat 101), is a solvent free, two component epoxy amine cured. Component Base (Yellow) and Component Hardener (Blue) mixed prior to application
Description	Carboguard 101 is a very high solids self priming coating. Semi gloss finish, available in green color after mixing.
Features	<ul style="list-style-type: none"> ▪ Excellent corrosion resistance to marine/chemical environments. ▪ Excellent corrosion resistance to sea and fresh water immersion (see par. "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) ▪ May be applied in a single coat wet on wet at standard dry film thickness of 1.500 micron ▪ Maximum dry film thickness, wet on wet: 3,000 micron
Color	Green only After mixing of the two components.
Finish	Semi Gloss. Will discolor, chalk and lose gloss in sunlight exposure.
Recommended uses	Recommended where coatings conform to standard EN 10289 and DIN 30671 and ideal for long term high resistance, such as: <ul style="list-style-type: none"> ▪ External surfaces for sea lines and pipelines, buried or immersed in sea and fresh water. (see par. "Immersion") ▪ 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. (see par. "Immersion") ▪ 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. (see note "Immersion") ▪ Lining coat for penstocks (see par. "immersion") ▪ External/Internal coat for sea water inlets (see par. "Immersion")

Immersion

For Immersion service, consult Carboline Italia Technical Service, for specific recommendations, regarding fluids types, film thickness etc.

Dry Temp. Resistance

Maximum: 110°C (230°F)
Minimum: - 20°C (14°F)

Temperature resistance underground Substrates

Continuous: 80°C (176°F)
Non-Continuous: 85°C (185°F)

Must be applied on steel or concrete properly prepared

Compatible coatings

May be applied over old coats such as polyethylene, polypropylene, bitumen or itself after suitable power tool cleaning or light blasting for roughness.

Solids Content Viscosity Recommended dry film thickness

By Volume: 98±2%

Thixotropic product

Wet on wet, in single coat from 1,000 up to 3,000 μ

Theoretical coverage

1000 micron: 0.98 sq.m./lt.
1500 micron: 0.65 sq.m./lt.
2000 micron: 0.49 sq.m./lt.
3000 micron: 0.32 sq.m./lt.

Flash point (ASTM D 93) Shipping pack

Component Base (yellow): 96°C (200°F)
Component Hardener (blue): 57°C (160°F)
Component Base: 10-190 liters
Component Hardener: 10-190 liters

Shelf life

18 months from manufacturing date, into sealed container. Material must be stored in cool dry conditions and kept far from direct heat or sunlight. Ideally, material should be stored at 24°C. and, in general, must be kept between 4-35°C with RH% between 0-90%

Surface Preparation and Mixing

General

Remove oil and grease from surface to be coated with clean rags soaked in suitable thinner, according to standard SSPC-SP1

Steel

In shop: grit blasting in accordance with ISO 8501-1 (SA 2 ½) with profile Medium G per ISO 8503

On site: sand blasting or other equivalent abrasives in accordance with ISO 8501-1 (SA 2 ½) with profile Medium G per ISO 8503

Concrete

Concrete must be cured 28 days at 75°F (24°C) 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.

Mixing & Thinning

Carboguard 101 must be applied with PCU (Plural Components Unit) only

Component	Parts by weight	Parts by volume
Component Base (yellow)	42	1
Component Hardener (blue)	58	1

- Mixing** Power Mix separately
- Thinning** **THINNING IS NOT REQUIRED.** Thinner use may cause the detachment of applied coating, affecting the results of all tests such as adhesion, mechanical resistance and electrical insulation properties.
- Pot-Life** **Carboguard 101:** 15 minutes at 40°C (100°F)
6 minutes at 60°C (140°F)
POT-LIFE ENDS WHEN COATING INCREASES VISCOSITY.

Application Temperatures

	Product	Surface	Ambient	RH %
Normal	40-50°C	5-40°C	10-40°C	30-70
Minimum	40°C	5°C	5°C	0
Maximum	60°C	50°C	40°C	85

Do not apply when the surface temperature is less than 3°C above the dew point

Application Equipment

Carboguard 101 must be applied with PCU (Plural Components Unit) only

Pre-heat temperatures:
Component Base (Yellow): 45°C (110°F) standard 60°C (140°F) max.
Component Hardener (Blue): 45°C (110°F) standard 60°C (140°F) max.

Ambient condition see table "APPLICATION TEMPERATURES"

Plural Component Unit (PCU) The following P.C.U. has been found suitable and can be replaced by others having same characteristics.

Graco Equipment:

- N° 2 tanks heated with dielectric oil or electric resistances with N°2 thermostats.
- N° 2 pneumatic mixers
- N° 2 heaters type Graco Viscon with N° 2 thermostats.
- N° 1 main pump type Graco Hydra-Cat, pump ratio 45:1.
- P.C.U. allows to use paint hoses up to 30 Mt. and over, insulated and/or heated.
- Material hose 3/8" ID.
- Tip Size .018-.029" ID
- Fluid Filters not lower than 30 Mesh to be placed before the mixing

Inspection and Tests

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%

Touch-Up after Curing

Carboguard 101 is not recoatable without special surface preparation when it has **Shore D value higher than 65**

There are 2 types of touch-up:

- SMALL areas up to 200 sq./cm. Without substrate exposure.** Power tool grinding of damaged areas and application by brush of one coat of **Carboguard 101** or **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 roughening the close coating and then apply **Carboguard 101** by spray up to specified DFT

Drying Time and Curing Schedule

°T Mix	8 hours	20 hours	30 hours
			MAX
40°C	65 Shore D	75 Shore D	85 Shore D

These times are based on recommended DFT applied by PCU with components pre-heated up to 40°C.

Higher film thickness, insufficient ventilation, cooler ambient temperatures and or high RH% will require longer cure times.

Cleanup and Safety

Cleanup Use Thinner#2 or Thinner#76. 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 MSDS for this product.

Caution This product contains flammable solvents. Keep away from sparks and open flames. 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.

Carboline Italia SpA

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