



## SELECTION & SPECIFICATION DATA

<b>Generic Type</b>	Solvent free epoxy lining
<b>Description</b>	<p>PLASITE 4500 is a solvent free, flake-reinforced, high performance epoxy coating designed as an internal tank lining for chemical or other commodity storage. It is resistant to a broad range of chemicals such as fuels, salts, alkalis, many acids and some solvents. Excellent versatility allows for potable water and water treatment immersion service.</p>
<b>Features</b>	<ul style="list-style-type: none"> <li>• High impact resistance</li> <li>• Superior adhesion to steel</li> <li>• Resistance to a broad range of chemicals</li> <li>• Can be applied as low as 35°F/2°C</li> <li>• Can be applied as a one-coat 20-60 mil system</li> <li>• NSF/ANSI 61 compliant for use in potable water tanks, pipes, and valves.*</li> <li>• Certified by UL to meet the drinking water criteria of NSF/ANSI/CAN 600</li> <li>• Meets AWWA C210 requirements for use in water supply pipeline and valves</li> <li>• Passes ASTM G210 - Severe Waste Water Analysis Tests (SWAT)</li> </ul> <p>Contact Carboline Technical Service for approved dimensions. *Valid when manufactured at a certified location.</p>
<b>Color</b>	Light gray, tile red, white and blue V131
<b>Finish</b>	Gloss
<b>Primer</b>	N/A, coating is applied direct to metal
<b>Dry Film Thickness</b>	<p>20 - 30 mils (508 - 762 microns) per coat</p> <p>Most applications are applied in a single coat at 20-30 mils (500-750 microns). May be applied at heavier thicknesses up to 60 mils (1500 microns) as needed or specified. See Shelf Life for film build limitations.</p>
<b>Coverage Rate</b>	<p>1604 mil sq ft/gal 80 sq ft at 20 mils</p> <p>Allow for loss in mixing and application</p>
<b>VOC Values</b>	<b>As Supplied</b> : 0.0
<b>Approvals</b>	NSF 61 approved for potable water tanks 5 gallons and larger and pipes 4" in diameter and larger.

## SUBSTRATES & SURFACE PREPARATION

<b>General</b>	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
<b>Steel</b>	<p>Cleanliness: Abrasive blast to SSPC-SP10 (minimum)</p> <p>Profile: Minimum 3 mil (75 micron) dense, sharp anchor profile free of peening, as measured by ASTM D 4417. Defects exposed by blasting must be repaired.</p>

## SUBSTRATES & SURFACE PREPARATION

<b>Concrete</b>	Clean, dry and remove all loose, unsound concrete. DO not apply coating unless concrete has cured at least 28 days @ 70°F (21°C) or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require filling and/or surfacing.
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## MIXING & THINNING

<b>Mixing</b>	Mix each component separately to a smooth uniform consistency. Any settling in the container must be thoroughly scrapped and re-dispersed. Use a Jiffy type mixer and avoid plunging it up and down in the bucket, which can fold air in to the resin causing bubbles to form in the coating after it has been applied.
<b>Thinning</b>	Thinning not recommended Clean up thinner: Thinner #71
<b>Ratio</b>	4:1 Ratio (A to B)
<b>Pot Life</b>	35°F (2°C): 30-40 minutes 75°F (24°C): 15-25 minutes

## 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>Airless Spray</b>	<p>Use a fixed ratio (4:1 by volume) plural component spray rig with heated hoppers, heated hoses to mixer manifold through a static mixer to a 50 ft/15.2 m whip hose followed by a silver gun utilizing self-cleaning reverse-a-tips from 0.017-0.035 inches.</p> <p>NOTE: the Part A side should be at a minimum of 110-140°F and the part B side 90-131°F.</p> <p>Use a 3/8" min I.D. material hose</p> <p>Pump Ratio: 30:1 (min)</p> <p>Volume Output: 2.5 g/m (9.5 l/m) (min)</p> <p>Material Hose: 3/8" I.D. min (9.4 mm)</p> <p>Tip Size: 0.017-0.021" (0.43-0.53 mm)</p> <p>Output Pressure: 2000-2500 psi (13.8- 17.2 MPa)</p> <p>*PTFE packings are recommended and available from pump manufacturer.</p>
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## APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	110°F (43°C)	35°F (2°C)	35°F (2°C)	0%
Maximum	140°F (60°C)	125°F (52°C)	110°F (43°C)	85%

This product requires the substrate temperature to be 5°F (3°C) above the dew point. Contact Carboline Technical Service if conditions are not within recommended guidelines.

## CURING SCHEDULE

Surface Temp.	Dry to Touch	Firm	Immersion Service, for crude oil, unblended gasoline, and fuel oils	Immersion Service; all other exposures
35°F (2°C)	8 Hours	16 Hours	36 Hours	5 Days
75°F (24°C)	6 Hours	8 Hours	24 Hours	4 Days
100°F (38°C)	2 Hours	3 Hours	12 Hours	3 Days

Based on 50% relative humidity. Plasite 4500 has the propensity to blush during its cure cycle. It is imperative that the blush be removed before top coating or placing this material into potable water service. Before any touch-up or recoat material can be applied, the first coat must be properly prepared for intercoat adhesion.

### Recoat Procedure

- The first coat must be cured firm to the touch. Coating on floors must be able to support foot traffic.
- Scrub the coating with soap and water and thoroughly rinse/dry.
- If the coating has cured more than 24-hours, lightly sand or mechanically abrade (de-gloss) the surface and vacuum dust and debris.

## CLEANUP & SAFETY

**Cleanup** | Plasite Thinner #71

**Safety** | Ventilation should be used during and after installation. Ventilation can be discontinued once the material has cured. The ventilation equipment should be capable of preventing the solvent concentration from reaching the lower explosion level for the solvents used. The applicator should monitor the exposure levels or use MSHA/NIOSH approved air respirators.

**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** | Fire and explosion hazards: This product contains less than 1% volatile components, however, vapors are heavier than air and can travel long distances, ignite and flash back. Eliminate all ignition sources. 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, workers should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

## PACKAGING, HANDLING & STORAGE

**Packaging** | 1, 5 and 20 gallon units

Part A & B: 6 months to 24 months

**Shelf Life** | The film build (per coat) will decrease with age of either part A or B as follows but the cure mechanism and performance is not affected  
 3 months or less: Over 60 mils (1524 microns) is typical  
 3-6 months: 30-50 mils (762-1270 microns) is typical  
 6 months or older: Can be less than 30 mils (762 microns)  
 Follow intercoat preparation requirements when applying multiple coats

**Storage Temperature & Humidity** | 50-85°F (10-29°C)  
 For the 24-48 hours just prior to use, narrow the storage temperature to 70- 85°F (21-29°C) to facilitate ease of mixing.

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## **PACKAGING, HANDLING & STORAGE**

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**Storage** | Keep product tightly sealed in original container until ready for use. Store out of direct sunlight.

**Shipping Weight  
(Approximate)** | 9.3 lbs per gallon

## **WARRANTY**

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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 Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. 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.