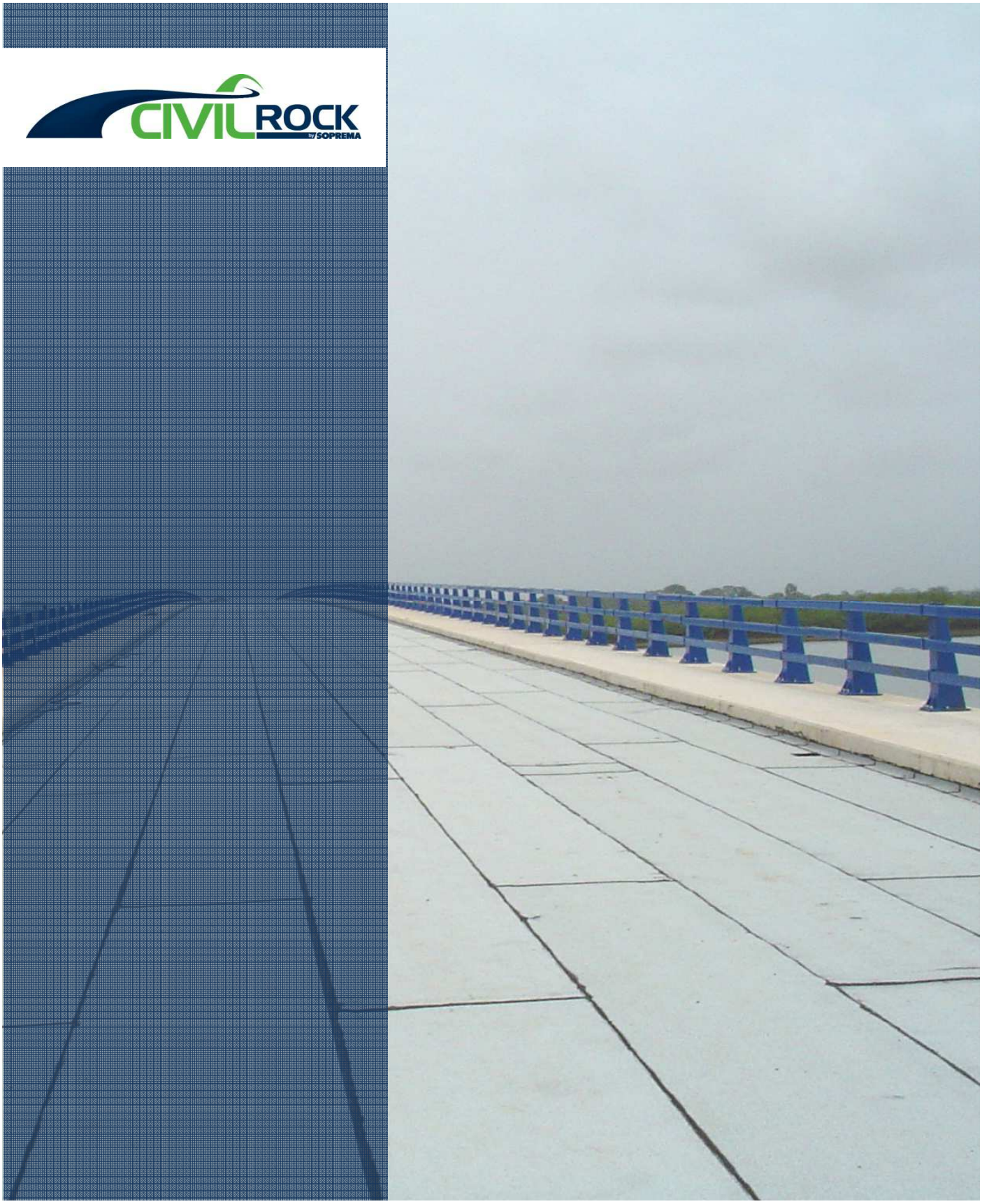


BRIDGES AND CAR PARK DECKS
WATERPROOFING WITH ANTIROCK BRIDGE
March 2017

INSTALLATION GUIDE

Summary

1. Introduction

1.1. Object

This installation guide defines the conditions of work, of installation and the quality controls of the waterproofing membrane **ANTIROCK BRIDGE**. This membrane is used to waterproof bridges and car parks decks under asphalt.
This system may be used for all types of circulation : high and low traffic, railways, car parks…

The installation and composition of the **ANTIROCK BRIDGE** deck Waterproofing System shall be as stated in the BBA HAPAS Certificate and this Method Statement.

Installation of the System shall only be carried out by Authorised Contractors trained and approved by **Soprema Group**.

A programme of work shall be agreed with the Highway Authority/Client prior to commencement of installation. Requirements for the provision of sufficient working area, plant, safety and, if required, protection to the waterproofing system shall be agreed. Work by other contractors shall be sufficiently complete not to delay the installation or leave the waterproofing system vulnerable to damage.

