

Selection & Specification Data

Description	PLASITE 4550 is a 100% solids, reinforced, premium novolac epoxy coating for internal tank lining. It is resistant to a broad range of chemicals such as fuels, salts, alkalis, strong inorganic acids, some solvents, sour crude oil and 98% sulfuric acid.
Features	<ul style="list-style-type: none"> • High Impact Resistance • Superior adhesion to metal substrates and concrete • Outstanding adhesion to stainless steel, even with low blast profiles • Well suited to protect alloy steels typically used to wet FGD systems where pitting and crevice corrosion often occur • Fast cure-to-service; depending upon application can be placed into service within 36 hours • Minimal blushing characteristics • Can be applied in temperatures as low as 35 °F (1.7 °C) • Can be applied as a one-coat system • Tested and approved for crude oil storage and transport up to 350 °F (177 °C) • Superior thermal shock resistance from -40 to 350 °F (-40-177 °C) • Complies with the API RP 652 definition of a reinforced liner.
Color	Light Gray, Light Blue, Tile Red, White
Finish	N/A
Dry Film Thickness	20 - 60 mils (508 - 1524 microns) per coat
	Depending upon service and existing substrate condition. Typically applied at 20 mils in a single coat application.
Typical Uses	<ul style="list-style-type: none"> • Chemical storage tanks • Crude oil railcar tank lining up to 350 °F (177 °C) • Plating vats • Wet FGD scrubbers and associated equipment • Oil storage tanks and process equipment • Ethanol storage tanks
Solids Content	By Volume 100% +/- 2%
Theoretical Coverage Rate	1604 ft ² /gal at 1.0 mils (39.4 m ² /l at 25 microns) 80 ft ² /gal at 20.0 mils (2.0 m ² /l at 500 microns) 27 ft ² /gal at 60.0 mils (0.7 m ² /l at 1500 microns)
	Allow for loss in mixing and application.
VOC Values	As Supplied 0 g/L
Dry Temp. Resistance	Continuous: 300 °F (149 °C) 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.
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Substrates & Surface Preparation

Steel	<p>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.</p> <p>For special applications involving stainless steel used in wet FGD applications a minimum of 2 mils (50 microns) dense angular anchor profile is acceptable.</p>
Concrete or CMU	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.
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.
Ratio	A:B 4:1
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.

Application Procedure	<p>Use a fixed ratio (4:1 by volume) plural component spray rig such as Graco King Hydro-Cat or equal with heated hoppers, heated hoses to a mixer manifold through a static mixer to a 50 whip hose followed by a silver gun, Binks 1M or equal, utilizing self-cleaning reverse "a" tips from 0.017" to 0.035". See equipment specifications for more details.</p> <p>Note: The "A" side should be at a minimum of 110 °F (43 °C) and the "B" side at 90-100 °F (32-37 °C). This will ensure proper spraying of Plasite 4550. Take care to prevent mixed material from setting up in your hoses. For best results keep hoses as short as possible, purge them immediately if work is interrupted, keep them out of direct sunlight and insulated from hot surfaces.</p>
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Plasite[®] 4550

Application Procedures

General

Lining Repair:

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.

Airless Spray

Immediately before applying spray coat, stripe all welds and edges with a brush coat to assure adequate protection of these areas.

Adjust pressure to 50-70 lbs and open the valves at the manifold and purge materials at the spray gun. Attach spray tip and begin to spray. Dependent upon tip size, each pass will be 8-14 mil (200-350 microns) per pass. Apply material to specified thickness (for example, tank lining 35-40 mils (875-1000 microns), structural steel 15-20 mils (375-500 microns)). Apply criss-cross multi-passes, moving gun at a fairly rapid rate and maintaining a wet-appearing film. Use a wet film gauge to monitor film build.

Mixing

For touch-up only:

Jiffy type mixers are recommended for all mixing and stirring. Avoid plunging the mixer up and down in the bucket. This can fold air into the resin which may cause bubbles to form in the coating after it has been applied.

Individually stir separately Part A and Part B to a smooth uniform consistency and color. Any sediment in the container must be thoroughly scraped up and redispersed.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Minimum		35 °F (2 °C)	35 °F (2 °C)	0%
Maximum		90 °F (32 °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: For proper spraying, Part A should be a minimum of 110°F(43°C) and Part B 90-100°F(32-37°C). Application and curing times are dependent upon ambient conditions. Consult Carboline Technical Service for more information.

Curing Schedule

Surface Temp.*	Cure for Most Immersion Services	Dry to Touch	Firm
35 °F (2 °C)	5 Days	8 Hours	16 Hours
75 °F (24 °C)	5 Days	6 Hours	8 Hours

Force curing (elevated temperature) may be desirable in certain circumstances and can improve the performance with particularly aggressive exposures. Check with Carboline Technical Service for more information.

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.

Cleanup & Safety

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

Shelf Life

Part A: 24 months

Part B: 24 months

Film build (per coat) decreases with age.

Fresh: over 60 mils

3-6 months: 50-30 mils

After 6 months: less than 30 mils

Follow intercoat preparation requirements.

Storage

50-85 °F (10-29 °C)

Temperature & Humidity

For 24-48 hours just prior to use narrow the storage temperature to 70-85 °F (21-29 °C) to facilitate ease of mixing

Storage

Store indoors

Shipping Weight (Approximate)

1 Gallon Kit - 12 lbs (5.5 kg)

5 Gallon Kit - 59 lbs (27 kg)

20 Gallon Kit - 238 lbs (108 kg)

Flash Point (Setaflash)

Part A: 201 °F (94 °C)

Part B: 222 °F (106 °C)

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