Thermaline 2977

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Silicone alkyd zinc primer
Description	A heat resistant primer for use on steel substrates that may reach up to 800°F (426°C).
Features	• Excellent “hot” application characteristics, may be applied over hot substrates up to 300°F (149°C) • Will air dry “tack free” at ambient but will remain soft until heat curing has been achieved • Typically topcoated with a silicone or modified silicone finish
Color	Gray (0700)
Finish	Flat
Dry Film Thickness	64 microns (2.5 mils) per coat
Solids Content	By Volume 49% +/- 2%
Theoretical Coverage Rate	19.3 m²/l at 25 microns (786 ft²/gal at 1.0 mils) 7.7 m²/l at 62 microns (314 ft²/gal at 2.5 mils) Allow for loss in mixing and application.
VOC Values	**As Supplied** : 3.7 lbs/gal. (443 g/l) Thinner 235 : 12.8 oz/gal: 4.0 lbs/gal (480 g/l)
Dry Temp. Resistance	Continuous: 427°C (800°F)
Limitations	Do not exceed recommended thickness.
Topcoats	May be topcoated with silicone and silicone modified finishes.

SUBSTRATES & SURFACE PREPARATION

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
Steel	Abrasive blast to SSPC-SP 10 with a 0.5-1.0 (13-25 micron) surface profile. For spot repair or touch up, power tool clean to SSPC-SP3, SSPC-SP11 or SSPC-SP15.

MIXING & THINNING

Mixing	Thoroughly mix zinc dust into 2977 base before use. Keep agitated.
Thinning	May be thinned up to 12.8 oz./gal (10%) with Thinner #235 for “hot” application exceeding 150°F (65°C). Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
Pot Life	Use within 2 days after mixing in zinc dust.

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application (General) | The following spray equipment has been found suitable for application of this material. Conventional spray application is preferred.

Conventional Spray | Use DeVilbiss P-MBC, E-needle and tip, and a 704 air cap or equal. Use adequate air volume for proper equipment operation. Hold gun 10-12” from the surface and at right angles. Lap each pass 50%. Apply 6.0 wet mils to obtain desired dry film.

Brush & Roller (General) | Recommended for touch up of small areas or where spray application is not permitted. Avoid excessive re-brushing or re-rolling.

Brush | Use a medium bristle brush.

Roller | Use a short-nap mohair roller cover with phenolic core.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	13°C (55°F)	4°C (40°F)	4°C (40°F)	0%
Maximum	35°C (95°F)	149°C (300°F)	49°C (120°F)	90%

Industry standards are for substrate temperatures to be above the dew point. This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Topcoat w/ Other Finishes	Final Cure
25°C (77°F)	1 Hour	4 Hours	NR
149°C (300°F)	NR	NR	3 Hours

These times are based on a 2.0 mil (50 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. If the final cure times have been exceeded, the surface must be abraded by sweep blasting prior to the application of additional coats. ***Note:**Heat cure at 3 hours.

CLEANUP & SAFETY

Cleanup | Use Thinner #2. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety | Read and follow all caution statements on this Product Data Sheet and on the SDS for this product. Employ normal workmanlike safety precautions. .

CLEANUP & SAFETY

Ventilation	When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved respirator.
Caution	This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workers should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	Min. 24 months at 77°F (25°C) *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
Shipping Weight (Approximate)	**3.44 Gallon Kit** Base = 38 lbs. Zinc dust = 15 lbs.
Storage Temperature & Humidity	40° - 100°F (4°-43°C)
Flash Point (Setaflash)	80°F (26°C)
Storage	Store Indoors

WARRANTY

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 to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. 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. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.