

PRODUCT DESCRIPTION

PLASITE 9084 is a high solids modified novolac epoxy cured with a polyamine curing agent. Designed specifically as a highly chemical resistant coating.

USES/APPLICATIONS

- Tank lining
- Internal surfaces of duct work and industrial maintenance coating
- Sulfuric acid resistance properties meet the requirements of secondary containment

TEMPERATURE RESISTANCE

Dry film basis is 400°F/204°C for short periods; 250°F/121°C continuous. Immersion temperatures depend on particular reagent.

CHEMICAL RESISTANCE

PLASITE 9084 has excellent chemical resistance to a wide range of acids, alkalies and solvents.

COLORS

PLASITE 9084 is offered in white, light gray and black.

PACKAGING

PLASITE 9084 is available in one and five gallon kits that include the following:

One gallon kits include:

- 1 1 gallon can of Part A
- 1 1 quart can of Part B

Five gallon kits include:

- 1 5 gallon bucket of Part A
- 1 3 gallon can of Part B

FILM THICKNESS

A 6-7 mil/150-175 microns film is easily produced in one multi-pass spray coat.

COVERAGE

The theoretical coverage of PLASITE 9084 is 1,347 mil sq. ft./gal. For estimating purposes, 83 sq. ft./gal. will produce a 13 mil/325 microns film (20% loss included). Two to three coats will produce a 12-15 mil/300-375 microns film for immersion service.

PHYSICAL SPECIFICATIONS

***Abrasion Resistance:**.....60.5 milligrams
Average loss per 1000 cycles, Taber CS-17 Wheel, 1000 gram weight.

***Surface Hardness:**.....Konig Pendulum(Glass; (ASTM Method D4366-84) Standard = 250 seconds)

Pigments:.....Titanium dioxide, iron oxide black, inert fillers and tinting colors.

Solids:.....90% ± 2% by weight; 84% ± 2% by volume.

Pot Life:.....Approximately 2 hours @ 70°F/21°C
Pot life may be shorter at higher temperatures.

Shelf Life:.....12 months @ 70°F/21°C.

Shipping Weight:.....Approximately 13 lbs./gal.

Mixing Ratio:.....1 part of curing agent to 3 parts of coating material by volume.

Flame Spread Index:.....15 - ASTM 84-90 Method

Smoke Spread Index:.....25 - ASTM 84-90 Method

Thermal Shock:.....Unaffected 5 cycles
minus 70°F/21°C to plus
200°F/93°C.

Gloss:.....70 @ 60°

***Note:** Above tests were conducted on film cured at 150°F/66°C.

THINNERS

PLASITE Thinner #71 is a medium fast thinner and is to be used under most conditions. It will always be necessary to thin the coating. The applicator must make exact thinner adjustments based on his equipment and air and surface temperatures. The following thinning guidelines are approximate.

Normal application temperatures and conditions will require the addition of approximately 5-10% by volume with approximately 5% additional thinner added for each 5°F/3°C of increased temperature.

It is recommended that the actual amount of thinner included on each order amount to approximately 20% of the coating order.

CLEANUP THINNER: Thinner #71

VOC CONTENT

Coating as Supplied (Determined Theoretically)		Thinned 10% by Volume with PLASITE Thinner #71 (Determined Theoretically)		
Colors	Lbs./Gal.	g/L	Lbs./Gal.	g/L
White & Lt Gray	1.10 ± 2%	132 ± 2%	1.60 ± 2%	192 ± 2%

VOC content varies between colors. Contact Carboline's Technical Service Department for VOC of specific colors.

STORAGE CONDITIONS

Store all components between 50-75°F/10-24°C in a dry area. Keep out of direct sunlight. Avoid excessive heat and do not freeze. The shelf life is 12 months in the original, unopened container.

SURFACE PREPARATION

Steel

High Temperature and Immersion Service

All sharp edges shall be ground to produce a radius and all imperfections, such as skip welds, delaminations, scabs, slivers and slag shall be corrected prior to abrasive blasting. Skip welds shall be welded solid.

Degrease surface prior to sandblasting. Organic solvents, alkaline solutions, steam, hot water with detergents or other systems that will completely remove dirt, oil, grease, etc. may be used. Used tanks may require additional decontamination.

