

## SELECTION & SPECIFICATION DATA

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| <b>Description</b>               | 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.   |
| <b>Features</b>                  | <ul style="list-style-type: none"> <li>• High Impact Resistance</li> <li>• Superior adhesion to metal substrates and concrete</li> <li>• Outstanding adhesion to stainless steel, even with low blast profiles</li> <li>• Well suited to protect alloy steels typically used to wet FGD systems where pitting and crevice corrosion often occur</li> <li>• Fast cure-to-service; depending upon application can be placed into service within 36 hours</li> <li>• Minimal blushing characteristics</li> <li>• Can be applied in temperatures as low as 35 °F (1.7 °C)</li> <li>• Can be applied as a one-coat system</li> <li>• Tested and approved for crude oil transportation up to 350 °F (177 °C)</li> <li>• Superior thermal shock resistance from -40 to 350 °F (-40-177 °C)</li> <li>• Complies with the API RP 652 definition of a reinforced liner.</li> </ul> |
| <b>Typical Uses</b>              | <ul style="list-style-type: none"> <li>• Chemical storage tanks</li> <li>• Crude oil railcar tank lining up to 350 °F (177 °C)</li> <li>• Plating vats</li> <li>• Wet FGD scrubbers and associated equipment</li> <li>• Oil storage tanks and process equipment</li> <li>• Ethanol storage tanks</li> </ul>  |
| <b>Color</b>                     | U74P (Light Gray), U80P (White)  |
| <b>Finish</b>                    | N/A  |
| <b>Dry Film Thickness</b>        | <p>20 - 30 mils (508 - 762 microns) per coat</p> <p>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:</p> <p>Fresh: Over 60 mils<br/> 3-6 months: 50-30 mils<br/> After 6 months: less than 30 mils.</p> <p>Follow intercoat preparation requirements when applying multiple coats</p>  |
| <b>Solids Content</b>            | By Volume 100% +/- 2%  |
| <b>Theoretical Coverage Rate</b> | <p>1604 ft<sup>2</sup>/gal at 1.0 mils (39.4 m<sup>2</sup>/l at 25 microns)</p> <p>80 ft<sup>2</sup>/gal at 20.0 mils (2.0 m<sup>2</sup>/l at 500 microns)</p> <p>53 ft<sup>2</sup>/gal at 30.0 mils (1.3 m<sup>2</sup>/l at 750 microns)</p> <p>Allow for loss in mixing and application.</p>   |
| <b>VOC Values</b>                | <b>As Supplied</b> : 0 g/L   |
| <b>Dry Temp. Resistance</b>      | <p>Continuous: 300°F (149°C)</p> <p>Non-Continuous: 400°F (204°C)</p> <p>Discoloration and loss of gloss occurs above 200°F (93°C) but does not affect performance</p>   |

## SUBSTRATES & SURFACE PREPARATION

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| <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>           | <b>Immersion:</b> 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.  |
| <b>Stainless Steel</b> | <b>Immersion:</b> Prepare by abrasive blasting to SSPC SP-17 Thorough Abrasive Blast to a minimum of 3 mils (75 microns) dense angular anchor profile.<br><br><b>Wet FGD Stacks/Ductwork:</b> For special applications involving Duplex 2205 stainless steel used in wet FGD applications, prepare by abrasive blasting to SSPC-SP 17 Thorough Abrasive Blast to a minimum of 2 mils (50 microns) dense angular anchor profile.                               |
| <b>Concrete or CMU</b> | 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

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| <b>Mixing</b>   | 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. |
| <b>Thinning</b> | Thinning not normally required<br><br>Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.  |
| <b>Ratio</b>    | A:B 4:1  |
| <b>Pot Life</b> | 35 °F (2 °C): 30-40 minutes<br>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.

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| <b>Application Procedure</b> | Use a fixed ratio (4:1 by volume) plural component spray rig such as Graco XP-50/70 series, WIWA 230/333 Duomix series, or equal with heated hoppers and heated hose bundle to the remote mix manifold. A 12-element static mixer from the mixer manifold with 3/8" I.D. x 10-15 feet of whip hose, another 6-element or 12-element static mixer, and finally 3-10 feet of either 1/4" I.D. or 3/8" I.D whip hose to the airless spray gun (Graco XTR 7, Graco Flex Plus, WIWA 500 F, Binks 75M, or equal, utilizing self-cleaning reverse "a" tips from 0.019" to 0.035"). See equipment specifications for more details.<br><br>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.<br><br>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. |
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## APPLICATION PROCEDURES

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| <b>General</b>       | <p><u>Lining Repair:</u><br/>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.</p>   |
| <b>Airless Spray</b> | <p>This product requires a heated plural component airless spray proportioner. Immediately before applying spray coat, stripe all welds and edges to assure adequate protection of these areas.<br/>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) ).<br/>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.</p> |
| <b>Mixing</b>        | <p><u>For touch-up only:</u><br/>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.<br/>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.</p>   |

## APPLICATION CONDITIONS

| Condition | Surface      | Ambient      | Humidity |
|-----------|--------------|--------------|----------|
| Minimum   | 35°F (2°C)   | 35°F (2°C)   | 0%       |
| Maximum   | 125°F (52°C) | 110°F (43°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. Epoxies may form an amine blush under some conditions. Blush must be removed before coating or using 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.

## CLEANUP & SAFETY

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| <b>Ventilation</b> | 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.  |
| <b>Caution</b>     | 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

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|---|---|
| <b>Packaging</b>                          | <b>1 Gallon Kit:</b><br>Part A: 0.8 Gallons<br>Part B: 0.2 Gallons<br><b>5 Gallon Kit:</b><br>Part A: 4 Gallons<br>Part B: 1 Gallon<br><b>20 Gallon Kit: (Made-to-Order ONLY)</b><br>Part A: 4 x 4 Gallons<br>Part B: 1 x 4 Gallons |
| <b>Shelf Life</b>                         | Part A: 24 months<br>Part B: 24 months  |
| <b>Storage Temperature &amp; Humidity</b> | 40-110°F (4-43°C)<br>For 24-48 hours just prior to use narrow the storage temperature to 70-85 °F (21-29 °C) to facilitate ease of mixing   |
| <b>Storage</b>                            | Store indoors   |
| <b>Shipping Weight (Approximate)</b>      | 5 Gallon Kit - 59 lbs (27 kg)   |
| <b>Flash Point (Setaflash)</b>            | Part A: 201 °F (94 °C)<br>Part B: 222 °F (106 °C)   |

## **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.