



The Chemical Company

# EMACO<sup>®</sup> S40 ZR (Barrazinc SP)

Zinc rich corrosion resistant primer

## DESCRIPTION

**EMACO S40 ZR** is a zinc rich, single component, high molecular weight primer designed to provide a corrosion resistant coating on steel rebars.

The coating acts as sacrificial anode if a corrosion cell is formed, thereby protecting the substrate steel from corroding.

The primer forms a metallic grey coloured quick drying coating with matt finish.

**EMACO S40 ZR** conforms to BS 5493.

## FIELDS OF APPLICATION

**EMACO S40 ZR** is recommended for treating steel reinforcing bars in corrosive environment both in new construction and in repair situations such as :

- repair of concrete structures in marine environment.
- repair of structures exposed to corrosive environment in industries such as paper & pulp, chemicals, fruit juice, soft drink, food, sugar, fertilisers etc.,.
- repair of concrete elements in bridges, flyovers, water towers, dams, and other such critical structures.
- construction of jetties, dockyards, and other sea side structures.
- construction of concrete tanks for storing corrosive chemicals.

## FEATURES AND BENEFITS

|                                |  |
|--------------------------------|--|
| <b>Zinc rich</b>               | Acts sacrificially to prevent steel from corroding.  |
| <b>Single component system</b> | Ready to use. Easy to apply.                         |
| <b>Epoxy based</b>             | Excellent bond to steel.                             |
| <b>Thin coating</b>            | Does not affect the bond between steel and concrete. |

## TYPICAL PERFORMANCE DATA

Effect on bond strength of steel with concrete : No effect.  
(SS2: 1987, Appendix B)

Corrosion inhibition measured as : < -0.130 Volts  
half cell potential  
(ASTM C876 : 1991) *(Potentials > -0.20 V indicate absence of corrosion)*

## PROPERTIES

|                    |                 |
|--------------------|-----------------|
| Supply form        | : Thick liquid  |
| Colour             | : Metallic grey |
| Density            | : 2 kg/L        |
| Surface dry (20°C) | : 15 minutes    |
| Touch dry (20°C)   | : 30 minutes    |

## APPLICATION

Use **EMACO S40 ZR** as supplied without dilution.

### Surface preparation

Correct preparation of the steel surface is critical for optimum performance.

Surface should be sound, clean, and free from rust, loose particles, oil, grease, or any other contaminant. Expose the steel rebars around their full circumference leaving at least 20 mm gap behind the rebars. Use wet grit blasting or such other effective method to remove loose particles, oil, grease, and corrosion products.

Replace the affected parts of rebars if the diameters after grit blasting are found to be reduced by more than 20% of the original diameters.

**Note** : It is recommended that the decision on replacement of rebars is taken based on the advice of the structural engineer responsible for the works.

Prepare the surface of the rebars to a surface finish of minimum SA 2½ by abrasive blasting.

Stir the contents of **EMACO S40 ZR**. Apply onto rebars by brush or airless spray to a wet film thickness of at least 100 microns to get a dry film thickness of approximately 35 microns after curing. Ensure that no pinholes are left during application.

It is important to provide forced ventilation in confined areas during application and curing.

Patch up the repair area using a suitable dense structural repair mortar such as EMACO S166 or EMACO S188, so as to provide adequate cover all around the rebars.

### Protective coating

In high chloride and carbon dioxide laden atmosphere a flexible coating with low permeability to chlorides and carbon dioxide is strongly recommended to be applied. Consult BASF Construction Chemicals for advice on product selection and application for both repair mortar and protective coating.

## EQUIPMENT

Airless spray equipment.

### BASF Construction Chemicals offices in ASEAN

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## CLEANING

Clean the tools and equipment first with rags, then wipe off using a solvent such as acetone, methyl ethyl ketone, xylene or toluene.

## ESTIMATING DATA

The recommended coverage of **EMACO S40 ZR** is 9-10 m<sup>2</sup>/L. Actual coverage depends upon the method of application and the texture of the surface.

**Note :** The coverage area refers to that of steel surface. Therefore material requirement is approximately 0.105 L/m<sup>2</sup>.

## PACKAGING

**EMACO S40 ZR** is available in 1 L cans.

## SHELF LIFE

The shelf life of **EMACO S40 ZR** is 12 months in unopened original containers if stored in a cool place below 25°C in original tightly sealed containers. Storage at high ambient temperatures can result in a build up of pressure within containers.

## PRECAUTIONS

**Health :** **EMACO S40 ZR** contains certain chemicals which can cause skin irritation if exposed and respiratory reaction if the vapours are inhaled. Wear gloves, masks and barrier creams while handling the product. Wash thoroughly after handling.

Should skin contact occur wash immediately with soap and water, or an effective hand cleaner.

In case of accidental eye contact, wash with copious quantities of water and seek medical help immediately.

If ingested, do not induce vomiting. Consult doctor immediately.

The vapours of solvents used for cleaning can be irritating. It is therefore recommended that cleaning is done in well ventilated areas.

**Fire :** **EMACO S40 ZR** is flammable. Avoid exposure to naked flame. Do not smoke while handling the product.

**Flash point :** 7°C

For detailed Health, Safety and Environmental recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

AN/EmacoS40ZR/v2/300409

## STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

## NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF Construction Chemicals** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF Construction Chemicals**, are responsible for carrying out procedures appropriate to a specific application.