

TYPE

A high solids modified epoxy cured with a polyamine curing agent. Formulated with particular attention to chemical resistance and ease of handling.

INTENDED USE

As an industrial tank lining.

TEMPERATURE RESISTANCE

Dry temperature basis is 350°F for short periods; 250°F continuous. Immersion temperatures depending on particular reagent.

COLORS White, Lt. Gray, Lt. Blue.

FILM THICKNESS PER COAT

A 6 to 7 mil film is easily produced in one multi-pass spray coat.

COVERAGE

1,299 mil ft²/gal. (theoretical). For estimating purposes, 80 ft²/gal. will produce a 13 mil film (20% loss included). Two to three coats will produce a 12 to 15 mil film for immersion service.

DRYING TIME

Surface will normally be tack-free in 10 to 12 hours at 70°F. Curing will take place in 5 days at 90°F, 7 days at 70°F or 14 days at 50°F. For more detailed cure information, refer to CURING section.

VOC CONTENT

Color	Coating as Supplied (Determined Theoretically)		Thinned 10% by Volume with Plasite Thinner #71 (Determined Theoretically)	
	Lbs./Gal.	g/L	Lbs./Gal.	g/L
Lt. Blue	1.25 ± 2%	150 ± 2%	1.75 ± 2%	209 ± 2%

VOC Content varies between colors. Contact Carboline Technical Service Department for VOC of specific colors.

OVERCOATING TIME

Do not exceed 130°F metal temperature for 3 hours or 14 days ambient temperature prior to applying topcoat.

THINNER

The following thinner is recommended:

PLASITE Thinner #71 — a medium fast thinner to be used under most conditions.

The amounts of thinner required will vary depending upon air and surface temperatures and application equipment. Normal application temperatures and conditions will require addition of approximately 5 to 10% by volume with approximately 5% additional thinner added for each 5°F of increased temperature.

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

CLEANUP THINNER: Thinner #71

CURING

For immersion service, curing will normally take place in 5 days at 90°F, 7 days at 70°F or 14 days at 50°F. As ventilation and other factors affect the time/cure of coatings, additional time allowance is recommended at any temperature if cure time is questioned. When exposure is severe, force curing is recommended to obtain maximum resistance.

PHYSICAL SPECIFICATIONS

Pigments: Titanium dioxide, inerts and tinting colors.

Solids: 90% ± 2% by weight; 81% ± 2% by volume.

Pot Life: Approximately 1 hour at 70°F.

Shelf Life: 24 months at 70°F.

Shipping Weight: Approximately 12.5 lbs./gallon.

Mixing Ratio: 1 part of curing agent to 5 parts of coating material by volume.

Abrasion Resistance: 67 milligrams average loss per 1000 cycles, Taber CS-17 Wheel, 1000 gram weight, white color.

Surface Hardness: Konig Pendulum Hardness of 178 seconds (Glass Standard = 250 seconds); ASTM Method D4366-84.

Thermal Shock: Unaffected 5 cycles, minus 70°F to plus 200°F.

Gloss: 80 at 60°.

CHEMICAL RESISTANCE

The following list of laboratory tests is an indication of the range of chemical resistance. These tests consist of mild steel thoroughly cured test panels coated to a film thickness of 12 to 15 mils. The panels are one-half immersed in the solution at temperatures noted for a period of one year with no detrimental effect to the coating.

Calcium Carbonate Slurry.....	100°F
Gasoline, No-Lead.....	100°F
Oil, Crude.....	210°F
Potassium Hydroxide 50%.....	150°F
Sodium Chloride 20%.....	150°F
Sodium Hydroxide 10%.....	100°F
Sodium Hydroxide 50%.....	150°F
Water.....	150°F
Xylene.....	100°F

Note: Although the chemical tests indicated show that PLASITE 9081 is unaffected by immersion as listed, it is not meant to imply an express guarantee in actual service. The service is dependent upon proper application and actual operating conditions and it is generally recommended that users confirm adaptability of the product for a specific use by their own tests.

PLASITE 9081 is classified as a relatively thin film coating and should not be used for total and continuous immersion in certain chemicals, such as those acids referred to above which have extremely high corrosion rates to mild steel and other substrates. Use in such chemical exposures should be confined to fumes and spills.

Listed below are a few curing schedules that may be used for time and work planning. When applying at temperatures of 50 to 60°F, allow 16 to 24 hours air dry time prior to raising the metal to the force curing temperature. When applying at temperatures above 60 to 70°F, allow 2 to 5 hours air dry time. After the appropriate air dry period, raise metal temperature approximately 30°F each 30 minutes until the desired force curing metal temperature is reached.

METAL TEMPERATURE	CURING TIME	METAL TEMPERATURE	CURING TIME
130°F	18 Hrs	170°F	4 Hrs
140°F	10 Hrs	180°F	3 Hrs
150°F	6 Hrs	190°F	2 ½ Hrs
160°F	5 Hrs	225°F	2 Hrs

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PLASITE® 9081

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.

SURFACE PREPARATION

Steel

High Temperature & 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 to 100 psi. An anchor pattern or "tooth" in the metal shall correspond to approximately 20 to 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, or 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 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.

Concrete

Contact Carboline for a recommendation.

Aluminum

Surface shall be clean and grease-free with a blast produced anchor pattern or "tooth" as described earlier under STEEL. In addition, the blasted surface shall be given a chemical treatment such as:

ALODINE 1200S available from Henkel Surface Tech
IRIDITE 14-2 produced by MacDermid Incorporated
OAKITE CRYSCOAT 747LTS and OAKITE CRYSCOAT
ULTRASEAL produced by Oakite Products

For immersion, blasting with sharp grit followed by the chemical surface treatment is required.

APPLICATION

Mixing

The curing agent and coating are supplied in separate containers at a 5:1 ratio. For splitting purposes, use 1 part curing agent to 5 parts coating by volume. Thoroughly mix coating, then add curing agent slowly and mix completely with coating. The coating should stand approximately 15 minutes after the curing agent has been thoroughly mixed.

Spray

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

Use standard production-type spray guns:

GUN	FLUID	AIR
DeVilbiss JGA-503	E	797
Binks #18	66-SS	63-PB
Graco P-800	04	02

When airless spray equipment is used, the recommended liquid pressure is 1500 to 1800 psi with tip size from .017" to .021". 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 10 to 15 lbs. of pot pressure. Adjust spray gun first by opening liquid valve and then adjusting air valve to give an 8" to 12" wide spray pattern with best possible atomization.

Apply a "mist" bonding pass.

Allow to dry approximately 1 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 to 7 mils (approximately 7 to 8 wet mils). Repeat this procedure for the second coat to obtain a 12 to 15 mil DFT.

Overcoat time will vary both with temperature and ventilation and will require from 10 to 12 hours at 70°F 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 9081 thinned a minimum 50% by volume with PLASITE Thinner #71.

Brush

Recommended for small areas and repairs only. Use a high quality brush, and apply a very light crisscross brush coat. Allow to dry for approximately 5 minutes. Then apply a heavy coat using a crisscross brush pattern. "Flow" the coating on rather than try to "brush out." Allow to dry tack-free. Repeat until sufficient film thickness is obtained. Normally, a film thickness of 2.5 to 3 mils can be obtained per coat by this method.

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 coating system shall be determined with a non-destructive magnetic gauge properly calibrated.

Refer to Plasite Bulletin PA-3 for inspection requirements.

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.

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