

SELECTION & SPECIFICATION DATA

Generic Type	Solvent free epoxy lining
Description	<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.</p> <p>Excellent versatility allows for potable water and water treatment immersion service.</p>
Features	<ul style="list-style-type: none"> • High impact resistance • Superior adhesion to steel • Resistance to a broad range of chemicals • Can be applied as low as 35°F/2°C • Can be applied as a one-coat 20-60 mil system • NSF/ANSI 61 compliant for use in potable water tanks, pipes, and valves.* • Certified by UL to meet the drinking water criteria of NSF/ANSI/CAN 600 • Meets AWWA C210 requirements for use in water supply pipeline and valves • Passes ASTM G210 - Severe Waste Water Analysis Tests (SWAT) <p>*Valid when manufactured at a certified location.</p>
Color	Off White (U80P), Light Grey (U74P)
Finish	Gloss
Primer	N/A, coating is applied direct to metal
Dry Film Thickness	<p>20 - 30 mils (508 - 762 microns) DFT</p> <p>Typically applied at this thickness per coat.</p> <p>Applications for potable water or AWWA C210 service may be applied at a dry film thickness of 20 mils (508 microns) with a maximum of 50 mils (1,270 microns).</p>
Solids Content	By Volume 100% +/- 2%
Coverage Rate	<p>1604 mil sq ft/gal 80 sq ft at 20 mils</p> <p>Allow for loss in mixing and application</p>
Theoretical Coverage Rate	<p>1604 ft²/gal at 1.0 mils (39.4 m²/l at 25 microns) 80 ft²/gal at 20.0 mils (2.0 m²/l at 500 microns) 53 ft²/gal at 30.0 mils (1.3 m²/l at 750 microns)</p> <p>Allow for loss in mixing and application.</p>
VOC Values	As Supplied : 0 g/l

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
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SUBSTRATES & SURFACE PREPARATION

Steel	Cleanliness: Abrasive blast to SSPC-SP10 (minimum)
	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.
Concrete	Concrete shall be designed, placed, cured, and prepared per NACE No. 6/SSPC-SP 13, latest edition. Abrade to remove all laitance, loose concrete, etc. and to create surface profile in accordance with the appropriate ICRI CSP 4-7. Do not apply coating unless concrete has cured at least 28 days @ 70°F (21°C) or equivalent. Voids in concrete may require filling and/or surfacing. Consult Carboline Technical Service for recommended primer/sealer.

MIXING & THINNING

Mixing	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.
Thinning	Thinning not recommended Clean up thinner: Thinner #71
Ratio	4:1 Ratio (A to B)
Pot Life	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.

Airless Spray	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. NOTE: the Part A side should be at a minimum of 110-140°F and the part B side 90-131°F. Use a 3/8" min I.D. material hose Pump Ratio: 30:1 (min) Volume Output: 2.5 g/m (9.5 l/m) (min) Material Hose: 3/8" I.D. min (9.4 mm) Tip Size: 0.017-0.021" (0.43-0.53 mm) Output Pressure: 2000-2500 psi (13.8- 17.2 MPa) *PTFE packings are recommended and available from pump manufacturer.
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APPLICATION PROCEDURES

Film Build	Maximum film build (per coat) on vertical surfaces and overhead decreases with age: Fresh: Over 60 mils 3-6 months: 50-30 mils After 6 months: less than 30 mils. Follow intercoat preparation requirements when applying multiple coats The cure mechanism of this product is not affected for a minimum of 24 months.
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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.

TESTING / CERTIFICATION / LISTING

Potable Water Certifications

NSF 61 Potable Water Use Approvals @ 75°F (24°C):

Meets drinking water criteria of NSF/ANSI/CAN 600

Max DFT: 50 mils (1270 microns)

of Coats: 1

Tank Rating: 5 gallons or larger (18.9271 Liters)

Pipe Rating: 4" or larger (10.16 cm)

Valve Rating: 4" or larger (10.16 cm)

Approved Thinner: N/A

3 Day Cure Required before service Approved Colors: U80P (Off White) and V131 (Blue) Special

Order Colors: U74P (Light Grey) and U51P (Tile Red)

Consult the UL website for further approval parameters.

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.

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	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 Ignitions 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 Gallon Kit: Part A: 0.8 Gallons Part B: 0.2 Gallons 5 Gallon Kit: Part A: 4 Gallons Part B: 1 Gallon 20 Gallon Kit: Part A: 4 x 4 Gallons Part B: 1 x 4 Gallons
Shelf Life	Part A: 24 months Part B: 24 months
Storage Temperature & Humidity	40-110°F (4-43°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.
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

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.