



## SELECTION & SPECIFICATION DATA

<b>Generic Type</b>	Cross-linked epoxy polymeric amine
<b>Description</b>	An all-purpose immersion-grade epoxy that has a variety of attributes including low-temperature cure, surface tolerance, fast recoat times, moisture tolerance during application and cure, and excellent corrosion protection. Can be used direct to metal as a corrosion resistant primer or as an intermediate coating over other primers. Suitable for both maintenance and new construction projects due to its excellent surface wetting characteristics and quick cure for handling. May also be used for immersion in potable water, fresh or salt water (marine) exposures.
<b>Features</b>	<ul style="list-style-type: none"> <li>• Low temperature cure -7°C</li> <li>• Excellent corrosion protection</li> <li>• Excellent application characteristics</li> <li>• Fast recoat times</li> <li>• Moisture tolerance during application</li> <li>• Extended self recoat window normal atmospheric exposures (6 month self recoat)</li> <li>• Tested &amp; approved primer under Nullfire intumescent base-coats</li> <li>• UL approved for potable water (White only in NZ/AU range)</li> </ul>
<b>Colour</b>	<p><b>NZ:</b> Black, White &amp; N35 Light Grey</p> <p><b>AU:</b> White, N35 Light Grey &amp; N53 Blue Grey</p>
<b>Gloss</b>	Satin
<b>Primer</b>	Self-Priming
<b>Dry Film Thickness</b>	<p>102 - 152 microns (4 - 6 mils) per coat</p> <p>75 - 100 microns - for pre-construction and / or priming under intumescent base-coats</p>
<b>Solids Content</b>	By Volume 65% +/- 2%
<b>Theoretical Coverage Rate</b>	<p>25.6 m<sup>2</sup> at 25 microns (1043 ft<sup>2</sup> at 1.0 mils)</p> <p>6.4 m<sup>2</sup> at 100 microns (261 ft<sup>2</sup> at 4.0 mils)</p> <p>4.3 m<sup>2</sup> at 150 microns (174 ft<sup>2</sup> at 6.0 mils)</p> <p>Allow for loss in mixing and application.</p>
<b>Dry Temp. Resistance</b>	<p>Continuous: 82°C (180°F)</p> <p>Non-Continuous: 104°C (219°F)</p>
<b>Approvals</b>	<p><b><u>UL Approved Potable Water Lining at Maximum 24°C (75°F)</u></b></p> <p>Max DFT: 300 microns (12 mils)</p> <p>No. of Coats: 2 @ 150 microns (6 mils/coat)</p> <p>Cure Between Coats: 45 minutes</p> <p>Rating: &gt; 11400 litres (&gt;3,000 gal) tank</p>
<b>Limitations</b>	Epoxies lose gloss, discolour and eventually chalk in sunlight exposure.
<b>Topcoats</b>	May be coated with Acrylics, Epoxies, Alkyds, Polyurethanes or Polysiloxanes depending on exposure and need.

# Carboguard 635

## PRODUCT DATA SHEET



### SUBSTRATES & SURFACE PREPARATION

<b>General</b>	Remove any oil or grease from surface to be coated with clean rags soaked in Thinner #2 or C50 Surface Cleaner.
<b>Steel</b>	<p><u>Atmospheric Exposure:</u> For optimal performance: Abrasive blast to SSPC SP10, (AS 1627.4 Class 2½ minimum) with a 40-75 micron blast profile. For commercial performance: SSPC SP6 (AS 1627.4 Class 2 or greater) with a 40-75 micron blast profile.</p> <p>For small areas, &amp; low cost preparation, Hand Tool or Power Tool clean in accordance with SSPC SP3 (AS 1627.7) to produce a rust-scale free surface</p> <p><u>Immersion Service:</u> Near-white metal cleanliness in accordance with SSPC SP10, (AS 1627.4 Class 2½ minimum) with a 40-75 micron blast profile.</p>
<b>Galvanized Steel</b>	<p>Galvanizing requires a roughened surface for optimum adhesion/performance of high build epoxies. Remove any contaminants per SP1, AS 1627.1; ensure there are no chemical treatments that may interfere with adhesion; and abrade (80 grit) or sweep abrasive blast the surface to establish a suitable roughness (typically 25 microns).</p> <p>Avoid aggressive preparation that may remove the zinc coating</p> <p><u>Cleaned and roughened galvanizing should be coated immediately after preparation, particularly in humid conditions above 50% RH. Do not allow adhesion-compromising zinc hydroxide to form before application.</u></p>
<b>Concrete or CMU</b>	Remove all loose, unsound concrete. Remove all oils or other non-compatible sealers or treatments. Do not apply coating unless the concrete has cured at least 28 days @ 21°C and 50% relative humidity or equivalent. Seal the concrete with Carboguard 1340 or other approved sealer.
<b>Stainless Steel</b>	Surface profile should be dense and angular, achieving a minimum of 25 microns and is best achieved through abrasive blasting with non-metallic media such as aluminium oxide. Remove all contaminants that would interfere with the performance of stainless steel for the intended service such as, but not limited to, embedded iron or chlorides

### MIXING & THINNING

<b>Mixing</b>	Mix separately, then combine and mix until homogenous.
<b>Thinning</b>	<p>For atmospheric exposures thin under normal conditions up to 5% by volume with Thinner #76, or 5% by volume per with Thinner #25 for brush and roller.</p> <p>For immersion (including potable water) use Thinner #10 up to 5% by volume.</p>
<b>Ratio</b>	4:1 by volume (Part A : Part B)
<b>Pot Life</b>	3 hours at 24°C and less at higher temperatures. Pot life ends when coating becomes too viscous to use.