The surface shall be blasted to an SSPC-SP5 or NACE No. 1 white metal surface using a Venturi blast nozzle supplied with 80-100 psi. An anchor pattern or "tooth" in the metal shall correspond to approximately 20-25% of the total film thickness of the coating.

Contaminated grit shall not be used for the finish work.

The blasting media used shall be a natural abrasive, steel grit or slag grit (similar or equal to BLACK BEAUTY®). These abrasives shall be sharp with a hard-cutting surface, properly graded, dry and of best quality. The media shall be of proper size to obtain the specified anchor pattern and shall be free of objectionable contaminants.

The anchor pattern shall be sharp and no evidence of a polished surface is allowed.

Remove all traces of grit and dust with a vacuum cleaner or by brushing. Care must be taken to avoid contaminating the surface with fingerprints or from detrimental material on the workers' clothes.

The surface temperature shall be maintained at a minimum of 5°F/3°C above the dew point to prevent oxidation of the surface. The coating shall be applied

within the same day that the surface has been prepared. Visible oxidation or condensation is not allowed.

Service in Corrosive Atmosphere

Degrease as described above.

SSPC-SP10 or NACE No. 2 (near white metal blast cleaning) - strong fumes and splash spill.

SSPC-SP6 or NACE No. 3 (commercial blast cleaning) - high temperature fumes.

SSPC-SP7 or NACE No. 4 (brush-off blast cleaning) - chemical atmosphere and weathering.

SSPC-SP3 (power tool cleaning) - chemical atmosphere and weathering.

When utilized, inhibitive primer should be applied as soon as possible after surface preparation.

Surface preparation for chemical atmosphere and weathering must result in a relatively rough surface. If the steel is new and this type of surface preparation does not leave a reasonably rough surface on the steel, then the heavy film system is not recommended. Depending on service conditions, film thickness requirements may be reduced. Contact Carboline's Technical Service Department for further information.

Concrete

Immersion Service

All concrete surfaces require whip blasting for immersion service. Fully cured concrete (minimum 28 day cure) must be blasted to provide a hard, firm, clean and neutral surface for coating. All concrete surfaces must be filled and sealed with the appropriate Carboline filler sealer, applied in accordance with the corresponding Carboline product data sheet. All surface imperfections, "bug holes," etc. must be completely repaired before application of PLASITE 9084.

Strong Fumes and Splash Spill

Severity of expected service will dictate proper concrete surface preparation.

APPLICATION

Mixing

The curing agent and resin are supplied in separate containers at a 3:1 ratio. For splitting purposes, use one part curing agent to 3 parts resin by volume. Thoroughly mix resin, then add curing agent slowly and mix completely with resin. PLASITE Thinner #71 may be added before curing agent to extend pot life.

Spray

All spray equipment should be thoroughly cleaned and the hose, in particular, should be free of old paint film and other contaminants.

August 2003 replaces May 2003

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.

Use standard production-type spray guns:

GUN	FLUID	AIR
DeVilbiss JGA-510	E	797
Binks #2001	66-SS	63-PB
Graco P800	04	02

When airless spray equipment is used, the recommended liquid pressure is 1500-1800 psi with tip size from 0.015-0.021 inches. Thinning requirements are more than for conventional spray.

Air supply shall be uncontaminated. Adjust air pressure to approximately 50 lbs. at the gun and provide 5-10 lbs. of pot pressure. Adjust spray gun first by opening liquid valve and then adjusting air valve to give an 8-12 inch wide spray pattern with best possible atomization.

Apply a "mist" bonding pass.

Allow to dry approximately one minute but not long enough to allow film to completely dry.

Apply crisscross multi-passes, moving gun at fairly rapid rate, maintaining a wet appearing film. Fast multi-passes may be applied until you have a film thickness of approximately 6-7 mil/150-175 microns (approximately 7-9 mil/175-225 microns). Repeat this procedure for the second coat to obtain a 12-15 mil/300-375 microns DFT.

Overcoat time will vary both with temperature and ventilation and will require 10-12 hours at 70°F/21°C for enclosed spaces. Less time is required for exteriors. Remove all overspray by dry brushing or scraping if required.

