

Selection & Specification Data

Generic Type	Epoxy Polyamide
Description	User-friendly epoxy coating with a proven track record and excellent application characteristics. Self-priming coating available in conventional (561) and low-temperature (561 LT) versions. Offers excellent application properties with extended recoat times. Can be used in immersion in fresh or salt water, or waste water service. May also be used as an intermediate coat.
Features	<ul style="list-style-type: none"> ▪ Conventional and low-temperature versions ▪ Ready to apply after mixing; no sweat-in time required ▪ User-friendly; extended recoat times ▪ VOC compliant to current AIM regulations
Colors	Standard Colors: White (S800), Gray (0794), Blue (4169)
Finish	Satin
Primers	Self-priming
Topcoats	Acrylics, Alkyds, Epoxies, Polyurethanes
Dry Film Thickness	4.0-6.0 mils (100-150 microns) per coat Do not exceed 10 mils in a single coat
Solids Content	By Volume: 58% ± 2%
Theoretical Coverage Rate	930 mil ft ² (23.0 m ² /l at 25 microns) Allow for loss in mixing and application
VOC Values	As supplied: 3.00 lbs/gal (360 g/l) Thinned: 10 oz/gal w/ #10: 3.20 lbs/gal (387 g/l) 16 oz/gal w/ #33: 3.50 lbs/gal (420 g/l) These are nominal values and may vary slightly with color.
Dry Temp. Resistance	Continuous: 200°F (93°C) Non-Continuous: 250°F (121°C) Discoloration and loss of gloss is observed above 200°F (93°).
Wet Temp. Resistance	Immersion temperature resistance depends upon exposure. Consult Carboline Technical Service for specific information. It is recommended that metal tanks operating above 140°F (60°C) be insulated.
Limitations	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure. Discoloration is more pronounced with 561 LT.

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.	
Steel	<u>Immersion:</u>	SSPC-SP10
	<u>Non-Immersion:</u>	SSPC-SP6
	<u>Surface Profile:</u>	1.5-3.0 mils (38-75 microns)
Concrete	<u>Immersion:</u>	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.

Performance Data

561

Test Method	System	Results
ASTM D4541 Adhesion	Blasted Steel 2 ct. 561	1600 psi (Pneumatic)
ASTM D522 Flexibility	Blasted Steel 1 ct. 561	90° bend produced no cracking, ¾" Cylindrical Mandrel Bend

561 LT

ASTM D4541 Adhesion	Blasted Steel 2 ct. 561 LT (cured at 35°F)	1900 psi (Pneumatic)
ASTM D522 Flexibility	Blasted Steel 1 ct. 561 LT (cured at 35°F)	90° bend produced no cracking, ¾" Cylindrical Mandrel Bend

Packaging, Handling & Storage

Shipping Weight (Approximate)	<u>2 Gallon Kit</u> 32 lbs (15 kg)	<u>10 Gallon Kit</u> 150 lbs (68 kg)
Flash Point (Setaflash)	80°F (27°C) for Parts A & B; 561 & 561 LT	
Storage (General)	Store Indoors.	
Storage Temperature & Humidity	40° - 110°F (4° - 43°C) 0-100% Relative Humidity	
Shelf Life	Part A & B: Min. 36 months at 75°F (24°C)	

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

Carboguard® 561 & 561 LT

Application Equipment

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 guidelines:

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

Conventional Spray Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .070" I.D. fluid tip and appropriate air cap.

Airless Spray Pump Ratio: 30:1 (min.); 45:1 (min) for LT
GPM Output: 2.5 (min.)
Material Hose: 3/8" I.D. (min.)
Tip Size: .017"-.021"
Output PSI: 2100-2300; 3000 psi for LT
Filter Size: 60 mesh
Teflon packings are recommended and available from the pump manufacturer.

Brush & Roller (General) Not recommended for tank lining applications except when striping welds. Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling. For best results, tie-in within 10 minutes at 75°F (24°C).

Brush Use a medium bristle brush.

Roller Use a short-nap synthetic roller cover with phenolic core.

Mixing & Thinning

Mixing Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.

Ratio 561 and 561 LT 1:1 Ratio (A to B)

Thinning Normally not required but may thin as follows:
Up to 10 oz/gal (8%) w/ #10. Thinner #33 up to 16 oz/gal (12%) may be used for brush & roll applications. Use of thinners other than those supplied by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Pot Life 561 4 Hours at 75°F (24°C)
561 LT 3 Hours at 75°F (24°C)
Pot life ends when coating loses body and begins to sag. Pot life times will be less at higher temperatures.

Cleanup & Safety

Cleanup Use Thinner #2 or Acetone. 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 MSDS for this product. 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 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 supplied air respirator.

Cleanup & Safety Cont.

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.

Application Conditions

561

Condition	Material	Surface	Ambient	Humidity
Normal	60°-85°F (16°-29°C)	60°-85°F (16°-29°C)	60°-90°F (16°-32°C)	0-80%
Minimum	50°F (10°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	90°F (32°C)	125°F (52°C)	110°F (43°C)	80%

561 LT

Condition	Material	Surface	Ambient	Humidity
Normal	60-85°F (16-29°C)	60-85°F (16-29°C)	60-90°F (16-32°C)	0-80%
Minimum	40°F (5°C)	35°F (2°C)	35°F (2°C)	0%
Maximum	90°F (32°C)	125°F (52°C)	110°F (43°C)	80%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.

Curing Schedule

561

Surface Temp. & 50% Relative Humidity	Dry to Recoat & Topcoat w/ Other Finishes	Final Cure for Immersion Service	Maximum Recoat Time
50°F (10°C)	24 Hours	N/A	120 Days
60°F (16°C)	10 Hours	10 Days	90 Days
75°F (24°C)	7 Hours	7 Days	90 Days
90°F (32°C)	4 Hours	5 Days	45 Days

561 LT

35°F (2°C)	24 Hours	21 Days	120 Days
50°F (10°C)	18 Hours	12 Days	120 Days
75°F (24°C)	6 Hours	5 Days	90 Days

For Non-Immersion, maximum recoat time may be extended up to 1 year. These times are based on a 4.0-6.0 mil (100-150 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 discoloration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating. If the maximum recoat times have been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. For force curing, contact Carboline Technical Service for specific requirements.



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