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MANUFACTURERS OF THE FINEST INDUSTRIAL FINISHES

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WILKOPON HS PRIMER ZINC RICH WILKO NO. 349.23

PRODUCT DESCRIPTION: No. 349.23 Wilkopon HS Primer Zinc Rich is a three component epoxy polyamide coating. It provides excellent protection in chemical spillage areas. This coating has the same corrosion resistance of 349.13 Wilkopon Zinc Rich, with the added properties of ease of use and longer storage stability.

PRINCIPAL USE: Recommended as a primer coating on exterior of storage tanks, structural steel and miscellaneous equipment in chemical and refinery facilities. It is an ideal primer for three coat system consisting of zinc rich primer, epoxy intermediate coat, and polyurethane topcoats.

COLOR: Gray-Green

GENERIC TYPE: Epoxy-Polyamide

COMPONENTS: Three

MIXING RATIO: 60 ounces of 349.23 to 26 ounces of 349.23B or 349.23C (cool weather) Activator AND 19# of 349.23Z Zinc Dust. All figures given below are with zinc dust added.

POT LIFE:	with 349.23B		with 349.23C	
	°F/°C	Activator	Activator	Activator
	32/0	N/R	N/R	N/R
	50/10	N/R	8 hrs	8 hrs
	70/20	12 hrs	6 hrs	6 hrs
	90/32	6 hrs	N/R	N/R

N/R = Not Recommended

WEIGHT PER GALLON: 25.7 ±.5 lbs activated

VOC: pounds/activated gallon
w/349.23B: 2.4
w/349.23C: 2.5

SOLIDS BY VOLUME: w/349.23B: 66.7 ±1 % activated
w/349.23C: 64.7 ±1 % activated

COVERAGE: sq. ft./act. gal. @ 1 mil DFT
w/349.23B: w/349.23C:
Theoretical - 1070 1038
Practical - 856 830

RECOMMENDED DRY FILM PER COAT: 2-3 mils

RECOMMENDED SUBSTRATE: Steel

TEMPERATURE RESISTANCE: 200°F continuous
250°F intermittent

RECOMMENDED PRIMER: None. Apply directly to properly cleaned metal (preferably sandblasted). For additional corrosion resistance use a chemical pretreatment if sandblasting is not feasible..

DRYING TIME (With zinc dust and the following activator:

°F/°C*	w/349.23B Activator		w/349.23C Activator	
	To Touch	To Recoat	To Touch	To Recoat
32/0	N/R	N/R	N/R	N/R
50/10	N/R	N/R	4 hrs	6 hrs
68/20	2 hrs	8 hrs	2 hrs	2 hrs
90/32	1 hr	4 hrs	N/R	N/R

*Surface and air temperatures

RECOMMENDED THINNER: Use Wilko No.1, No.13, No. 71 or No. 100 Thinner. Use No. 71 for maximum pot life or if 349.23C is used. Use the following guidelines for VOC of material after thinner is added to activated gallon:

ozs. of Thinner Added	VOC 3.3#/gal	VOC 3.5#/gal
No. 1 No. 13 or No.100	26	34
No. 71	29	38

RECOMMENDED TOPCOATS: Use only epoxy intermediate coats or topcoats. It may be recoated with epoxies or itself after 2 hours. Recoat within 72 hours.

CLEAN UP THINNER: Wilko No. 71 or MEK. Use No. 71 only when used with 349.23C Activator.

SURFACE PREPARATION: Sandblast to conform to a minimum NACE #2 surface preparation standard (Near White) as described below:

Near White Blast Cleaned Surface: Defined as a surface from which all dirt, grease, oil, paint, corrosives, mill scale, rust, oxides or other foreign matter has been removed except for light shadows and streaks or slight discoloration (oxide that is bonded with metal). At least 95% of any given surface area has the appearance of NACE #1 and remaining area is limited to slight discoloration (Comparable to SSPC-SP10-63T, Near White Blast Cleaning). Prior to Sandblasting: Round off all sharp edges and remove all weld splatter with power tools. Remove oil, grease, and other surface contaminants with suitable solvent or detergent wash. After sandblasting and before priming, remove all sand and other residue from surface with high-pressure air, lint free rag or vacuum. Sandblasted surface should not show effects of any oxidation or contamination prior to application.

RECOMMENDED APPLICATION: Airless spray with a high-volume output pump and a tip of 19 or is recommended for maximum film build.

EQUIPMENT REQUIRED: As recommended or equal
Conventional: DeVilbiss MBC-510 gun with heavy mastic spring, an E tip and a 704 air cap, or Binks 18, 62, or 69 gun with a 66 nozzle and no more than 25 feet of 1/2" ID material hose. A variable speed agitator in the pressure pot and an oil and moisture trap in the main air supply line are essential. Also, separate air and fluid pressure regulators are recommended.

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EQUIPMENT REQUIRED: (cont'd)

Airless: A Graco Bulldog 30:1, a Speedflo Alaskan PZ, or equivalent designed for zinc applications. Teflon packings are recommended for reliable pump operation. Use a fluid tip with a .017 inch orifice or larger and 1800-3000 psi fluid pressure. Use a variable speed mixer to keep the primer uniformly blended. If necessary for workability and proper deposition of a wet coat, thin, but do not overthin to avoid packing of zinc.

APPLICATION PROCEDURE:

CAUTION - To insure against the loss of, or damage to spray equipment, do not allow any material to remain in pot, pump or fluid lines when unit is not operating, except for brief periods. When an operation interruption is necessary, immediately purge the equipment of material to prevent any "zinc packing" and/or setting up of the activated material. Caution must be observed if No.349.23C (Cool Weather Activator) is used due to the short pot life.

