

CODE: HR-504

**PRODUCT NAME:**

**Silicone Zinc Rich Primer**

**DESCRIPTION:**

HR-504 is a one or two component high performance, high temperature resistant pure silicon zinc rich coating, it can be used over abrasive blast cleaned steel or may also be applied over most primers such as inorganic zinc silicate primer for Touch up.

HR-504 with excellent heat resistance, adhesion and anti-corrosive properties is recommended for industrial and marine use on exteriors of steel structures exposed to high temperatures, in chemical plants, marine structures, ships, power plants, oil production and refining plants.

Its temperature resistance in dry heat is up to 400 °C when applied one coat over steel.

**TECHNICAL DATA:**

Binder	Modified Silicone resin
Pigment	Zinc Dust
Finish ( ASTM D 523)	Flat
Color	Grey
Specific gravity (ASTM D 1475)	2.3 ± 0.1 Kg /Lit
Volume solid ( ASTM D 2697)	40± 3 %
Flash point	26 °C
Mixing ratio by weight (%)	powder (HR-504) : 100 parts Liquid : (HR-504L) : 28.3 parts
Typical dry film thickness (ASTM D 1186)	Max 25-35 Microns
Number of coat	One
Substrate	Primed steel or zinc silicate primer
Application method ( FED.ST 141( method4331))	Conventional or airless spray , brush
Thinner / Cleaner	T-504
Weight of added thinner	Max 10%
Theoretical spreading rate (at 30 microns) ( ASTM D 344)	13.3 M <sup>2</sup> /Lit
Packing	powder (HR-504) : 7.8kg Liquid : (HR-504L) : 2.2kg
Temperature Resistance (ASTM D2485)	Up to 400 °C
Shelf life	6 Months

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### Drying Time (ASTM D 1640)

Touch dry	Hard dry	<u>Over coating</u>		Full Cure condition
		Min	Max	
20-30 minutes	16-24 hours	* 24 Hours		30-60 minutes at 200°C

**Note:** Drying times are dependent on applied film thickness, all data in this catalogue

Are reported at recommended DFT

\*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 over coating.

Above Specification Is Based On Mixture Of The Two Components.

(23 ± 3 °C And 35 ± 5 % RH.)

### Pot life (ASTM D 1849)

Temp. of paint	15± 3°C	23± 3°C	40± 3°C
Pot life	9-12 hours	4-6 hours	2-3 hours

### Surface preparation

All surfaces to be coated clean dry and free from contamination. Prior to paint application all surfaces should assessed and treated in accordance with ISO 8504:1992.

Where necessary, remove weld spatter, and where required smooth weld seams and sharp edges.

Oil or grease should be removed in accordance with SSPC-SP1 solvent cleaning.

#### **Abrasive Blast cleaning**

Abrasive blast clean to Sa2 ½ (ISO 8501-1:1988) or SSPC-SP10. If oxidation has occurred between blasting and application of HR-504, the surface should be reblasted to the specified visual standard

For heavy duty systems angular surface profile of 50-75 mic is recommended.

For surfaces cured with inorganic zinc primer, this kind of paint can be used as touch up

(For surfaces that their temperature exceeds 200°C)

For surfaces with area less than 20 Cm<sup>2</sup>, power tools can be used for cleaning the surface as touch up and area surface must be cleaned and prepare in SA1. For bigger areas they must be prepared at SA2 at least.



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## Shop primed Steelwork

HR-504 is suitable for application to steelwork freshly coated with zinc silicate shop primers.

If the shop primer show extensive or widely scattered breakdown, or excessive zinc corrosion products, overall sweep blasting will be necessary. Other types of shop primer are not suitable for overcoating and will require complete removal by abrasive blast cleaning.

Weld seams and damaged areas should be cleaned to Sa2 ½(ISO 8501-1:1988) or SSPC-SP10.

-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-504 as soon as possible after surface preparation to prevent rusting.

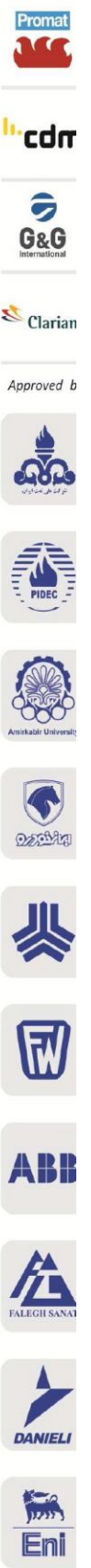
### Application Method

This material is a one component coating and should always be mixed thoroughly with a power agitator before application. Stir during application to maintain uniformity of material.

### Application Equipments

Air less Spray	Tip range 0.012-0.017 inch Pump ratio : 45/1 Air pressure : 4-6 Bar
Air Spray	Nozzle orifice 1.8-2mm Nozzle pressure: 3-5 Bar
Brush	Typically 30 mic can be achieved.
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.
- For satisfactory cure, air and surface temperature must be above 10 °C.
- Paint shall not be applied when wind speed is in excess of 7 m/s

Air temperature	15 to 35 °C
Surface temperature	15 to 40 °C
Material temperature	15 to 40 °C
Relative humidity	Max80 %

## 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.

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