



WATERPROOFING

APPLICATIONS

CIVIL ENGINEERING

PARKING DECKS

# ALSAN CIVIL HD

SYSTEM SHEET 211124SCANE

(supersedes -)

## DESCRIPTION

ALSAN CIVIL HD is a high-performance PMMA-based liquid waterproofing system. It is used for parking decks and civil engineering works, such as concrete or steel bridges and overpasses. It also meets the AREMA North American Ballast Test standard for railway structures.

## SYSTEM COMPONENTS

- ALSAN CIVIL Z71 is a two-component PMMA-based microcrack filler.
- ALSAN CIVIL P70 is a two-component translucent PMMA-based primer.
- ALSAN CIVIL 773\* is a two-component PMMA-based resin used as a waterproofing membrane for details, upstands, and horizontal surfaces.

OR

ALSAN CIVIL 773 SP\* is a three-component PMMA-based spray resin used as a waterproofing membrane for details, upstands, and horizontal surfaces.

\* The resin is available in two colours, blue and grey, in order to easily distinguish the application between coats. SOPREMA recommends to start working with the blue resin, since it will accentuate the effect of contrast on the selected substrate.

## SURFACE PREPARATION

### Preparation of Concrete Surfaces:

1. Before the installation of the coating system, the concrete must be completely cured (28 days) with a minimum hardness of 24 MPa (3,500 psi). The substrate must be clean, sound, dry and free of loose materials, grease, laitance, and any other contaminants that may affect the performance of the product.
2. The concrete surface must be prepared so that it is equivalent to the ICRI CSP Profiles 3, 4, or 5. The steel shot blasting method is recommended to obtain these profiles and eliminate any trace of contamination on the surface.
3. The concrete substrate must have a maximum moisture content of 5% (ASTM F2659) or 1.5 kg/100 m<sup>2</sup> in 24 h (ASTM F 1869) or an internal relative humidity content of 75% (ASTM F2170).
4. Cracks larger than 1.6 mm (1/16 in) but no more than 3 mm (1/8 in) in width must be repaired using ALSAN CIVIL Z71.
5. If necessary, larger concrete repairs can be done using a mixture of ALSAN CIVIL P70 and silica sand following the instructions below:
  - The crack or surface to be repaired must be clean, sound, dry and free of loose materials, grease, laitance, and any other contaminants that may affect the performance of the product.
  - The contact surface must be coated with ALSAN CIVIL P70 catalyzed resin without the addition of silica sand.
  - Then prepare a batch of ALSAN CIVIL P70 in which silica sand will be incorporated. SOPREMA suggests one part of resin for two parts (by volume) of sand (ratio = 1:2).

**Note:** The proportions of the mixture can vary according to the preferences of the applicator. The size of the sand can also vary and thus affect the state of the mixture. Finer sand will result in a smoother finish, while coarser sand will result in a grainier finish.

- Apply the mixture to the surface previously coated with ALSAN CIVIL P70 resin (still wet) using a spatula or any other tool allowing the applicator to obtain an even surface levelled with the surrounding surfaces.

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## SURFACE PREPARATION *(Following)*

**Limitations:** - For repairs of more than one square foot, the maximum working depth must not exceed 12 mm (1/2 in).

- If the repair to be carried out represents more than a square foot and more than 12 mm (1/2 in) in depth, a successive number of coats must be applied, always limiting each application to 12 mm (1/2 in). There is no limit as to the number of layers that can be applied one after another. The respective curing time of the previous layer must, however, be respected before proceeding with the application of the next layer.
- If the repair area reaches a depth of less than 12 mm (1/2 in), there will be no limitation in terms of the extent of the area to be repaired.

### Preparation of Steel Surfaces:

1. The substrate must be clean, sound, dry and free of loose materials, grease, and any other contaminants that may affect the performance of the product. The surface must be cleaned using non-greasy solvents, such as acetone or methyl ethyl ketone (MEK).
2. Surface preparation for steel substrates must meet the SSPC-SP10 Standard.

