WHERE TO USE
Thanks to its hydrophobising properties, Planiseal WR 85 Gel is particularly recommended for protecting all reinforced concrete structures exposed to aggressive agents, such as chlorides, and against damage caused by freeze-thaw cycles. Thanks to its special formulation, Planiseal WR 85 Gel may be applied on both vertical and horizontal surfaces of porous and compact concrete without slumping, directly on the surface of new concrete, on the surface of repaired concrete and on concrete with no evident signs of detachment from the steel reinforcement.

Some application examples
- Piles and abutments on bridges and viaducts.
- Floor slabs.
- Structures in marine environments such as quaysides, jetties, etc.
- Precast reinforced concrete structures.
- Front edges of balconies.
- Stringcourses.
- Concrete floors.
- Foundations.
- Prefabricated structures (buffer panels, beams, columns, etc.).
- Internal and external reinforced concrete structures in general.

TECHNICAL CHARACTERISTICS
Planiseal WR 85 Gel is a silane-based thixotropic gel with high penetration capacity according to a formulation developed by the MAPEI Research & Development laboratories and is used to protect reinforced concrete.

Thanks to its special composition, Planiseal WR 85 Gel penetrates deep down into concrete through capillary action and forms a protective, hydrophobic coating that protects concrete against deterioration. The product does not form any skin or film on the treated surface, nor modifies its colour or appearance. Even though the breathability of substrates is not affected, Planiseal WR 85 Gel drastically reduces the water and chlorides absorption rate and, thanks to this property, prevents corrosion of the steel reinforcement. Furthermore, the product prevents freeze-thaw cycles and de-icing salts from deteriorating new and repaired concrete and increases its durability.

Planiseal WR 85 Gel complies with Euronorm EN 1504-9 (“Products and systems for the protection and repair of concrete structures: definitions, requirements, quality control and conformity assessment. General principles for the use of products and systems”) and the requirements of EN 1504-2 (“Concrete surface protection systems”) according to principles PI, MC and IR for class: H - hydrophobic impregnation: surface protection products.

RECOMMENDATIONS
- Do not add water or solvent to Planiseal WR 85 Gel during the preparation phase.
- Do not apply to the surface of concrete in direct contact with drinking water.
- Do not apply the product if the surrounding temperature is lower than +5°C.
- Protect adjacent surfaces, including metal, glass and wood. Immediately remove all accidental splashes with water or ethanol.
Application of the product

Make sure the surface of the concrete is not frozen and that rain or a drop in temperature to below +5°C is forecast for at least 12 hours after application. The depth that Planiseal WR 85 Gel penetrates into concrete depends on the absorption capacity of the concrete. The product may be applied in a single coat with a roller or by high-pressure airless spray. Protect the product from rain for at least 12 hours after application. The product dries completely after 1 to 2 weeks, depending on the type of substrate, the surrounding temperature and the surrounding conditions in general. Do not apply Planiseal WR 85 Gel on substrates that are not sufficiently cured; areas that are still moist could limit the spread of the product deep down into the concrete. Contact MAPEI Technical Services for advice regarding application on substrates or in conditions not mentioned in this Data Sheet.

PRECAUTIONS TO BE TAKEN DURING APPLICATION

- Do not apply Planiseal WR 85 Gel if it is about to rain or if rain is forecast within 12 hours of application.

APPLICATION PROCEDURE

Preparation of the substrate

Concrete must be well cured, sound, and clean and free of all traces of oil, grease, cement laitance, old paint and any other material or substance that could prevent Planiseal WR 85 Gel from penetrating deep down into the concrete. When treating the surface of old concrete, the cleaning method adopted depends on the type of dirt or stain to be removed. The recommended method to clean surfaces is by hydro-blasting with high-pressure water jets to open the pores in the surface and thus facilitate the penetration of the product. Hydro-blasting with hot water is particularly effective in removing oil and grease. If there are no stains or dirt, or if the concrete is not particularly compact, blowing the surface down with compressed air is usually sufficient. Before applying Planiseal WR 85 Gel wait until surfaces are dry.

Preparation of the product

Planiseal WR 85 Gel is supplied ready to use and must not be diluted with water or solvent. The product may be applied directly from its packaging after shaking it well so that it has a uniform consistency.

A sample of concrete produced with a water/cement ratio of 0.7 is fully impregnated by Planiseal WR 85 Gel. The black arrows indicate the way the product was applied on the sample.
Planiseal WR 85 Gel: ready-mixed, hydrophobising, protective, migrating, silane-based thixotropic gel applied to the surface of reinforced concrete structures, compliant with Euronorm EN 1504-9 (H) principles PI, MC and IR

### TECHNICAL DATA (typical values)

#### PRODUCT IDENTITY

<table>
<thead>
<tr>
<th>Consistency:</th>
<th>thixotropic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>transparent</td>
</tr>
</tbody>
</table>

#### Density (g/m³):

0.90

#### Dry substance content (%):

98

#### APPLICATION DATA (at +20°C - 50% R.H.)

<table>
<thead>
<tr>
<th>Application temperature:</th>
<th>+5°C to +35°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilution rate:</td>
<td>ready to use</td>
</tr>
</tbody>
</table>

#### FINAL PERFORMANCE

<table>
<thead>
<tr>
<th>Performance characteristic</th>
<th>Test method</th>
<th>Requirements according to EN 1504</th>
<th>Performance of product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penetration depth:</td>
<td>EN 1504-2 (table 3, n. 19)</td>
<td>Class I: &lt; 10 mm Class II: ≥ 10 mm</td>
<td>Class II: &gt; 10 mm</td>
</tr>
<tr>
<td>Water absorption and resistance to alkalis:</td>
<td>EN 13580</td>
<td>Absorption rate &lt; 7.5% compared with untreated test sample</td>
<td>5.6%</td>
</tr>
<tr>
<td>Drying speed coefficient:</td>
<td>EN 13579</td>
<td>Class I: &gt; 30% Class II: &gt; 10%</td>
<td>42% (Class I)</td>
</tr>
<tr>
<td>Loss in mass after freeze-thaw cycles with de-icing salts:</td>
<td>EN 13581</td>
<td>The loss in mass at the surface of the impregnated test sample must take place at least 20 cycles after the non-impregnated test sample</td>
<td>∆ cycles &gt; 20</td>
</tr>
<tr>
<td>Reduction in chloride ion diffusion:</td>
<td>NT Build 515</td>
<td>/</td>
<td>70%</td>
</tr>
<tr>
<td>Hazardous substances:</td>
<td>EN 1504-2, 5.3</td>
<td>/</td>
<td>compliant</td>
</tr>
</tbody>
</table>

- Apply at a temperature of +5°C to +35°C.
- Do not apply the product in strong winds.
- Protect from freezing weather.
- Do not apply the product on wet or damp concrete.
- Do not apply on hot surfaces exposed to direct sunlight.

### PACKAGING

Planiseal WR 85 Gel is available in 5 kg drums.

### STORAGE

Planiseal WR 85 Gel may be stored for 12 months in its original packaging in a covered, dry area. Store the product in an area with a temperature of +5°C to +35°C.

### SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Planiseal WR 85 Gel is corrosive and may cause burns and damage to the eyes. When applying the product it is recommend to wear protective gloves and goggles and to take the usual precautions for handling chemicals. If the product comes in contact with the eyes...
or skin wash immediately with plenty of water and seek medical attention.
For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING
Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

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All relevant references for the product are available upon request and from www.mapei.com