



WATERPROOFING

APPLICATIONS

CIVIL ENGINEERING

PARKING DECKS

ALSAN CIVIL 773

TECHNICAL DATA SHEET 230620SCANE

(Supersedes 230424SCANE)

DESCRIPTION

ALSAN CIVIL 773 is a two-component polymethyl methacrylate-based (PMMA) waterproofing liquid membrane. It's flexible at low temperature and is used as a fleeceless waterproofing system. ALSAN CIVIL 773 is used as a waterproofing membrane for bridges, parking decks and other civil engineering structures.

Mixed with the thickening agent ALSAN TF 801, ALSAN CIVIL 773 can also be used to seal details, upstands, vertical concrete and steel structures.

RECOMMENDED SUBSTRATE

ALSAN CIVIL 773 is used on concrete and steel surfaces previously primed with ALSAN CIVIL P70.

SURFACE PREPARATION

Preparation of concrete surfaces:

1. Concrete must be cured (at least 28 days) with a minimum hardness of 24 MPa (3,500 psi). Substrate should be clean, sound, dry and free of loose materials, grease and any contaminants which may compromise the performance of the product.
2. The concrete surface must be prepared so as to obtain a surface profile (CSP) of 3 or 4 of the *International Concrete Repair Institute* (ICRI). In order to obtain these profiles, shot blasting with steel balls is recommended.
3. The concrete substrate must have a maximum moisture content of 5% (ASTM F2659) or 1.5 kg/100 m²/24 h (ASTM F1869) or an internal content of 75% relative humidity (ASTM F2170).
4. Once the preparation of the concrete surface has been completed, proceed to priming the surface with ALSAN CIVIL P70.

Note: - The substrate temperature must be at least 3°C above the dew point during application and curing.

- Protect all surfaces that are not intended to receive ALSAN CIVIL 773.

Preparation of steel surfaces:

1. Surface preparation for steel substrates must meet standard SSPC-SP10.
2. Once the preparation of the steel surface has been completed, proceed to priming the surface with ALSAN CIVIL P70.

Note: The surface profile must allow sufficient adhesion of ALSAN CIVIL P70 to steel; a pull-off strength test according to ASTM D4541 may be done to confirm proper adhesion of the primer to the surface.

APPLICATION

Mixing for horizontal application:

1. Using a slow-speed (200 to 400 rpm) mechanical agitator, thoroughly mix the entire contents of the resin container for 2-3 minutes before each use (pour the resin into a second container if you are mixing in a batch).
2. Add ALSAN RS CATALYST POWDER only to the amount of resin that can be used in the next 10 to 15 minutes. Add premeasured ALSAN RS CATALYST POWDER to the resin component, stir for 2-3 minutes and apply to the substrate. Refer to Quantity of ALSAN RS CATALYST POWDER to add to ALSAN CIVIL 773 chart for additional information.

Horizontal application:

1. After mixing, apply a coat of ALSAN CIVIL 773 with a minimum wet film thickness of 2 mm (80 mils) on the previously primed substrate. The resin should be spread evenly onto the surface using a roller or a squeegee.
2. Wait 60 minutes at 20 °C (68 °F) before applying a second layer with a minimum wet film thickness of 1 mm (40 mils). A wet film gauge must be used to determine the applied product thickness.



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Mixing for vertical application:

1. Add ALSAN TF 801 to the previously mixed resin (before adding ALSAN RS CATALYST POWDER) according to *Quantity of Alsan TF 801 to add to Alsan Civil 773* chart.
2. While stirring with a mechanical stirrer at low speed (200 to 400 rpm), slowly pour the quantity of ALSAN TF 801 into the resin. Addition should take about 15 seconds to avoid lumps from forming.
3. Stir for 2-3 minutes before adding ALSAN RS CATALYST POWDER.
Note: ALSAN RS CATALYST POWDER must be measured according to the volume excluding ALSAN TF 801.

Vertical application:

1. Using a brush or trowel, apply a coat of **ALSAN CIVIL 773** with a minimum wet film thickness of 2 or 3 mm (80 or 120 mils) depending on the system selected for the project. The resin should be evenly distributed over the surface. A wet film gauge must be used to determine the applied product thickness.

Application temperatures:

-25 °C to 35 °C (-13 °F to 95 °F). Please contact a SOPREMA representative for applications at temperatures below 0°C (32°F) and above 35°C (95°F).

