

CODE: HR-502

PRODUCT NAME:

Inorganic Ethyl Silicate Zinc Primer

DESCRIPTION:

HR-502 is a heavy-duty two component inorganic ethyl silicate primer that with just a single coat resists severe weathering and marine environments. Its high -metallic zinc content provides a cathodic protection film with the maximum performance on structural steel , machinery, pipes and tanks exterior in paper mills , oil refineries , power plants , chemical process and waste treatment plants as well as decks , hulls and superstructures of ships , barges and workboats , offshore platforms and related structures.

As a primer with suitable topcoats, HR-502 is recommended for fumes and splash of mild alkalis, salt solutions, industrial and chemical exposure as well as marine exposure.

HR-502 can be top coated with vinyl, chlorinated rubber, poly siloxanes and epoxies. HR-502 is not recommended for spillage of acid or alkaline solutions. Its temperature resistance in dry heat is up to 400 °C when applied over steel.

TECHNICAL DATA:

Binder	Inorganic ethyl silicate resin
Pigment	Zinc dust (over than 85% in dried film)
Finish (ASTM D 523)	Flat
Shade	grey
Specific gravity after mixing (ASTM D 1475)	2.3 ± 0.1Kg/Lit
Volume solid (ASTM D 2697)	45 ± 3 %
Flash point	20 °C
Typical dry Film Thickness (ASTM D 1186)	60-75 Microns per one coat
Number of coat	Apply Only In One Coat
Mixing ratio by weight	Liquid : 30 parts Powder : 70 parts (zinc dust)
Substrate	Blasted steel
Application Method (FED.ST 141(method4331))	Conventional or airless spray, air spray
Thinner / Cleaner	T-502
Weight of added Thinner	NOT Recommended For Airless Spray 2-5% for Air spray and Brush
Induction Time(After mixing)	15-20 minutes
Theoretical spreading rate at (75 mic) (ASTM D 344)	6 M ² /Lit
Temperature resistance (ASTM D2485)	up to 400 °C
Packing	Liquid : 9 Kg Podwer : 21 Kg
Shelf life*	Powder : 18 Months liquid :6 Months

***Note:** It is dependent on storage temperature and reduces at storage temperature above 20° C. Do not store above 40 °C. Shelf life is exceeded if the liquid is gelled or if the mixed product forms gels before application.

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Drying Time (ASTM D 1640)

Touch dry	Hard dry	Over coating		Full cure
		Min	Max	
15-30 minutes	90-120 minutes	3 days	Note2	7 days

Above Specification Is Based On Mixture Of The Two Components.

(23 ± 3 °C And , min 60 ± 5 % RH.)

Note1: Drying times are dependent on applied film thickness; all data in this catalogue are reported at recommended DFT.

Note2: Several months when free from zinc salts and contamination .Zinc rich primers can form zinc salts on the surface so should not be exposed to long periods prior to overcoating.

Note3: HR-502 cured by solvent release and reaction with atmospheric moisture. The relative humidity, during the period of curing, should be minimum 60% and the minimum temperature 10°C.

Pot life (ASTM D 1849)

Temp. of paint	15± 3°C	20± 3°C	40± 3°C
Pot life	9-12 hours	6-8 hours	3-5 hours

Note: Moisture or water contamination will cause short pot life, skinning and gelling and also hardening of coating in equipment.

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SURFACE PREPARATION:

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All surfaces to be coated should be clean, dry and free from contamination.

Water wash or water wash with high pressure, as appropriate, and remove all oil or grease, soluble contaminants, and other detrimental foreign matter in accordance with SSPC-SP1 solvent cleaning.

NEWBUILDING

For optimum performance " Near White Blast Cleaning " Sa 2½ (ISO 8501-1:1988) or SSPC-SP-10 is recommended.

If oxidation has occurred between blasting and application of HR-502, the surface should be reblasted to the specified visual standard. Surface defects revealed by the blast cleaning process, should be ground, filled, or treated in the appropriate manner.

A surface profile of 40-75 microns is recommended.

- Surface preparation shall not take place in the following conditions:

- A) At temperature below 5 °C
- B) When the relative humidity greater than 85%
- C) When the metal surface temperature is less than 3 °C above the dew point
- D) Outside day light hours on exterior locations

- Apply HR-502 as soon as possible after surface preparation to prevent rusting.

Application Method

This material is a two component coating, a liquid binder base (part A) and powder component (part B) .The powder (part B) should be slowly added to the liquid binder (part A) .DO NOT ADS LIQUID TO POWDER. Material should be filtered prior to application and should be constantly agitated in the pot during spraying. Once the unit has been mixed it should be used within the working pot life specified. . Stir during application to maintain uniformity of material.

Application Equipments

Air less Spray	Tip range 0.015-0.021inch Total output pressure at spray tip not less than 112 Bar (1600 Psi)
Air Spray	Nozzle Orifice:1.8-2mm Nozzle pressure:2-4Bar (29-58 psi)
Brush	Not recommended
Roller	Not recommended

Flush Equipment with recommended Cleaner before and after use.

ENVIRONMENTAL CONDITIONS:

- To prevent moisture condensation during application, surface temperature must be at least 3 °C above the dew point.
- Never apply coatings under reverse environmental condition.
- In hot climate, material temperature should be 20 to 25 °C prior to mixing; otherwise pot life becomes very short.
- Paint shall not be applied when wind speed is in excess of 7 m/s

For satisfactory cure, air and surface temperature must be above 10 °C

Air temperature	15 to 35 °C
Surface temperature	15 to 40 °C
Material temperature	10 to 30 °C
Relative humidity	60 to 90 %

TOPCOATING

Overcoating time will vary depending upon the generic type of top coat and specific application conditions. (1) Allow to cure a minimum of 24 hours at greater than 70°F (21°C) and 60% relative humidity with good air circulation. Since cure times may vary with conditions, check for cure to accept topcoats by performing a solvent rub test in accordance with ASTM D4752. (2) Before top coating, clean surface thoroughly, removing all dirt, grease, oil and/or other contaminants. (3) Properly prepare welded or damaged areas and prime these re-cleaned areas with a suitable primer. (4) When applying topcoats a mist coat may be required. As necessary, apply a mist coat of topcoat material to help prevent solvent bubbling, followed by a full coat at proper thickness. (5) Apply only topcoats specifically recommended by Pedram Paint Group.

HEALTH AND SAFETY:

This product is Flammable. Keep away from heat and open flame .Keep container closed .Use with adequate ventilation. Avoid prolonged and repeated contact with skin. If used in confined areas, observe the following precautions to prevent hazards of fire or explosion or damage to the health:

- 1-Circulate adequate fresh air continuously during application and drying.
- 2-Use fresh air masks and explosion proof equipment.
- 3- Prohibit all flames, sparks, welding and smoking.