



WORK GUIDELINE No. 3

Corrosion protection of steel reinforcement

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1 Purpose and scope

The present guideline deals with the execution of corrosion protection of cleaned steel reinforcement, of subsequently installed steel reinforcement and of other steel elements to be built-in and covered by either concrete or repair mortar.

2 Reference documents

Technical Data Sheet Coat/6 for S PRIMER (Epoxy Zinc Chromate Primer)
Technical Data Sheets Adh/3 for L.A. 2S (Epoxy liquid adhesive 2S)

3 Preliminary conditions

Before applying S PRIMER or L.A. 2S to cleaned steel reinforcement the following conditions shall be fulfilled:

- The personnel employed to apply adhesive coatings shall be trained on product preparation and properties and shall be instructed in all the quality requirements related to the protective coat application;
- Both reinforcement and other steel elements to be protected from corrosion shall be clean, degreased, dry and free of rust and any other contaminants material. SA 2 ½ degree (commercial blast) for blast cleaned and ST 2 for manually cleaned surfaces are the minimum requirements;
- During the protective coat application the minimum ambient and substrate temperature shall be between 5°C and 35°.
- Mixing ratios of A and B components, either by weight or volume, shall be in strict accordance with the manufacturer's instruction, as indicated in the Technical Data Sheet;
- Mixing of components shall be carried out by a drill with helical mixer;
- During curing the protective coat must not be exposed to rain. In case that the coating is washed out, a second application shall be carried on. However, if the protective coat surface is whitish and/or of poor quality, it shall be removed by sand-blasting or mechanically with steel brushes and replaced with a new one;
- Protective coat component must be within the self-life and not damaged by frost;
- No water or solvent shall be added to the protective coat;
- At the construction site, the protective coat must be kept away from direct sun and stored in a room. The storing temperature shall be between 5 °C and 35°C. Only cans containing the same components may be piled up.

4 Handling and health protection measures

Skin contact shall be avoided by wearing impervious gloves (rubber or disposable polyethylene), and by using suitable goggles for eyes. Barrier creams such as Kerodex No. 7 may also assist in affording additional protection. Any accidentally contaminated skin areas shall be immediately cleansed with soap and water, and/or suitable resin removal cream. For eyes, flush with plenty of water and get medical treatment as soon as possible. The use of solvents to cleanse the skin shall be avoided.

5 Inspection

The inspection concerning preparation and application on protective coat shall be performed by the Engineer, Supervisor and Contractor's site representative.

6 Instructions for protective coat preparation and application

Before the application of S PRIMER or L.A. 2S, the condition of steel reinforcement and eventual deep corrosion cuts in the bars and reduction of their cross-section shall be inspected by both client's supervisor (Engineer) and contractor's representative.

6.1 Technical information

See SINIT Technical Data Sheet Coat/6 for S PRIMER (Epoxy Zinc Chromate Primer)

See SINIT Technical Data Sheet Adh/3 for L.A. 2S (Epoxy Liquid Adhesive 2S)

6.2 Material preparation

See SINIT Technical Data Sheet Coat/6 for S PRIMER (Epoxy Zinc Chromate Primer)

See SINIT Technical Data Sheet Adh/3 for L.A. 2S (Epoxy Liquid Adhesive 2S)

6.3 Application

See SINIT Technical Data Sheet Coat/6 for S PRIMER (Epoxy Zinc Chromate Primer)

See SINIT Technical Data Sheet Adh/3 for L.A. 2S (Epoxy Liquid Adhesive 2S)

The prepared protective coat shall be applied to clean and dry reinforcement by brush or spray. Special attention shall be paid to a thorough and complete protective coat application behind the steel reinforcement.

Remove by brush any sagging.

Overcoating between 1 and 12 hours, depending on temperature.

Second coat of S PRIMER, when still tacky, shall be strewed with dry silica sand (0.3 – 0.8 mm) to improve the adhesion of the cement mortar to be applied later on.

In case of utilisation of L.A.2S, if the cement mortar can not be applied on the freshly applied L.A.2S (tacky conditions), the freshly applied L.A. 2S shall be strewed with dry silica sand (0.3 – 0.8 mm) to improve the adhesion of the cement mortar to be applied later on (see Work Guideline no. 4).

All the protective coats shall be applied in uniform thicknesses.

The protective coat can be applied, in a uniform thickness, by brush, roller or spray techniques with a consumption varying from 0.150 to 0.200 kg/m² for S PRIMER, and from 0.250 to 0.450 kg/m² for L.A.2S depending on surface conditions.