**Note:** The surface profile must allow sufficient adhesion for ALSAN CIVIL P70 to steel surfaces; a wind uplift resistance test according to the ASTM D4541 Standard can be carried out to validate the proper adhesion of the primer to the surface.

## SYSTEM APPLICATION

PRIMER

ALSAN CIVIL P70

1. Once surface preparation is complete, prime the surface using **ALSAN CIVIL P70**.

Using a low-speed mechanical stirrer (200 to 400 rpm), thoroughly mix the entire contents of the resin container for **2 to 3 minutes** before each use, and before pouring the resin into a second container if you perform a batch mix.

Add **ALSAN RS CATALYST POWDER** to the amount of resin that can be used in the next **10 to 15 minutes**. Add pre-measured **ALSAN RS CATALYST POWDER** to the resin component, stir for **2 to 3 minutes** and apply to the substrate.

Refer to the *Catalyst Mixing Chart* for additional information on the product data sheet.

Apply a coat of **ALSAN CIVIL P70** to a wet film thickness of **560 µm (22 mils)** using a roller or a flat squeegee.

The pot life of the mixture is 15 minutes at 23 °C (73 °F).



**NOTE:** The temperature of the concrete or steel substrate must be at least **3 °C** above the dew point during application and during the entire curing process



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WATERPROOFING MEMBRANE

ALSAN CIVIL 773

- 2.A. When the **ALSAN CIVIL P70** primer is completely cured, apply the **ALSAN CIVIL 773** waterproofing membrane.
- Using a low-speed mechanical stirrer (200 to 400 rpm), thoroughly mix the entire contents of the resin container for 2 to 3 minutes before each use, and before pouring the resin into a second container if you perform a batch mix.
- Add **ALSAN RS CATALYST POWDER** to the amount of resin that can be used in the next 10 to 15 minutes. Add pre-measured **ALSAN RS CATALYST POWDER** to the resin component, stir for 2 to 3 minutes and apply to the substrate.
- Refer to the *Catalyst Mixing Chart* for additional information on the product data sheet.
- Apply a coat of **ALSAN CIVIL 773** to a wet film thickness of **2 000 µm (80 mils)** using a roller or a flat squeegee.
- Wait 60 minutes at 20 °C (68 °F) before applying a second coat of **1 000 µm (40 mils)** in thickness. The surface coat must be smooth and even.
- The pot life of the mixture is 18 minutes at 23 °C (73 °F).

OR

ALSAN CIVIL 773 SP

- 2.B. When the **ALSAN CIVIL P70** primer is completely cured, apply the **ALSAN CIVIL 773 SP** waterproofing membrane.
- Using a low-speed mechanical stirrer (200 to 400 rpm), independently mix the contents of **Part A** and that of **Part B** for 2 to 3 minutes.
- Add pre-measured **ALSAN RS CATALYST POWDER** to the contents of **Part A** and stir for 2 to 3 minutes.
- Refer to the *Catalyst Mixing Chart* for additional information on the product data sheet.
- Install the multi-component spraying equipment at a volume ratio of 1:1 on **Part A** and **Part B**.
- Spray apply a coat of **ALSAN CIVIL 773 SP** to a wet film thickness of **2 000 µm (80 mils)**.
- Wait 60 minutes at 20 °C (68 °F) before applying a second coat of **1 000 µm (40 mils)** in thickness. The surface layer must be smooth and even.
- The pot life of the mixture is 12 minutes at 23 °C (73 °F).

TOPCOAT

BITUMINOUS COATING

3. When the **ALSAN CIVIL 773** or **ALSAN CIVIL 773 SP** waterproofing membrane is completely cured, apply a bonding agent before carrying on with the application of bituminous concrete.
- The use of a PG64-28-type bituminous bonding agent on the liquid waterproofing membrane is required before the application of the bituminous concrete.
- Follow the manufacturers' recommendations to apply the selected bonding agent and topcoat.
- The temperature of the bituminous concrete during installation must reach at least 140 °C (284 °F) at the point of contact with the membrane.

FOR COMPLETE INFORMATION ON PRODUCT INSTALLATION, PLEASE CONSULT YOUR SOPREMA REPRESENTATIVE.



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