Protectosil® WA CIT

Water based corrosion inhibitor suited for mass modification of steel reinforced concretes or concrete repair materials

Technical Data

<table>
<thead>
<tr>
<th>Properties and test methods</th>
<th>Value</th>
<th>Unit</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>white liquid</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Active content</td>
<td>50 %</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>pH (20°C)</td>
<td>9.5 - 11.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Density (20 °C)</td>
<td>approx. 1 g/cm³</td>
<td>DIN 51757</td>
<td></td>
</tr>
</tbody>
</table>

Registration

Protectosil® WA CIT

- EINECS/ELINCS (EU): Yes
- AICS (Australia): No
- DSL/NDSL (Canada): *
- PICCS (Philippines): Yes
- TSCA (USA): Yes
- IECSC (P.R. China): *
- ENCS (Japan): Yes
- ECL (South Korea): No

* = Information upon request

Protectosil® WA CIT is a waterborne emulsion which is based on a multifunctional silane system specially designed to protect embedded steel rebars against corrosion caused by chlorides. As part of the concrete mix design, Protectosil® WA CIT is homogeneously distributed throughout the concrete, thereby offering an effective protection against chloride induced corrosion.

Properties and Use

- Chemically bonds to rebar surface and cement matrix
- Effectively protects embedded steel reinforcement against chloride induced corrosion
- Reduces the drying shrinkage of concrete
- Essentially free of volatile organic compounds (VOC)

Protectosil® WA CIT is preferably designed for:

- Steel reinforced concrete
- Prefabricated concrete elements
- Two component concrete repair mortars according to EN 1504-2 or EN 1504-7
- Shotcrete
- Building materials which are exposed to high chloride environments, such as sea water or de-icing salts (e.g. marine constructions, harbours, parking garages, tunnel or highways)

Safety and Handling

Before considering the use of Protectosil® products please read its Safety Data Sheet (SDS) thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use. The Safety Data Sheet is available on our website www.protectosil.com or upon request from your local representative, customer service or from Evonik Resource Efficiency GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.
## Packaging and Storage

Protectosil® WA CIT is supplied in 25 kg (canister), 200 kg (drum) and 920 kg (IBC) containers. Protectosil® WA CIT is not frost resistant and should be stored at temperatures between 4°C and 40°C. Protectosil® WA CIT has a shelf life of 12 months if properly stored in originally sealed packages.

### Processing

The recommended dosage of Protectosil® WA CIT in concrete is in the range of 1.0 – 2.0 % based on the cement weight in the concrete mix design. In terms of other cement based materials such as e.g. dry mix mortar we recommend to use 0.2 - 0.5 % by mass on the total dry formulation.

Protectosil® WA CIT should be added directly to the concrete mixture during the mixing procedure. It is highly recommended to check interaction with other auxiliaries or additives in advance.

Studies performed at the Swiss Society for Corrosion protection have proven Protectosil® WA CIT to be highly effective in protecting steel reinforced concrete against corrosion. In addition to that, Protectosil® WA CIT decreases the drying shrinkage of concrete. In some cases Protectosil® WA CIT can slightly decrease the early strength development of concrete, but this effect levels off over time.

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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride ion content</td>
<td>max. 0.1 % by mass</td>
</tr>
<tr>
<td>Alkali content</td>
<td>max. 0.5 % by mass</td>
</tr>
<tr>
<td>Corrosion behaviour</td>
<td>passed</td>
</tr>
<tr>
<td>Compressive strength</td>
<td>passed</td>
</tr>
<tr>
<td>Capillary absorption</td>
<td>passed</td>
</tr>
<tr>
<td>Air content</td>
<td>passed</td>
</tr>
</tbody>
</table>

Protectosil® WA CIT is a water-resistant admixture for concrete.

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