

**PRODUCT DESCRIPTION**

PLASITE 4550 is a 100% solids, flake filled, premium novolac epoxy coating for internal tank lining. 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 using plural component spray equipment, from a total thickness of 20-60 mils (500-1500 microns) in a single coat application for a variety of applications.

**USES/APPLICATIONS**

- Chemical Storage Tanks
- Wastewater Clarifiers
- Plating Vats
- Oil Storage Tanks
- Ethanol Storage Tanks

**PRODUCT ADVANTAGES**

- High impact resistance
- Superior bondability to steel and concrete
- Excellent resistance to a broad range of chemicals
- Minimal blushing characteristics
- Can be applied in temperatures as low as 35°F
- Can be applied as a one-coat system

**CHEMICAL RESISTANCE**

PLASITE 4550 is resistant to a broad range of chemicals such as fuels, salts, alkalis, strong inorganic acids, some solvents, and 98% sulfuric acid.

**COLORS**

PLASITE 4550 is offered in light gray, light blue, tile red and white.

**FILM THICKNESS**

Depends on service and existing substrate condition, PLASITE 4550 is typically applied at 20 mils in a single coat application.

**PACKAGING**

PLASITE 4550 is available in one, five and twenty gallon units.

One gallon unit includes:

- 1 1 gallon can of Part A (resin)
- 1 1 quart can of Part B (hardener)

Five gallon units includes:

- 1 5 gallon pail of Part A (resin)
- 1 1 gallon can of Part B (hardener)

Twenty gallon unit includes:

- 4 5 gallon pails of Part A (resin)
- 1 5 gallon can of Part B (hardener)

**COVERAGE**

One gallon of PLASITE 4550 will cover 1,604 sq. ft./gal. For estimating purpose, one gallon of PLASITE 4550 will cover approximately 64 sq. ft./gal. at 20 mils (20% loss included).

**THINNERS**

No thinners are recommended for the application of PLASITE 4550.

**CLEANUP THINNER:** Thinner #71

**STORAGE CONDITIONS**

Keep PLASITE 4550 products tightly sealed in their original containers until ready for use. Store at 50-85°F/10-29°C, out of direct sunlight. Properly stored, PLASITE 4550 products have a

**PHYSICAL CHARACTERISTICS**

<b>Tensile Strength</b> .....	8,000 psi (ASTM D-638)
<b>Flexural Strength</b> .....	10,000 psi (ASTM D-790)
<b>Flexural Modulus of Elasticity</b> .....	7.8 psi x 10 <sup>6</sup> (ASTM D-790)
<b>Hardness</b> .....	80 (ASTM D-2240 Shore D)
<b>Weight per Mixed Gallon</b> .....	9.3 lbs
<b>Pot-life</b> .....	@ 35°F/2°C 30-40 minutes
.....	@ 75°F/24°C: 15-25 minutes
<b>Cure Time (Approx.):</b>	
Dry To Touch .....	@ 35°F/2°C: 8 hours
.....	@ 75°F/24°C: 6 hours
Firm .....	@ 35°F/2°C: 16 hours
.....	@ 75°F/24°C: 8 hours
<b>Cure for Immersion Service (min 35°F)</b>	
Crude oil or aliphatic hydrocarbons .	@ 35°F/2°C or above: 36 hours
All others: @ 35°F/2°C or above:	5 days
<b>Flammability</b> .....	Nonflammable

shelf life of 6 months. To ensure maximum film build (30 mils), material should be used within three months from date of manufacture. Proper jobsite storage of PLASITE 4550 is essential to its performance. Follow these general procedures for storage at the jobsite:

Store components (Part A and Part B) unopened, in a dry place, at 50-85°F/10-29°C, out of direct sunlight, and protected from the elements. Keep away from heat and flame.

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.

**SURFACE PREPARATION****Steel**

Immediately prior to application of the coating or, the steel substrate must be clean of all oil, grease, dirt, dust, mill scale, rust, flash rust, corrosion products, salts, solvents, chlorides, other chemicals, and existing coatings.

All welds must be smooth and continuous; no skip welds. All weld splatter, buckshot, laminations, and slivers must be removed and ground smooth; undercuts and pinholes must be ground smooth and filled with weld metal. All projections, sharp edges, high points and fillets must be ground smooth to a radius of at least 1/8 inch and all corners must be likewise rounded.

