ZincGard® 1000

Inorganic Zinc Silicate

Features

- Provides outstanding galvanic protection
- Meets Class "B" slip co-efficient and creep resistance criteria for use on bolted connection faying surfaces
- Excellent throwing power
- High zinc loading
- Outstanding undercutting resistance
- VOC Compliant
- Rapid cure
- Damage resistant film
- Very smooth cured film
- Indefinite recoat window
- May be used as a pre-construction primer

Typical Uses

ZincGard 1000 is a spray applied galvanizing, pure zinc coating that provides near permanent corrosion protection of steel as documented by the Federal Highway Administration. This technology has provided 25+ years documented field protection by the Federal Highway Administration.

ZincGard 1000 is excellent for application in industrial plants, costal, marine, offshore, and freshwater environments. Used for structural steel, steel tanks, offshore platforms, barges, refineries, power plants, railcars, pulp & paper mills and other areas as recommended. May also be used untopcoated for long-term corrosion protection as well as a tank lining for solvent immersion service.

Qualifications

ZincGard 1000 meets Class "B" requirements for slip co-efficient and creep resistance as set forth in the Specification for Structural Joints using A325 or A490 Bolts, in accordance with Research Council on Structural Connections, Appendix A.

Exceed requirements of SSPC-PS 12.00

Performance Data

Salt Spray (ASTM B 117) 7200 hours
Plane blistering or rusting: none, very slight rust
Throwing Power: Protects 2 1/2 inch uncoated area when immersed in synthetic sea salt.

Physical Data

Pencil Hardness (1 day high humidity cure):	5H
Impact resistance (ASTM D 2794)	
Direct impact	160 in-lbs.
Temperature resistance (dry)	
Continuous	750°F
Adhesion (ASTM D 4541)	2708 psi
Theoretical volume solids of mixed material (ASTM D 2697)	75% ±2%
Theoretical coverage of mixed gal. (1 mil)	1200 sq. ft
Zinc in dry film by weight	87%
Volatile Organic Content	
Unthinned	2.8 lbs./gal. 339 g/l
Reducer 1 @ 1 pint/gal.	3.3 lbs./gal. 399 g/l
Reducer 2 @ 1 pint/gal.	3.3 lbs./gal. 399 g/l
Reducer 6 @ 1 pint/gal.	2.8 lbs./gal. 339 g/l
As a preconstruction primer	
Reducer 2 @ 2 quarts/gal.	4.3 lbs./gal. 520 g/l

Substrates

ZincGard 1000 is applied directly to properly prepared steel as the primer. Direct contact with the steel substrate is required to provide optimal galvanic protection to the underlying steel surface.

Resistance

ZincGard 1000 prevents rusting of steel in a corrosive environment with a pH range of 5 to 9.

Exposure	Immersion	Splash & Spillage	Fumes
Acidic	NR	Good*	Excellent*
Alkaline	NR	Good*	Excellent*
Solvents	Excellent	Excellent	Excellent
Salt water	Excellent	Excellent	Excellent
Water	Excellent	Excellent	Excellent

NR=Not Recommended
*With suitable topcoat

Film Thickness (per coat)

Dry film thickness: 2 to 4 mils
As a preconstruction primer - Dry film thickness: ¾ mil
Wet film thickness: 4 to 6 mils
Theoretical Coverage: 400 sq. ft. @ 3 mils
As a preconstruction primer – Theoretical Coverage: 1600 sq. ft @ ¾ mil
Note: Film thickness exceeding 6 mils DFT may result in mudcracking.

Topcoats

ZincGard 1000 is a porous primer, which provides galvanic protection of the steel. The porosity must be considered when topcoating ZincGard 1000. EpoxyGrip 2000 and UreGrip 3300 are formulated to release the entrapped air in the primer during application. These topcoats are applied by thinning to their maximum recommended level and applying a uniform mist coat approximately 1/3 the recommended thickness. The mist coat is allowed to flash dry at which time the remaining thickness is applied. Consult SSPC-PS Guide 8.00 for topcoating zinc-rich primers.

ZincGard® 1000

Color

ZincGard 1000 is supplied as a yellow Part A, which, when mixed with the zinc dust, produces a dark green color contrasting with gray blasted steel. The gloss is a matte finish.

