

SELECTION & SPECIFICATION DATA

Generic Type	Phenalkamine modified epoxy
Description	Carboguard 235 is a phenalkamine modified, surface-tolerant, epoxy specially formulated for application in marine and other severe service industrial environments and is suitable for fresh and salt water immersion resistance. This high solids, high performance epoxy is application friendly and can be used at low temperatures down to 20°F.
Features	<ul style="list-style-type: none"> • Surface tolerant properties • Excellent as a ballast tank lining • Fast and low-temperature cure • Excellent general service epoxy • Excellent maintenance primer
Color	Grey (0700)
Finish	Semi-Gloss
Primer	Self priming
Dry Film Thickness	4 - 8 mils (102 - 203 microns) per coat
Solids Content	By Volume 67% +/- 2%
Theoretical Coverage Rate	1075 ft ² /gal at 1.0 mils (26.4 m ² /l at 25 microns) 269 ft ² /gal at 4.0 mils (6.6 m ² /l at 100 microns) 134 ft ² /gal at 8.0 mils (3.3 m ² /l at 200 microns) Allow for loss in mixing and application.
VOC Values	As Supplied : 2.34 lbs/gal (280 g/l) Thinner 248 : Thinned 15 oz per gal; 2.83 lbs/gal (340 g/l)
Limitations	Epoxies may lose gloss, discolor and chalk when exposed to sunlight. Substrates below 32°F may be frost covered. Do not apply coating to frost or ice.
Topcoats	May be coated with Epoxies, Polyurethanes, or Antifoulants depending on exposure and need. Topcoat for improved weathering or chemical resistance. <u>Immersion</u> : Antifoulants <u>Non-immersion</u> : Epoxies or Polyurethanes Call Carboline Technical Service for recommendation.

SUBSTRATES & SURFACE PREPARATION

General	All surfaces must be thoroughly cleaned to remove dirt, grease, mill scale, loose rust, and any other contaminants that can reduce adhesion.
Steel	Atmospheric Exposure – Minimum SSPC-SP3 power tool cleaning or SSPC-SP12 WJ-3 Immersion Exposure – SSPC-SP10, 2-3 mil profile

MIXING & THINNING

Mixing	Thoroughly mix each component separately, then combine and mix well using mechanical agitation. <u>Induction Time</u> : Allow 15 minutes induction time at 77°F or 30 minutes at 40°F. Do not mix more than can be applied during the product's useful pot life.
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MIXING & THINNING

Thinning | May be thinned up to 15 oz/gal with Thinner 248.

Ratio | 4:1 by volume (Part A to Part B)

Pot Life | 4 hours @ 77°F

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.

General | Apply using airless spray, conventional spray, brush or roller. Stripe coat crevices, welds, and sharp angles for best performance. Brush and roller application may require several coats to achieve uniform film thickness and appearance. Use a 50% overlap with each pass when spraying to eliminate holidays and pinholes.

Conventional Spray | DeVilbiss MBC-50 gun, E fluid tip, 704 nozzle, 60-65 psi atomization pressure, 5-15 psi fluid pressure.

Airless Spray | Apply using a 30:1 pump able to deliver 3000 psi.
Hose: 1/4" I.D. (min.)
Tip Size: 0.015-0.019"
High Pressure Filter: 60 Mesh

Brush | Natural bristle or nylon/polyester

Roller | 3/8" woven/phenolic core

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	40°F (4°C)	20°F (-7°C)	20°F (-7°C)	0%
Maximum	90°F (32°C)	120°F (49°C)	100°F (38°C)	95%

Consult Technical Service for conditions outside these ranges. Industry standards are for substrate temperatures to be above the dew point. This product is unique in that it can tolerate damp substrates. See Brush or Roller above. Special thinning and application techniques may be required above or below normal conditions.

CURING SCHEDULE

Surface Temp.	Dry to Handle or Recoat	Dry to Touch	Maximum Dry to Recoat for Immersion
20°F (-7°C)	28 Hours	10 Hours	30 Days
40°F (4°C)	12 Hours	4 Hours	30 Days
75°F (24°C)	4 Hours	2 Hours	15 Days
90°F (32°C)	2 Hours	1 Hour	7 Days

*These times are to be used as a guideline. The optimum time to topcoat with an antifoulant is when the 235 film is "touch-tacky". If the touch-tacky time has been exceeded, or if the film is "glossy", you can generally reprime/refresh the first coat with a fresh coat of itself. The longer the first coat has to cure, particularly in sunlight exposure or elevated temps, the higher risk of inadequate adhesion. If those maximum recoat times have been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. Contact your local Carboline Representative for assistance/guidance.

CLEANUP & SAFETY

Cleanup | Clean up all tools and equipment promptly with Thinner #248 or #2.

Safety | Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions. Use adequate ventilation and wear gloves or use protective cream on face and hands if hypersensitive. Keep container closed when not in use.

PACKAGING, HANDLING & STORAGE

Shelf Life | Part A: 24 months
Part B: 24 months

*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.

Storage Temperature & Humidity | 40-110°F
0-90% RH

Storage | Store in a dry, protected area.

Shipping Weight (Approximate) | **5 Gal Kit**
58-64 lbs (26-29 kg)

Flash Point (Setaflash) | 109° F mixed

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 to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. 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. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.