Equipment must be thoroughly cleaned immediately after use with PLASITE thinner to prevent the setting of the coating.

Note: Prior to spray application, stripe brush all welds, attachments and surface irregularities using PLASITE 9084 thinned a minimum of 50% by volume with PLASITE Thinner #71.

CURING

Surface will normally be tack-free in 10-12 hours at 70°F/21°C.

Normally, polymerization and curing will take place in 5 days at 90°F/32°C, 7 days at 70°F/21°C or 14 days at 50°F/10°C. This coating should not be applied when air temperature or temperature of surface to be coated is below 50°F/10°C.

Force curing at elevated temperatures does increase resistance to certain exposures; therefore, when exposure is severe, force curing is recommended to obtain maximum resistance.

Listed below are a few curing schedules that may be used for time and work planning. Prior to raising the metal to the force curing temperature, it is necessary that an air dry time of 2-5 hours at temperatures from 70-100°F/21°-38°C be allowed. After the air dry period has elapsed, the temperature should be raised by approximately 30°F/18°C each 30 minutes until the desired force curing temperatures are reached.

METAL TEMPERATURE	CURING TIME	METAL TEMPERATURE	CURING TIME
130°F/54°C	18 Hrs	170°F/77°C	3 ½ Hrs
140°F/60°C	10 Hrs	180°F/82°C	2 ½ Hrs
150°F/66°C	6 Hrs	190°F/88°C	2 Hrs
160°F/71°C	4 ½ Hrs	200°F/93°C	1 ¾ Hrs

Final cure may be checked by exposing coated surface to MIBK for ten minutes. If no dissolving and only minor softening of film occurs, the curing can be considered complete. The film should reharden after exposure if cured.

INSPECTION

Degree of surface preparation shall conform to appropriate specification as outlined in SURFACE PREPARATION section. Film thickness of each coat and total dry film thickness of coating system shall be determined with a nondestructive magnetic gauge properly calibrated. Refer to Plasite Bulletin PA-3 for inspection requirements.

RECOMMENDATIONS

- Apply only on a clean, sound, properly prepared substrate.
- Minimum ambient, material and surface temperatures are 50°F/10°C at the time of application.
- Maximum ambient, material and surface temperatures are 110°F/43°C, 90°F/32°C and 125°F/52°C respectively, at the time of application.
- Relative humidity should be between 0-80%.
- 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 or acetone is recommended for clean up of the PLASITE 9084 material.
- Before handling and application of this material consult the MSDS sheets. As with any product, those handling PLASITE 9084 materials should employ proper safety practice. Hypersensitive persons should wear protective clothing, gloves, and use protective cream on any exposed areas.

August 2003 replaces May 2003

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.

PLASITE® 9084

- When PLASITE 9084 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 9084 are available upon request.
- Specific information regarding the chemical resistance of PLASITE 9084 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.

This data sheet provides standard information on the coating and application procedure. Since varying conditions may not be covered, consult with your local sales representative or Carboline's Technical Service Department for a detailed application and inspection procedure.

SAFETY **READ THIS NOTICE** **SAFETY AND MISCELLANEOUS EQUIPMENT**

For tank lining work or enclosed spaces, it is recommended that the operator provide himself with clean coveralls and rubber soled shoes and observe good personal hygiene. Certain personnel may be sensitive to various types of resins which may cause dermatitis.

THE SOLVENT IN THIS COATING IS FLAMMABLE AND CARE AS DEMANDED BY GOOD PRACTICE, OSHA, STATE AND LOCAL SAFETY CODES, ETC. MUST BE FOLLOWED CLOSELY. Keep away from heat, sparks and open flame and use necessary safety equipment, such as, air mask, explosion-proof electrical equipment, non-sparking tools and ladders, etc. Avoid contact with skin and breathing of vapor or spray mist. When working in tanks, rooms and other enclosed spaces, adequate ventilation must be provided. Refer to Plasite Bulletin PA-3. Keep out of the reach of children.

CAUTION - Read and follow all caution statements on this product data sheet, material safety data sheet and container label for this product.



350 Hanley Industrial Court, St. Louis, MO 63144-1599
314/644-1000 314/644-4617 (fax) www.carboline.com

An **RPM** Company

August 2003 replaces May 2003

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.