Carbomastic 18 FC

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Modified epoxy
Geographical Availability	Europe
Description	This epoxy is a fast-curing, heavy-duty, high-build anti-corrosive coating with a broad and versatile list of uses in marine and other corrosive environments. It is an excellent choice for the protection of ship hull exteriors, underwater and ballast tanks. Offshore applications include splash zone, sub-sea, jackets, production decks, drilling rig legs and pontoons in immersed exposures.
Features	• Excellent immersion performance in both fresh and sea water • Suitable as a rust preventive coating in ballast tanks and hull applications • Ideal for sub-sea installations, jackets and other areas exposed to sea water • Can be applied as low as 5°C (40°F) • Good flexibility • Very good abrasion resistance • High solids; low VOC • Reaction to fire EN 13501-1 class B-s2, d0 • IMO certified* *Valid when manufactured at a certified location.
Color	Standard: Grey. Consult RAL color range.
Finish	Semi-Gloss
Primer	Self-priming
Wet Film Thickness	150 - 590 µm per coat, normally 205 µm.
Dry Film Thickness	125 - 500 microns (4.92 - 19.68 mils) per coat May be applied at 100 microns. Please contact Carboline Technical Service for guidelines. Normally applied in 175 microns (6.89 mil) thicknesses. May be applied up to 500 microns (19.68 mil) in one or more coats depending on application.
Solids Content	By Volume 85% +/- 2%
Theoretical Coverage Rate	33.5 m²/l at 25 microns (1363 ft²/gal at 1.0 mils) 6.8 m²/l at 123 microns (277 ft²/gal at 4.9 mils) 1.7 m²/l at 492 microns (69 ft²/gal at 19.7 mils) Allow for loss in mixing and application.
VOC Values	**As Supplied** : 120 g/L These are nominal values.
Dry Temp. Resistance	Continuous: 120°C (248°F) Non-Continuous: 150°C (302°F) Epoxies discolor (darken) when exposed to elevated temperatures.

SELECTION & SPECIFICATION DATA

Approvals	• Det Norske Veritas, Standard Testing Classification of Ballast Tank Coatings, rev. 4/2 * • IMO Performance Standard for Protective Coatings. * • DNV Type Approval Certificate * • NORSOK M-501 System no. 7 Submerged • NS 5417-1998 Norwegian waterpower * Valid when manufactured at a certified location
Limitations	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure. Not recommended for immersion in aromatic or ketone solvents or strong oxidizing acids.
Topcoats	Normally not topcoated for submerged exposures, otherwise topcoat according to Carboline recommendations.

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. Carboline Surface Cleaner 3 is recommended. Steel, concrete or suitable primer such as Carbozinc 858. Can be applied directly to galvanised steel, aluminium and stainless steel.
Steel	**Immersion:** ISO 8501-1 Sa 2½ (NACE No. 2/SSPC-SP 10) with a 50-75 microns (2.0-3.0 mil) surface profile. **Non-Immersion:** ISO 8501-1 Sa 2 (NACE No. 3/SSPC-SP 6) with a 50-75 microns (2.0-3.0 mil) surface profile for maximum protection. ISO 8501-1 St2 or St 3 (SSPC-SP 2, SSPC-SP 3), ISO 8501-1 Sa 1 (NACE No. 4/SSPC-SP 7), NACE/SSPC WJ-1 to WJ-4,or SSPC-SP 14 are also acceptable methods.
Concrete	Prepare in accordance with NACE No. 6/SSPC-SP 13 and create profile of ICRI CSP 2 to 5 that is suitable for the intended service.
Previously Painted Surfaces	Clean and lightly sand or abrade to roughen and degloss the surface. Existing coating must attain a minimum 3A rating in accordance with ASTM D3359 adhesion test.
Phosphatized Steel	Clean to remove all contaminants per SSPC-SP 1.
Non-Ferrous Metals	Surface profile should be a dense angular 1.5 - 3 mils and is best achieved through abrasive blasting in accordance with SSPC-SP16 for atmospheric exposure, or SSPC-SP17 for immersion environments.

MIXING & THINNING

Mixing	Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.
Thinning	Up to 15% with Thinner 2
Ratio	1:1 Ratio (Part A to B) by Volume
Pot Life	2 Hours at 75°F and less at higher temperatures.

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.

Spray Application (General) | The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

Airless Spray |
Pump Ratio: 30:1 (min.)*
Volume Output: 3.0 gpm min.
Material Hose: 3/8" I.D. min.
Tip Size: 0.019-0.025"
Output Pressure: 2200-2400 psi
Filter Size: 60 mesh
*PTFE packings are recommended and available from the pump manufacturer.

Brush & Roller (General) | Recommended for small areas only. Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding.

Brush | Use a medium bristle brush.

Roller | Use a medium nap solvent resistant roller cover.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	4°C (39°F)	2°C (36°F)	2°C (36°F)	0%
Maximum	35°C (95°F)	50°C (122°F)	40°C (104°F)	85%

Industry standards are for substrate temperatures to be 3°C (5°F) above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel. Special application techniques may be required above or below normal application conditions.

CURING SCHEDULE

Surface Temp.	Dry to Recoat	Final Cure
5°C (41°F)	17 Hours	15 Days
10°C (50°F)	10 Hours	12 Days
15°C (59°F)	6.5 Hours	9 Days
20°C (68°F)	4 Hours	7 Days
25°C (77°F)	3 Hours	5 Days

These times are based on 127-203 microns (5 - 8 mils) dry film thickness. Higher film thicknesses, insufficient ventilation, and/or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Maximum recoating time is 1-2 months depending on temperature and curing conditions. If exceeded, contact Carboline for further information about recoating procedures.

CLEANUP & SAFETY

Cleanup | Use Thinner 2. In case of spillage, absorb and dispose of 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. Use adequate ventilation. Keep container closed when not in use.

CLEANUP & SAFETY

Ventilation	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 able to monitor levels, use MSHA/NIOSH approved respirator.
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 applicable regulations. 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	Part A: Minimum 36 months at 24°C (75°F) Part B: Minimum 36 months at 24°C (75°F) Shelf life: keep at recommended storage conditions and in original unopened containers.
Shipping Weight (Approximate)	20 liter kit - 32.5 kg 10 litre Part A: 16.25 kg 10 litre Part B: 16.25 kg
Storage Temperature & Humidity	5°C-45°C (41°F - 113°F) 0-100% Relative Humidity
Flash Point (Setaflash)	Part A: 27°C (80°F) Part B: 32°C (90°F)
Storage	Store Indoors. This product is solvent based and not affected by excursions below these published storage temperatures, down to -17°C (10°F), for a duration of no more than 14 days. Always inspect the product prior to use to make sure it is smooth and homogeneous when properly mixed.
Packaging	Part A: 10 litres (2.6 gallons) Part B: 10 litres (2.6 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 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.