product data

carboline®

PLASITE® 9122

Formerly PLASGUARD 9122
Includes PLASITE 9122 HAR, 9122 TFE

PRODUCT DESCRIPTION
A cross linked epoxy-phenolic cured with a polyamine curing agent. Formulated with particular attention to wide chemical resistance and ease of handling.

USES/APPLICATIONS
- PLASITE 9122 – As a tank lining and for industrial maintenance.
- PLASITE 9122HAR – As a tank lining and for industrial maintenance where additional abrasion resistance is required.
- PLASITE 9122TFE – As a tank lining and for industrial maintenance where release properties are required to reduce or avoid product sticking, hang-up and bridging problems.

APPROVALS/CERTIFICATIONS
- All PLASITE 9122 systems meet the FDA requirements for 21 CFR 175.300.

TEMPERATURE RESISTANCE
Dry film basis is 350°F/176°C for short periods; 300°F/148°C continuous. Immersion temperatures depend on particular reagent.

CHEMICAL RESISTANCE
PLASITE 9122 systems have excellent chemical resistance to a wide range of acids, alkalies and solvents.

COLORS
PLASITE 9122 systems are offered in light gray, white and light blue.

Note: Special colors may not meet FDA requirements; consult Carboline Technical Service Department.

PACKAGING
PLASITE 9122 is available in one and five gallon kits that include the following:

One gallon kits include:
1 1 gallon can Part A
1 1 quart can Part B

Five gallon kits include:
1 5 gallon bucket Part A
1 1 gallon can Part B

PHYSICAL SPECIFICATIONS

Solids:.....85.7% ± 2% by weight
75.1% ± 2% by volume
Pot Life (Approximately):.....4-6 hours @ 70°F/21°C
Shelf Life:.....24 months @ 70°F/21°C

Note: Material shock should be turned upside down every 3 months.

Shipping Weight:

PLASITE 9122:.....Approx. 13 lbs./gal.
PLASITE 9122HAR:.....Approx. 13.2 lbs./gal.
PLASITE 9122TFE:.....Approx. 12.2 lbs./gal.

Abrasion Resistance:

PLASITE 9122:.....77 milligrams
PLASITE 9122HAR:.....19.9 milligrams
PLASITE 9122TFE:.....40.9 milligrams
average loss per 1000 cycles, Taber CS-17 Wheel, 1000 gram weight.

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

PLASITE 9122:.....135 seconds
PLASITE 9122HAR:.....135 seconds
PLASITE 9122TFE:.....108 seconds

Thermal Shock: Unaffected 5 cycles minus 70°F/-56°C to plus 200°F/93°C.

Gloss:

PLASITE 9122:.....70 @ 60°
PLASITE 9122HAR:.....60 @ 60°
PLASITE 9122TFE:.....65 @ 60°

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

COVERAGE
The theoretical coverage of PLASITE 9122 is 1205 mil sq. ft./gal. For estimating purposes, a 12-15 mil/300-350 micron film will yield 71.4 sq ft/gal (20% loss included). Two multi-pass spray coats will produce a 12-15 mil/300-350 microns DFT film recommended for immersion service.

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161P/289P/290P

THINNERS
PLASITE Thinner #71, a medium fast thinner to be used under most conditions, is recommended.

The amounts of thinner required will vary depending on air and surface temperatures and application equipment. Normal application temperatures and conditions will require the addition of approximately 5 to 10% thinner by volume with approximately 5% additional thinner added for each 5°F/3°C 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

VOC CONTENT

System	Coating as Supplied (ASTM Method D2369)		Thinned 10% by Volume with PLASITE Thinner #71 (Determined Theoretically)	
Lt. Gray	**Lbs./Gal.**	**g/L**	**Lbs./Gal.**	**g/L**
9122	1.33 ± 2%	159 ± 2%	1.83 ± 2%	219 ± 2%
9122 HAR	1.33 ± 2%	159 ± 2%	1.83 ± 2%	219 ± 2%
9122 TFE	1.33 ± 2%	159 ± 2%	1.83 ± 2%	219 ± 2%

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 24 months in the original, unopened container.

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/NACE No. 1 white metal surface for immersion service or an SSPC-SP10/NACE No. 2 near white metal surface for strong fumes and splash spill non-immersion service 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
Consult Carboline for use over concrete surfaces.

Galvanized Surface
Consult Carboline Technical Service.

Aluminum
Refer to Steel. In addition, the blasted surface shall be given a chemical treatment such as:

ALODINE® 1200S available from
Henkel Surface Technologies
32100 Stephenson Highway
Madison Heights, MI 48071

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IRIDITE® 14-2 produced by
MacDermid Incorporated
245 Freight Street
Waterbury, CT 06702

OAKITE® CRYSCOAT 747LTS
and
OAKITE® CRYSCOAT ULTRASEAL
Produced by Oakite Products
50 Valley Road
Berkeley Heights, NJ 07922

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 the selection of the coating for the service and the type of surface preparation performed.

APPLICATION

Mixing

The curing agent is in a separate container and measured for the resin unit supplied. Thoroughly mix the pigments. After the pigment and liquid are thoroughly mixed, add the measured liquid curing agent slowly and mix completely with the resin. The coating should stand approximately 45 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 1500-1800 psi with tip size from 0.017-0.021 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 inches 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. Observe the coating surface; when it appears to be flowing together, you will have an average 4-5 mil/100-150 microns wet film. By allowing the solvents to flash-off for a few minutes, several more fast multi-passes may be applied until you have a film thickness of approximately 6-7 mil/150-175 microns (approximately 7-8 wet mil/175-200 microns). Repeat this procedure for the second coat to obtain a 12-15 mil/300-350 microns DFT.

Overcoat time will vary both with temperature and ventilation and will require from 8-12 hours at 70°F/21°C for enclosed spaces. Less time will be 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 9122 systems thinned a minimum of 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 2.5-3 mil/62-75 microns can be obtained be coat by this method.

CURING

Surface will normally be tack-free in 4-6 hours at 70°F/21°C.

Normally, polymerization and curing will take place in 7 days at 70°F/21°C. This coating should not be applied when air temperature or temperature of surface to be coated is below 50°F/10°C. Within 24 hours after coating is applied, a minimum substrate temperature of 70°F/21°C is required for proper polymerization. PLASITE 9122 systems should be force cured for all taste sensitive immersion services.

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/21-37°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.

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.

METAL TEMPERATURE	CURING TIME
150°F/66°C	12 Hrs
175°F/79°C	6 Hrs
200°F/93°C	4 Hrs

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, Section 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 90°F/32°C, 90°F/32°C and 90°F/32°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 a Carboline Technical Service engineer if conditions are not within recommended guidelines.

PRECAUTIONS

- PLASITE Thinner #71 or acetone is recommended for clean up of the PLASITE 9122 material.
- Before handling and application of this material consult the MSDS sheets. As with any product, those handling PLASITE 9122 materials should employ proper safety practice. Hypersensitive persons should wear protective clothing, gloves, and use protective cream on any exposed areas.
- When PLASITE 9122 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 9122 are available upon request.
- Specific information regarding the chemical resistance of PLASITE 9122 can be found by contacting Carboline's Technical Service Department.

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.

- 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

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