All pitting, gouges, scratches, and other defects must be repaired either by welding or by filling with repair materials that are compatible with the coating or lining system and suitable for the intended service conditions. All surfaces to be coated or lined must be readily accessible. The steel must be blasted to a minimum near White Metal Finish (NACE No. 2, SSPC SP 10) with a 4 mil/100 microns dense, sharp anchor profile free of peening, as measured by ASTM D 4417.



# PLASITE® 4550

## MASKING & PROTECTION

Mask or remove adjacent surfaces and equipment that are not to be lined. Once applied, PLASITE 4550 is difficult to remove.

Protect nearby pumps, motors and other equipment from spent abrasive venting from the tank during blasting.

## GUIDELINES APPLICATION

Before mixing and applying any material, make sure environmental conditions are satisfactory for application. Weather conditions, and especially dew point, should be constantly monitored in light of the work being done. Final blast cleaning and application of the lining system must only be performed when it is clear the temperature of the steel substrate will not fall within 5°F/3°C of the dew point. Dehumidification and/or temperature control may be necessary to meet this requirement. Use a surface thermometer to frequently monitor the temperature of the steel substrate.

## EQUIPMENT

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 inches. See equipment specifications for more details.

**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 the mixed material from setting up in your hoses. For best results, keep your hoses as short as possible, purge them immediately if work is interrupted, keep them out of direct sunlight and insulated from hot surfaces.

## APPLICATION

### MIXING

#### *For touch-up only*

We recommend using Jiffy type mixers for all mixing and stirring. When operating the mixer avoid plunging it 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 each separate Part A and Part B component to a smooth, uniform consistency and color. Any sediment in the container must be thoroughly scraped up and redispersed.

### Spray

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

All spray equipment should be clean and in proper working order. Contact Technical Service for start-up and clean-up procedures. Adjust pressure to 50-70 pounds 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 mil/875-1000 microns, structural steel 15-20 mil/375-500 microns).

Apply criss-cross multi-passes, moving gun at a fairly rapid rate, maintaining a wet appearing film. Use a wet film thickness gauge to monitor film build.

**Note:** Force curing may be desirable in certain circumstances. Check with Carboline Technical Service Department.

## CURING

PLASITE 4550 will be dry to the touch in 8 hours at 35°F/2°C or 6 hours at 75°F/24°C. The PLASITE lining will be ready for most immersion service in 5 days at 35°F/2°C or above.

## 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 the touch. Coating on floors must be able to support foot traffic. Scrub the first coat with soap and water and thoroughly rinse and dry it. If the first coat cures more than 24-hours, lightly sand or mechanically abrade the surface after scrubbing it down with soap and water. 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 and other contamination.

## INSPECTION

Degree of surface preparation shall conform to appropriate specifications as outlined in SURFACE PREPARATION section. Film thickness of each coat and total dry film thickness of the coating system shall be determined with a non-destructive magnetic gauge properly calibrated.

## RECOMMENDATIONS

- Apply only on a clean, sound, properly prepared substrate.
- Minimum ambient and surface temperatures are 35°F/2°C at the time of application.
- Maximum ambient and surface temperatures are 90°F/32°C at the time of application.
- Relative humidity should be between 0-85%.
- Substrate temperature should be 5°F/3°C above the dew point.
- Application and curing times are dependent upon ambient conditions. Consult Carboline's Technical Service Department if conditions are not within recommended guidelines.

## PRECAUTIONS

- PLASITE Thinner #71 is recommended for clean up of the PLASITE 4550 material.
- Before handling and application of this material consult the MSDS sheets. As with any product, those handling PLASITE 4550 materials should employ proper safety practice. Hypersensitive persons should wear protective clothing, gloves, and use protective cream on any exposed areas.
- When PLASITE 4550 is used as a tank lining or in an enclosed area circulation should be used during and after the installation. Circulation 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.

## NOTES

- Material Safety Data Sheets on PLASITE 4550 are available upon request.
- Specific information regarding the chemical resistance of PLASITE 4550 can be found by contacting Carboline's Technical Service Department.
- A staff of technical service engineers is available to assist with product application, or to answer questions related to Carboline products.
- Requests for technical literature or service can be made through local sales representatives and offices worldwide.

September 2007 replaces June 2006

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 or injuries resulting from use. Liability, if any, is limited to replacement of products. 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. Carboline® and Plasite® are registered trademarks of Carboline Company.