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

Quantity of ALSAN RS CATALYST POWDER to add to ALSAN CIVIL 773

Temperature range	ALSAN RS CATALYST quantity ⁽¹⁾	ALSAN RS CATALYST quantity <i>per kg of resin</i>	ALSAN RS CATALYST quantity <i>per liter of resin</i>	ALSAN RS CATALYST quantity <i>per 20 kg container</i>
20 °C to 35 °C (68 °F to 95 °F)	2 %	20 g	23 g	400 g
5 °C to 20 °C (41 °F to 68 °F)	4 %	40 g	46 g	800 g
-25 °C ⁽²⁾ to 5 °C (-13 °F ⁽²⁾ to 41 °F)	6 %	60 g	70 g	1 200 g

(1) Percentage of resin mass.

(2) For applications at temperatures below 0°C, please contact your SOPREMA representative.

Quantity of ALSAN TF 801 to add to ALSAN CIVIL 773

Mass ratio	4 % ⁽¹⁾	
	<i>Per kg of ALSAN CIVIL 773</i> 40 g	<i>Per 20 kg container of ALSAN CIVIL 773</i> 800 g
Volume ratio	1 : 0.75	
	<i>Per liter of ALSAN CIVIL 773</i> 750 ml (1.5 SOPREMA cup)	<i>Per 20 kg container of ALSAN CIVIL 773</i> 12.93 L (1 ALSAN TF 801 container)

(All values are nominal)

(1) Percentage of resin mass.

* All SOPREMA recommendations are based on tests performed in a controlled environment at 20 °C (68 °F). To achieve the same workability, the rate of addition of ALSAN TF 801 should be lower when temperatures are colder, and higher when temperatures are warmer. The same concept can be applied to manipulate the viscosity according to the applicator's preferences.



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PACKAGING

Specifications	ALSAN CIVIL 773	
Physical state	Thick liquid	
Colour	Grey or Blue	
Density at 23 °C (73 °F)	1.16 kg/L	
Packaging	17.24 L (20 kg)	
Coverage ⁽¹⁾	40 mils 80 mils	14.8 m ² (160 ft ²) 7.4 m ² (80 ft ²)

(All values are nominal)

(1) All coverage rates are approximate and may vary due to the application technique and surface roughness.

REACTION TIME

At ambient temperature (23 °C [73 °F])	
Pot life	18 minutes
Rain proof after	30 minutes
Cure time	1 hour

* The pot life depends on the ambient temperature and will be reduced at high temperatures. A higher percentage of catalyst will also reduce pot life.

The minimum hardening time is approximate and may vary. The actual hardening speed must be established in the field, depending on the actual conditions of the site.

PROPERTIES

Property	Standards	ALSAN CIVIL 773
Elongation at break	ASTM D412	180%
Tensile strength	ASTM D412	12.4 MPa
Hardness (<i>Shore D</i>)	ASTM D2240	40-45
Tear resistance on concrete	ASTM D7234	> 2.0 MPa
Tear resistance to steel	ASTM D4541	> 2.0 MPa
Low temperature crack-bridging (-26°C, 3.2mm / -15°F, 1/8")	ASTM C1305	no crack
Resistance to chloride ion penetration	ASTM C1202	Negligible penetration
Water vapor transmission	ASTM E96 <i>Method B</i>	0.2 perms
Peel-off strength	<i>Internal method</i>	6000 N/m
Extensibility after heat aging	ASTM C1522	1/4", no crack



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PROPERTIES (Following)

Property	Standards	ALSAN CIVIL 773
Adhesion-in-peel after water immersion (on concrete)	ASTM C794	Pass
Chemical resistance (water, ethylene glycol, mineral spirits)	ASTM D471 According to ASTM C957	Pass
Weathering resistance/accelerated aging	ASTM C957	Pass
Abrasion resistance (CS-17, 1 kg, 1000 cycles)	ASTM C501	36 mg
Dynamic ballast resistance (2 million cycles, AREMA)	AREMA North American Ballast test	Pass
Volume resistivity	ASTM D257	1.0×10^{14} ohm·cm ²
Surface resistivity	ASTM D257	1.8×10^{15} ohms ²
Continuity verification	ASTM D4787 Modified ⁽¹⁾	Pass – No discontinuities

(All values are nominal)

(1) ASTM D4787 modifications: The conductivity has been evaluated on metal sheets instead of concrete slabs with a maximum voltage of 15 000 V.

CLEANING

Tools and equipment can be cleaned with ALSAN RS CLEANER.

STORAGE AND HANDLING

Always store the product indoors on pallets in a well-ventilated environment, at temperatures ranging from 0°C to 25°C, away from heat, open flames, ignition sources, direct sunlight, and oxidizing agents. If storing the product temporarily outside for a very short period of time, cover it with a reflective tarp that allows for air circulation. The shelf life is approximately 12 months from the date of shipment when properly stored in its original container.

For more information, refer to the instructions on the container label and relevant safety data sheet (SDS).



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