

TYPE

A combination of epoxy and polyamide type resins with selected pigments designed specifically as a chemical resistant, non-toxic odorless coating. PLASITE 9131 meets the FDA requirements for 21 CFR, 175.300 for direct aqueous food contact.

INTENDED USE

Primarily as a tank lining and equipment coating material for the chemical, food and beverage industries. When properly applied and cured, PLASITE 9131 will not impart taste or odor to such products as sugar solutions, wine, beer, meat products and similar items. This coating is resistant to the standard cleaning for sanitation purposes and will withstand normal atmospheric steam cleaning procedures. **FOR INDUSTRIAL USE ONLY!**

TEMPERATURE RESISTANCE

Dry film basis is 300°F for short periods. Continuous immersion temperatures depend on particular reagent.

COLORS White; Lt. Gray; Lt. Blue

FILM THICKNESS PER COAT

A 6 to 8 mil film is produced in one multi-pass spray coat. A film thickness of 6 to 8 mils is recommended when used as a lining for some food services such as corn syrup, liquid sugar, etc. in immersion services. Some conditions may require an additional coat or coats of 6 to 8 mils due to the aggressiveness of the service or the substrate condition. Application specifications are available for each of the service conditions that PLASITE 9131 is recommended for. Contact Carboline Technical Service Department for specific film thicknesses.

VOC CONTENT

	Coating as Supplied (ASTM Method D2369)	
Color	Lbs./Gal.	g/L
White	2.3 ± 2%	275.0 ± 2%

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

COVERAGE

1051 mil ft²/gallon ± 2% (theoretical). For estimating purposes, 105 ft²/gallon will produce an 8 mil film (20% loss included). One coat will produce a 6 to 8 mil film for some immersion services.

DRYING TIME

Surface will normally be tack-free in 8 to 10 hours at 70°F. Cure time is 5 days at 90°F or 7 days at 70°F. Some food products may require force curing of the lining. For more complete cure information, refer to CURING SECTION.

THINNERS

PLASITE 9131 is formulated to be applied without additional thinning as it is supplied. For the brushing of weld seams and unusual application conditions requiring additional thinning, use one of the following thinners:

PLASITE Thinner #71: A medium fast thinner to be used under most conditions.

PLASITE Thinner #69: A special blend of fast evaporating solvents containing no aromatic hydrocarbons.

Normal application temperatures (60 to 85°F) and conditions will not require the addition of thinner. When applying at temperatures above 85°F, use approximately 5% additional thinner for each 5°F of

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PHYSICAL SPECIFICATIONS

Pigments: Titanium dioxide, inerts and tinting color.

Solids: 77.5% ± 2% by weight; 65.5% ± 2% by volume.

Pot Life: Approximately 2 hours at 70°F. A decrease in film build and spray properties will be noted at the end of the usable pot life.

Shelf Life: 24 months at 70°F. Material in stock should be turned upside down every 3 months.

Shipping Weight: Approximately 10.3 lbs./gallon.

Abrasion Resistance: 84 milligrams average loss per 1000 cycles, Taber CS-17 Wheel, 1000 gram weight, white color.

Surface Hardness: Konig Pendulum Hardness of 168 seconds (Glass Standard = 250 seconds); ASTM Method D4366-84.

Thermal Shock: Unaffected 5 cycles, minus 70°F to plus 200°F at 25 mils DFT.

Gloss: 85 at 60°.

CHEMICAL RESISTANCE

Excellent resistance to a wide range of chemicals, water and aqueous food solutions.

PLASITE 9131, when applied as a thin film coating, should not be used for total and continuous immersion in certain chemicals, such as, those acids referred to above which have an extremely high corrosion rate to mild steel and other substrates. Use in such chemical exposure should be confined to fumes and spills.

increased temperature. It is recommended that the amount of thinner included on each order amount to approximately 5% of the coating order.

CLEANUP THINNER: Thinner #71

CURING

Normally, polymerization and curing will take place in 5 days at 90°F or 7 days at 70°F. This coating should not be applied when air temperature or temperature of surface to be coated is below 50°F. Within 24 hours after coating is applied, a minimum substrate temperature of 70°F is required for proper polymerization. Some food products may require force curing of the lining.

Force curing at elevated temperature is desirable for certain exposures. Where coating is to be subject to immersion in high temperature solutions, wine, beer and other severe exposures, it is recommended that the curing temperature be at 150 to 225°F. In order to insure the complete removal of solvents and odor, force curing is generally recommended when coating is to be used in aqueous food service.

Listed below are a few curing schedules that may be used for time and work planning. The temperature should be raised approximately 30°F each 30 minutes until the desired force curing metal temperatures are reached.

METAL TEMPERATURE	CURING TIME	METAL TEMPERATURE	CURING TIME
150°F	8 Hrs	200°F	5 Hrs
175°F	6 Hrs	225°F	4 Hrs

PLASITE® 9131

Meets FDA Requirements

Polyamide Cured Epoxy Coating

Final cure may be checked by exposing coated surface to MIBK for 10 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. Steel 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. (A minimum anchor profile depth of 3 mils is required for linings of 20 mils and above.) 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.

Concrete

All concrete surfaces require whip blasting for immersion service. Fully cured concrete must be blasted to provide a hard, firm, clean and neutral surface for coating. All concrete surfaces must be filled and sealed with SEMSTONE 9029, applied in accordance with the appropriate SEMSTONE product data sheet. All surface imperfections, "bug holes," etc. must be completely repaired before application of PLASITE 9131.

When coating system requires food or potable water service or any service where FDA compliance is required, refer to SEMSTONE product data sheet 9029.

Galvanized Surface

The surface shall be clean, grease-free and properly etched with a standard solution such as Galvaprep® 5 (as produced by Henkel Surface Technologies) or a phosphating solution. After the surface is properly etched, it should be thoroughly rinsed with water and thoroughly dried prior to the coating application. No inhibitive primer is required providing the galvanized surface is continuous.

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 74LTLS and OAKITE CRYSCOAT ULTRASEAL produced by Oakite Products

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

Note: On metallic surfaces prepared only by chemical etching, the total coating film thickness applied should be restricted to only half the film normally applied to blasted surfaces. This reduced film thickness should be considered during selection of the coating for the service and the type of surface preparation performed.

Wood, Transite and Similar Surfaces

Normally, these materials need no surface treatment provided they are free of grease, oil and dirt and they are dry. It is generally recommended that the first coat be diluted one part of recommended PLASITE thinner to one part of material and brush applied.

APPLICATION

Mixing

The curing agent and coating are supplied in separate containers at an 8.5:1 ratio. For splitting purposes, use 1 part curing agent to 8.5 parts coating by volume. Thoroughly mix coating, then add curing agent slowly and mix completely with coating.

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-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 to 1800 psi with tip size from .017" to .025".

Air supply shall be uncontaminated. Adjust air pressure to approximately 50 lbs. at the gun and provide 5 to 10 lbs. of pot pressure. Adjust spray gun by first 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 and 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 to 8 mils (approximately 9 to 12 wet mils). Repeat this procedure if a second or third coat is required.

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 9131 thinned a minimum of 50% by volume with PLASITE Thinner #71 or PLASITE Thinner #69.

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

Refer to PLASITE Bulletin PA-3, Section 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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