1. Separately mix No. 349.23 Part A (Base) then slowly sift 349.23Z (dust) into Component A (liquid) while mixing. Never add liquid to dust!! For best results, strain the zinc dust through a 30-60 mesh screen while adding. Use of a power stirrer is required to assure proper dispersion of zinc. When a homogenous mixture is attained, add the 349.23B Component B or 349.23C Component C (for cool weather) and continue mixing. Always add the activator after the zinc! **CAUTION:** Heat may develop while power mixing the zinc dust into the Component A. Elevated heat in excess of 100°F may result in shorter pot life when the activator is added while Part A is warm.

2. **TECHNIQUE:** Properly adapted equipment for application of organic zinc is of the utmost importance. (see "Equipment" above). Optimum galvanic functionality of the zinc filler is accomplished by the uniform deposition of the total amount of zinc filler. Settling of the heavy particulates in the spray container will cause an imbalance of the formulation and will adversely affect performance, illustrating the need for the suspension of the zinc by frequent agitation during the application process. The applicator must deposit the atomized material as a wet film (wetness is observed briefly at high ambient temperatures) to minimize dry spray and excessive dissipation of the vehicle between nozzle and surface. Loose powder, observed by the naked eye or easily brushed off with bare hands, is an indication of improperly thinned and/or applied primer and may result in difficulty with the application of the topcoat and an early system failure. At higher temperatures (over 75°F) or under windy conditions, adjust spray equipment and/or add additional No. 37 until a wet film can be deposited at the proper film thickness. Multiple passes with spray apparatus may be necessary to get the recommended film depth, especially with conventional equipment. A wet film gauge is useful in determining the approximate dry film depth of organic zinc if used as follows: After film has set for an hour or so, as indicated by dry flat surface conditions from solvent loss, place gauge firmly on flat surface, move in scratching motion until bare metal is contacted. The imprint left by the graduated prongs indicates the approximate depth of the uncured film. Due to the high solids content and the puffy and porous nature of the coating, the reading obtained is a reasonably accurate dry film measurement of the cured organic zinc. With this type of high solids primer, minimal shrinkage will occur during completion of the cure after all the solvents have evaporated.

3. **REDUCTION:** Because of the differences in painting conditions, equipment and application techniques, adjustments in the amount of thinner used may be necessary.

Conventional and Airless Spray: May be applied without thinning. VOC will stay within 2.8 #/gal with the addition of up to 5% of appropriate thinner. **CAUTION-** Zinc will settle rapidly due to its heavy weight, and over thinning will make zinc settle faster. If the ambient temperature exceeds 85°F, reduce with No. 101 Thinner to avoid any dry overspray. Do not apply when surface temperature is less than 5°F above dew point.

4. Allow coating to cure 3-5 days at 65 - 80°F before placing into service

NOTE: The schedule for painting must be planned to include the application of material early enough to provide for at least partial cure prior to lower night time temperatures and the possibility of dew point conditions. Curing rates are accelerated by heat and are retarded by lower temperatures. Drying rates are based on 75°F. As a rule of thumb, for every 18° above 75°F, the curing rate will accelerate by approximately 100%. For every 18° below 75°F, curing rate is retarded by approximately 100%. The premature failure of fine coating systems is often experienced because of failure to acknowledge the facts related to low temperature application.

5. *Coating Organic Zinc Rich Primer:* The porous nature of zinc often causes pinholes or bubbling of the Intermediate (Tie) Coat. To eliminate bubbling of the first coat, apply a wet mist coat over surface area, allowing a short interval for solvent to escape. Follow with full wet coat, or apply a tie coat which has been reduced by 50% or more. This Tie Coat will penetrate the porous structure displacing trapped air and providing a sealed substrate for succeeding topcoat. Tie Coat should be applied to provide 3.0-5.0 mils dry film, depending on the top coat and exposure.

RESISTANCE GUIDE:

Water: Excellent resistance to fresh, salt and sea water.

Salt: Resists spillage and splash by most alkaline salt solutions in atmospheric exposures at temperatures up to 200°F.

Alkali: Resists temporary exposure to fumes splash and/or spillage of concentrated solutions at temperatures up to 150°F.

Acid: Resists fumes of non-oxidizing acids.

Alcohol: Accepts the spillage of isopropyl, ethyl and butyl alcohols.

Petroleum Distillate: Resists splash and/or spillage of gasoline, sour crude, diesel fuel, jet fuel and lubricating oil.

Adhesion: Excellent to properly prepared steel or zinc rich coated surfaces.

Weather Exposure: Will not check, crack or craze after long or severe exposure.

Chalking: Early surface chalking will occur under exterior exposure, and is a condition inherent with polyamide or amine catalyzed epoxy coatings.

Salt Spray: When topcoated with 2-3 mils DFT of Wilkopon Epoxy for a total thickness of 5-6 mils, the system will pass 2000+ hours of salt spray.

FIRST AID: If inhaled, remove to fresh air. If not breathing, administer artificial respiration.. In case of any contact with eyes, flush with plenty of water for 15 minutes and secure medical attention.

PRECAUTION: Not intended for general consumer use. This product is flammable and can cause skin and eye irritations. Keep away from sparks, heat and open flames. Avoid contact with eyes, skin and clothing. Use with adequate ventilation and avoid prolonged breathing of vapors. Wear an air supplied mask to avoid breathing concentrated vapors in enclosed areas. Keep the container closed. For additional safety information, refer to Material Safety Data Sheets.