Shipping Data

Packaging unit	1 gal.	5 gal.
Part A	.73 gal.	3.65 gal.
ZincGard Filler	16 lbs.	80 lbs.
Shipping weights (approx.)		
ZincGard 1000 kit	24 lbs.	120 lbs.
	1 gal.	5 gal.
Reducer 1	8 lbs.	40 lbs.
Reducer 2	9 lbs.	45 lbs.
Reducer 6	8 lbs	40 lbs

Flash Point: (Setaflash)

Part A	58°F
Reducer 1	53°F
Reducer 2	113°F
Reducer 6	62°F

Shelf Life: 6 months for the Part A and 3 years for the Zinc Filler when stored inside at 40°F to 110°F.

Surface Preparation

Remove oil and grease from the steel surface with solvent or a commercial cleaner, which does not leave a residue, according to SSPC-SP1. Abrasive blast to a Commercial finish per SSPC-SP 6 to obtain a 1-3 mil blast profile. For immersion and high temperature service, abrasive blast to a Near-white finish per SSPC-SP 10 to obtain a 1-3 mil blast profile.

Mixing

Power mix Part A component, then slowly blend ZincGard Filler into the Part A and mix until uniform. Avoid forming a dust cloud while adding powder. Do not mix partial kits.

	1 Gal. Kit	5 Gal. Kit
ZincGard 1000 Part A	.73 gallons	3.65 gallons
ZincGard Filler	16 pounds	80 pounds

Note: The Part A forms a soft crust on the surface, which is readily dispersed with power mixing. After mixing in the zinc filler, strain through a wire screen or cheesecloth.

Thinning

Thinning is not required for most applications. However ZincGard 1000 may be thinned up to 1 pint/gal. Reducer 1 is recommended for application temperatures below 70°F and Reducer 2 is recommended for application temperatures above 70°F. Reducer 6 is recommended at up to 1 quart/gal for applications requiring 2.8lbs/gal. VOC. For preconstruction primer, thin up to 2 quarts/gal.

Pot Life

Eight hours at 75°F and less at higher temperatures. Moisture contamination will reduce the pot-life.

Applications Conditions

	Material	Surface	Ambient
Minimum	40°F	0°F	0°F
Maximum	90°F	110°F	110°F

Special thinning and application procedures are required outside these temperatures. ZincGard 1000 should be applied to a dry surface. However, condensation formed after the coating has dried will accelerate the cure.

Application Equipment

Conventional Spray: Industrial sprayers such as DeVilbiss MBC gun with 2E or 704E cap, or a Binks18 gun with a 66SSx67PB nozzle setup having a double regulated pressure pot, 3/8 " I.D. minimum material hose, 50' maximum material hose length are recommended. Moisture traps are recommended to keep moisture out of the mixed ZincGard 1000. An agitated pressure pot is recommended.
Airless Spray: Sprayer such a Graco's Bulldog with a 30:1 ratio and a .017-.021 tip is recommended. A 30 mesh inline filter is recommended.
Power Mixer: Use only explosion proof power mixers.
Brush and roller: Use medium bristle brush and short nap roller for touchup and small areas only.

Drying Time

The following minimum times are based on a 3 mil DFT and adequate air ventilation. Higher thickness and reduced air circulation increase drying times.

Surface Temperature	To Handle	To Topcoat
40°F	4 hrs.	3 days
50°F	3 hrs.	2 days
60°F	2 hrs.	1 day
70°F	1 hr.	12 hrs.
80°F	30 min.	6 hrs.
90°F	15 min.	3 hrs.

Topcoat times are based on a minimum relative humidity of 50%. Lower humidity conditions required longer cure times.

Curing Time

Surface Temperature	Immersion*
50°F	7 days
60°F	4 days
70°F	2 days
80°F	1 day

*To achieve complete cure before immersion, the relative humidity is recommended to be above 80%

Cleanup

Cleanup with Reducer 1, Reducer 2 or Reducer 6.

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CAUTION: Read and follow all caution statements on this product data sheet and on the Material Safety Data Sheet for this product.
CONTAINS FLAMMABLE SOLVENTS. Vapors are heavier than air and will accumulate. Extinguish all flames and prevent all sparks. All electrical equipment and installations should be made and grounded in accordance with the National Electrical Code. Where explosion hazards exist workers are required to use non-sparking tools and wear non-sparking shoes.
HEALTH: In confined spaces workers must wear fresh airline respirators.
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