

SELECTION & SPECIFICATION DATA

Description	PLASITE 4550 S is a 100% solids, flake filled, premium novolac epoxy coating designed for internal steel and concrete substrates. It is a two component system consisting of four-parts by volume of Part A resin and one part by volume of Part B hardener. It is applied by plural component or single component spray equipment, from a total thickness of 20-60 mils (500-1500 microns) in a single coat application for a variety of applications. This product has been tested and is approved for crude oil storage and transportation up to 350°F (177°C). It has superior thermal shock resistance over the range -40° to 350°F (-40 to 177°C). Typical Uses: Crude oil tankers, chemical storage tanks, wastewater clarifiers, plating vats, oil storage tanks, catwalks, pulp and paper liquor tanks or concrete exposures in wastewater applications.
Features	• High impact and thermal shock resistance • Superior adhesion to steel and concrete • Resistance to a broad range of chemicals • Can be applied up to 60 mils in one coat • Can be sprayed using single component airless equipment • Passes ASTM G210 - Severe Waste Water Analysis Test (SWAT)
Color	Standard Color: U74P (light grey) Other colors may be available upon request. Contact your Carboline Representative for availability.
Finish	N/A
Dry Film Thickness	20 - 30 mils (508 - 762 microns) per coat The cure mechanism of this product is not affected for a minimum of 24 months. 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
Solids Content	By Volume 100% +/- 2%
Theoretical Coverage Rate	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) Allow for loss in mixing and application.
VOC Values	As Supplied : 0.0
Dry Temp. Resistance	Non-Continuous: 400°F (204°C) Discoloration and loss of gloss occurs above 200°F(93°C) but does not affect performance

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	Immersion: Prepare by abrasive blasting to a minimum near White Metal Finish (NACE No. 2, SSPC-SP10) with a minimum 3 mil (75 micron) dense, sharp anchor profile.
Stainless Steel	Prepare by abrasive blasting to SSPC-SP 17 Thorough Abrasive Blast to a minimum of 3 mils (75 microns) dense angular anchor profile.

SUBSTRATES & SURFACE PREPARATION

Concrete or CMU	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.
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MIXING & THINNING

Mixing	Mix each component separately to a smooth, uniform consistency. Any settling in the container must be thoroughly scraped and re-dispersed. Use a Jiffy type mixer and avoid plunging it up and down in the bucket, which can fold air into the resin causing bubbles to form in the coating after it has been applied.
Thinning	Thinning not normally required Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
Pot Life	75°F (24°C): 45-60 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 air motor with an air ratio of 42:1 or larger. All filters should be removed from the pump. Use a 3/8 in. spray hose from pump to gun, not to exceed 100 linear ft. It is best to bring the material directly to the gun body and not go through a tube in the handle. The size of airless spray tip should be from 0.019-0.035 inches. The mixed material temperature should be 75-85°F/24-38°C for best spraying properties. Temperatures above 85°F (29°C) will shorten pot life.
Plural Component Airless Spray	Use a fixed (4:1) ratio plural component spray rig with heated hoppers, heated hoses to a mixer manifold through a static mixer to a 50 ft whip hose and self-cleaning reversible tips from 0.017" to 0.035". The Part A material should be a minimum of 110°F (43°C) and the Part B should be 90-100°F (32-38°C). Take care to prevent mixed material from setting up in your hoses. For best results keep hoses as short as possible, purge them immediately with Carboline Thinner #76 if work is interrupted, keep them out of direct sunlight and insulated from hot surfaces.
Brush & Roller (General)	Not recommended for tank lining applications except when striping welds.

APPLICATION PROCEDURES

General	<u>Lining Repair:</u> Before any touch up or recoat material can be applied the first coat must be properly prepared for intercoat adhesion. The first coat must be cured firm to touch. Coating on floors must be able to support foot traffic. Scrub the first coat with soap and water and thoroughly rinse and dry. If the first coat cures more than 24 hours, sand or mechanically abrade the surface after scrubbing it down. Any surface to be touched up or recoated should be protected. When the recoat material is applied the surface must be dry and free of all dirt, dust, debris, oil, grease or other contamination.
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APPLICATION PROCEDURES

Airless Spray	Immediately before applying spray coat, stripe all continuous welds and edges with a brush coat to assure adequate protection of these areas.
	Apply material to specified thickness using 8-14 mil (200-350 microns) per pass. Apply in a criss-cross, multi-pass technique, moving gun at a fairly rapid rate and maintaining a wet-appearing film. Use a wet film gauge to monitor film build.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	75°F (24°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	85°F (29°C)	125°F (52°C)	90°F (32°C)	85%

Do not apply material when temperature will fall within 5°F (3°C) of the dew point.

Material temperatures listed above are optimal for standard airless spray. For plural spray: Part A should be a minimum of 110°F (43°C) and Part B 90-100°F (32-37°C).

CURING SCHEDULE

Surface Temp.	Dry to Handle	Final Cure Immersion
50°F (10°C)	30 Hours	7 Days
60°F (16°C)	24 Hours	4 Days
75°F (24°C)	12 Hours	36 Hours
90°F (32°C)	4 Hours	24 Hours

* And 50% relative humidity

@ 75°F (24°C): dry to touch in 12 hours, firm dry in 24 hours

Final cure above is for mild immersion service.

Epoxyes may form amine blush under some curing conditions. Blush must be removed before coating or placing in some services.

CLEANUP & SAFETY

Cleanup	Plasite Thinner 71 or Carboline Thinner 2
Safety	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions.
Ventilation	Ventilation 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. Use MSHA/NIOSH approved air respirators as needed.
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	5 Gallon Kit:
	Part A: 4 Gallons
	Part B: 1 Gallon
	1 Gallon Kit:
	Part A: 0.8 Gallons
	Part B: 0.2 Gallons

Shelf Life	Part A: 24 months
	Part B: 24 months

Storage Temperature & Humidity	40-110°F (4-43°C)
	For 24-48 hours prior to use narrow the storage temperature to 70-85°F (21-29°C) to facilitate ease of mixing

Storage	Store indoors
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Shipping Weight (Approximate)	1 gal unit: 11.6 lbs (5.3 kg)
	5 gal unit: 57.9 lbs (26.3 kg)

Flash Point (Setaflash)	Part A & Part B: 485°F (252°C)
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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.