

**TYPE**

A combination of epoxy and polyamide type resins with selected pigments designed specifically as a chemical resistant, non-toxic odorless coating.

**INTENDED USE**

Primarily as a tank lining and equipment coating material for the food and beverage industries. When properly applied and force cured, PLASITE 9083 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. PLASITE 9083 meets the FDA requirements for 21 CFR, 175.300 for direct aqueous food contact.

**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 4 to 6 mil film is produced in one multi-pass spray coat. 8 to 12 mils is recommended when used as a lining for immersion services.

**COVERAGE**

1176 mil ft<sup>2</sup>/gal (theoretical). For estimating purposes, 94 ft<sup>2</sup>/gal will produce a 10 mil film (20% loss included). Two coats will produce an 8 to 12 mil film for immersion service.

**VOC CONTENT**

Color	Coating as Supplied (ASTM Method D2369)		Thinned 10% by Volume with Plasite Thinner #71 (Determined Theoretically)	
	Lbs./Gal.	g/L	Lbs./Gal.	g/L
White	1.72 ± 2%	205.3 ± 2%	2.18 ± 2%	260.2 ± 2%

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

**DRYING TIME**

Surface will normally be tack-free in 8 to 10 hours at 70°F. Curing will take place in 5 days at 90°F or 7 days at 70°F. Force curing may be required to prevent possible taste and odor pickup by sensitive food products. Refer to CURING section for more information.

**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.

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 to 15% thinner 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

August 2003 replaces May 2003

**PHYSICAL SPECIFICATIONS**

**Pigments:** Titanium dioxide, inerts and tinting color.

**Solids:** 84.3% ± 2% by weight; 73.3% ± 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 12.5 lbs/gallon.

**Mixing Ratio:** 1 part of curing agent to 4 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 141 seconds (Glass Standard = 250 seconds); ASTM Method D4366-84.

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

**Gloss:** 87 at 60°.

**CHEMICAL RESISTANCE**

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

**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. Force curing may be required for the PLASITE 9083 when used in taste sensitive immersion service.

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 170 to 200°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. Prior to raising the metal to the force curing temperature, it is necessary that an air dry time of 2 to 5 hours at temperatures from 70 to 100°F be allowed. After the air dry period has elapsed, the temperature should be raised approximately 30°F each 30 minutes until the desired force curing metal temperatures are reached.

METAL TEMPERATURE	CURING TIME
150°F	8 Hrs
175°F	6 Hrs
200°F	5 Hrs
225°F	4 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 reharder after exposure if cured.

# PLASITE® 9083

## 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, 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

Contact Carboline for a recommendation.

### Galvanized Surface

The surface shall be clean and grease-free and properly etched with a standard solution such as Galvaprep® 5 (as produced by Henkel Surface Technologies, Madison Heights, MI) 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 747LTS 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.

## APPLICATION

### Mixing

The curing agent and coating are supplied in separate containers at a 4:1 ratio. For splitting purposes, use 1 part curing agent to 4 parts August 2003 replaces May 2003

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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-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.

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 4 to 6 mils (approximately 5 to 7 wet mils). Repeat this procedure for the second coat to obtain an 8 to 12 mil DFT for immersion service conditions.

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 with Plasite thinner immediately after use to prevent the setting of the coating.

**Note:** Prior to application, stripe brush all welds, attachments and surface irregularities using PLASITE 9083 thinned a minimum of 50% by volume of 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 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.