### 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.

<b>Conventional Spray</b>	Pressure pot equipped with dual regulators, 9.5 mm (3/8") I.D. minimum material hose, 1.8 mm (0.070") I.D. fluid tip and appropriate air cap.
<b>Airless Spray</b>	<p>Pump Ratio: 30:1 min.</p> <p>Volume Output: 9.5 l/min</p> <p>Material Hose: 9.5 mm (3/8") I.D. min.</p>

## 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.

<b>Brush &amp; Roller (General)</b>	<p>Tip Size: 0.017-0.021" (0.43-0.53 mm)          Fluid Pressure: 2000-2500 psi (13.8-17.2 MPa)          *PTFE packings are recommended and available from pump manufacturer.</p> <p>For applications over damp surfaces, brush and roller is the preferred method. 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 24°C. Use a short-nap synthetic roller cover with phenolic core.</p>
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## APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	7°C (45°F)	-6°C (21°F)	-6°C (21°F)	0%
Maximum	32°C (90°F)	48°C (118°F)	37°C (99°F)	95%

Industry standards are for substrate temperatures to be above the dew point. Carboguard 635 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 Touch	Dry to Handle	Dry to Topcoat Minimum	Dry to Topcoat Maximum
-7°C (20°F)	4 Hours	36 Hours	24 Hours	180 Days
2°C (35°F)	2 Hours	16 Hours	2 Hours	180 Days
10°C (50°F)	1 Hours	10 Hours	1 Hours	180 Days
24°C (75°F)	30 Minutes	3 Hours	45 Minutes	180 Days
32°C (90°F)	15 Minutes	30 Minutes	30 Minutes	90 Days

**These times are to be used as a guideline.**

The listed times in the chart above are based on a 100-150 microns dry film thickness per coat. Deviation from those thicknesses may compromise the performance and adhesive properties of the film. Higher film thickness, insufficient ventilation or cooler temperatures could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing will not affect performance but may cause discoloration and 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. Do not apply to substrates with ice or ice crystal formation. Dehumidify or raise the temperature to eliminate ice on the substrate. This product will tolerate drops in temperature to -17°C during its cure and will continue to cure when the temperature rises. Follow "Cure for Service" guideline listed above to determine when the product is fully cured.

**Topcoating with Polyurethane Finishes:** Many high performance polyurethanes have a limited time to topcoat maximum, some as low as 5 days at 20°C; before proceeding applicators are advised to refer to the relevant Coating Specification or contact Carboline Technical Service for specific information.

**Marine Use :** Undocking time of 24 hours @ 24°C

The optimum time to topcoat with an antifoulant is when the 635 is "touch-tacky." If the touch-tacky time has been exceeded, or if the film is "glossy," you can generally re-prime/refresh the first coat of 635 with a fresh coat of itself within 30 days. 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.

**Maximum Topcoat Time for Atmospheric Use will depend on topcoat selected:** contact Carboline Technical Service for specific information.

# Carboguard 635

## PRODUCT DATA SHEET



### CURING SCHEDULE

**Cure for UL Approved Potable Water Use** : 7 day cure after final coat @ 24°C

Surface Temp.	Dry to Topcoat Minimum	Dry to Topcoat with Antifoulant Maximum	Dry to Topcoat with Itself
-7°C (20°F)	24 Hours	36 Hours	30 Days
2°C (35°F)	2 Hours	16 Hours	30 Days
10°C (50°F)	1 Hours	8 Hours	30 Days
24°C (75°F)	45 Minutes	4 Hours	30 Days
32°C (90°F)	30 Minutes	3 Hours	30 Days

**The curing schedule above references curing times for immersion service when an antifoulant topcoat is used.**

The optimum time to topcoat with an antifoulant is when the film is "touch-tacky." If the touch-tacky time has been exceeded, or if the film is "glossy," you can generally re-prime/refresh the first coat with a fresh coat of itself. High temps and/or sunlight exposure may shorten this recoat schedule.

**Marine Use:** Undocking time of 24 hours @ 24°C

### CLEANUP & SAFETY

<b>Cleanup</b>	Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
<b>Safety</b>	Read and follow all caution statements on this product data sheet and on the MSDS for this product. Wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.
<b>Ventilation</b>	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. 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 suitable approved supplied air respirator.
<b>Caution</b>	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

<b>Shelf Life</b>	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.
<b>Shipping Weight (Approximate)</b>	• 5 litre Kit - 8.4 kg. • 10 litre Kit - 16.7 kg.
<b>Storage Temperature &amp; Humidity</b>	4°C-38°C 0-95% Relative Humidity
<b>Flash Point (Setaflash)</b>	Part A: 19°C Part B: 27°C Mixed: 29°C

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## PACKAGING, HANDLING & STORAGE

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**Storage** | Store Indoors. KEEP DRY

## WARRANTY

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