Carboguard 696 HBE

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Phenalkamine epoxy
Description	Suitable for single coat applications in areas such as a penstock lining at film thicknesses ranging between 400 and 1500 microns. Suitable for service in various immersion environments including industrial wastewater, slurry tanks, sea or fresh water, on buried structures, and on high wear surfaces in atmospheric exposure.
Features	• High film builds in a single coat – 0.4mm to 1.5mm • Extensive case history in hydro penstocks & scroll casings, along with industrial wastewater processing • Positive cure, even at low temperatures • Highly abrasion resistant • Unique flexibilised formulation imparts excellent impact resistance • May be used on buried structures, structures immersed in fresh or salt water, and for atmospheric exposure • Suitable for use with cathodic protection systems – impressed current or anode types • Easy application qualities using properly heavy-duty airless spray equipment
Colour	Off-White (once mixed)
Gloss	Textured low sheen
Primer	Self-priming or as specified by Carboline Technical Services
Film Build	400 - 1500 microns per coat
Solid(s) Content	95% by volume
Coverage Rate	2.4 m²/litre at 400 microns dry 0.95 m²/litre at 1000 microns dry 0.63 m²/litre at 1500 microns dry Allow for loss in mixing and application
VOC Value(s)	65 grams per litre (mixed)
Dry Temp. Resistance	Continuous: 90°C (194°F) Non-Continuous: 121°C (250°F) Discolouration will be observed above 93°C
Limitations	Exterior exposure will cause early loss of sheen, possible discolouration and chalking. This will not affect the protective properties of the coating.
Topcoats	Epoxy, and polyurethane coatings for atmospheric exposures as required.

SUBSTRATES & SURFACE PREPARATION

General	Any surface contamination shall be removed in accordance with SSPC-SP 1 (AS 1627.1)

SUBSTRATES & SURFACE PREPARATION

Steel	Immersion or High Impact Service: Abrasive blast to SSPC-SP 10 (AS 1627.4 Sa 2½) minimum with a 50-75 jagged blast profile. Non-immersion: Abrasive blast to SSPC-SP 6 (AS 1627.4 Sa 2) minimum with a 50-60 micron jagged blast profile. Optimum performance will always be achieved by abrasive blasting to SSPC-SP 10 (AS 1627.4 Sa 2½).
Concrete	Concrete should be fully cured for 28 days at 21°C and 50% RH or equivalent. Remove all laitance by sweep abrasive blasting, HP Water-Jetting or acid etching. For maximum performance and to reduce the risk of pin-holing seal the prepared concrete with Carboguard 1340 or Altra~Lock 576

MIXING & THINNING

Mixing	Power mix each component separately, then combine and mix to the correct 2:1 proportions. DO NOT MIX PARTIAL KITS
Thinning	Does not require thinning under normal conditions. In cold conditions, or when using undercapacity spray equipment, very sparing thinning may be necessary. Use Thinner #109 or Denatured Ethanol up to 2% by volume. It is not recommended to thin the product more than 2% by volume. A very small amount of thinner gives a large drop in viscosity that may adversely affect wet film build and / or retard cure response
Ratio	2:1 by volume (Part A : Part B)
Pot Life	1 hour at 25°C
Induction Time	10 minutes max at 15°C or colder. Not required at > 15°C

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.

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Conventional Spray	Generally not suitable.
Airless Spray	Pump Ratio: 60:1 Pump Intake: 45 mm (1¾") ID from Gravity Feed Hopper Volume Output: 12 l/minute min. Material Hose: 12.5mm min. (½" I.D.) recommended Tip Size: .025-.027" Tip Type: Free-flow (no baffle bar) Output Press.: 4800-600 psi *Teflon packings are recommended and available from pump manufacturer.
Brush & Roller (General)	Recommended for touch up and striping of welds only. Use a natural bristle brush with full strokes. Avoid re-brushing.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	15°C (59°F)	2°C (36°F)	0°C (32°F)	0%
Maximum	30°C (86°F)	43°C (109°F)	38°C (100°F)	85%
Optimum	21°C (70°F)	23°C (73°F)	23°C (73°F)	30%

Note: The above minimum material temperature is stated at 15°C. We strongly recommend conditioning of the coating to be applied to ensure 15°C is achieved. This will significantly improve application properties.
Industry standards are for substrate temperatures to be above the dew point. Condensation due to substrate temperatures being below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate.

CURING SCHEDULE

Surface Temp.	Dry to Touch	Dry Hard	Dry to Recoat Minimum	Dry to Recoat Maximum
10°C (50°F)	9 Hours	12 Hours	24 Hours	30 Days
16°C (61°F)	6 Hours	8 Hours	18 Hours	30 Days
24°C (75°F)	4 Hours	4 Hours	12 Hours	30 Days
32°C (90°F)	3 Hours	3 Hours	8 Hours	15 Days

These times are based on a 500 micron dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discolouration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating. If the maximum recoat time is exceeded, the surface must be abraded by sweep blasting prior to the application of additional coats. For force curing, contact Carboline Technical Service for specific requirements.
Topcoating: Maximum time to overcoat will vary depending on topcoat selected. Contact Technical Services for further information.

CLEANUP & SAFETY

Cleanup	Use Thinner #2, #12 or acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
Safety	For industrial use only: Read and follow all the caution statements on this Product Data Sheet, the product label, and the Safety Data Sheet (SDS) for health and safety information prior to use. 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 as a tank lining or 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 vapour concentration from reaching the lower explosion limit for the solvents used.
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 local electrical codes. In areas where explosion hazards exist, workers should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Packaging	9 litre kit Part A: 6 litres (in part 10 litre) Part B: 3 litres (in part 4 litre)

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: 24 months at 24°C Part B: 24 months at 24°C *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
Storage Temperature & Humidity	4-38°C 0-95%
Flash Point (Setaflash)	27°C (mixed)
Shipping Weight (Approximate)	Part A: 1.09 kg/L Part B: 0.73 kg/L Mixed: 0.97 kg/L
Storage	Store under cool, dry conditions. Avoid large fluctuations between high and low temperatures. Avoid the formation of condensate due to low temperatures.

WARRANTY