This guide defines all tasks necessary for the good installation as :

- Possible preparation of the substrate with epoxy based mortal **ALSAN EP 120**
- Installation of the primer **ELASTOCOL 500 TP** or **AQUADERE TP**
- Installation of waterproofing membrane **ANTIROCK BRIDGE**
- Installation of upstands with membrane or with resin **FLASHING TP**
- Installation of the overlay with asphalt, concrete or sand

The accessories are also determined (joints, rainwater pipes, drainage…).

1.2. Presentation of the waterproofing system

The waterproofing system ANTIROCK Bridge is composed of single layer and adhesive bituminous membranes in the following order :

- One layer of liquid primer **ELASTOCOL 500 TP** or **AQUADERE TP**
- A bituminous membrane **ANTIROCK Bridge** of 4 mm on protections, autoprotected by slate chippings, the membranes are supplied in rolls of 8 m x 1 m or jumbo rolls of 200 m x 1 m

The asphalt overlays and protects the membrane with a minimum thickness of 7 cm (in one or more layers).

2. Preparation and substrate

2.1. Study of preparation

All concrete deck preparation shall be carried out to provide a sound substrate. The preparation method shall be approved by the Highway Authority/Client.

The system can be used on concrete decks with a Class U4 (in accordance with the MCHW, Volume 1, Clause 1708.4) formed or tamped concrete-surface finish
Concrete must be at least 28 days old (or minimum 14 days where agreed with the purchaser), with a maximum surface moisture content of 7%.

2.2. Preparation of the substrate

The areas where the waterproofing system is to be installed shall be clearly defined by the Highway Authority/Client prior to commencement of work on-site.

Where deemed necessary by the Authorised Contractor and prior any installation, imperfections in the concrete bridge deck shall be reinstated with a material compatible with the system as agreed in consultation with the Authorised Contractor. For punctual repair, the use of the epoxy base mortar **ALSAN EP 120** is possible.

Following the preparation work and prior to the installation of the waterproofing system, the bridge deck shall be inspected and approved by the Authorised Contractor to ensure the preparatory works are satisfactory.

The preparation of the substrate is an essential step for a successful installation for the **ANTIROCK BRIDGE** waterproofing system.

All surfaces shall be dry and free from ice, frost, oil, grease, curing compounds, shutter release oils, loose particles, moss, algae growth, laitance, friable matter, bitumen, asphalt, dirt and all other contaminants.

To obtain the good surface, concrete should be grit blasted on horizontal zones, or prepared on the others zones in order to get rid of all non-cohesive material and to make sure of his regularity.

In case there is a long time between the preparation and the implementation of the waterproofing, it is important to maintain a clean substrate (particularly when the primer **AQUADERE TP** is used).

The cleaning with high water pressure is not recommended.

2.3. Reception of the substrate

The reception of the substrate is done by the Highway Authority/Client in agreement with the Authorised Contractor. The reception is formalized on the site record.

The waterproofing system is deemed suitable for use on highway concrete bridge decks as part of new and maintenance applications. The deck surface shall have U4, formed or tamped surface and shall be at least 28 days old (or minimum 14 days where agreed in consultation with the Highway Authority/Client) with a maximum surface moisture content of **7%**.

The board below explains the relations between the Contractor and the Waterproofing company. It shows the priority points to be examined during the reception of the substrate.

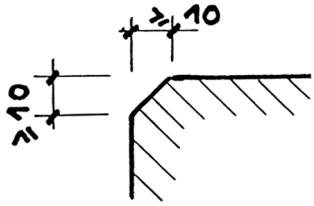
A. INFORMATION TO BE PROVIDED BY THE CIVIL ENGINEERING COMPANY
• The component products of the support are compatible with the waterproofing coating : - Cement - Additives - Mortars or aggregate microconcrete - Resins - Other (to be specified) • The concrete is more than 14 days old The cure products are eliminated • Adhesion tests are requested • Maximum surface moisture content of 7% • The substrate was prepared: Non cohesive parts were deleted Horizontal parts were grit blasted Some punctual repairs were done

- The cohesion of concrete is RT > 1,5 M Pa

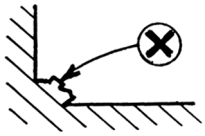
B. POINTS TO BE VISUALLY INSPECTED

- Slopes allow evacuating the water without any retention
- Laitance is eliminated.
- Run-outs of the injection or gluing products are eliminated.

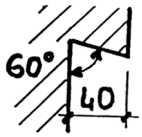
- Stainings (oil, grease, ...) are eliminated
- Reinforcement irons extending beyond the concrete are cut and leveled to the concrete surface
- Splashings (lumps, ...) are eliminated
- Holes with depths ≥ 10 mm and surfaces ≥ 40 cm² (traces of boots, planks, ...) are filled in
- Sharp corner edges are rounded or beveled (10 x 10 mm minimum)



- Inserts for rentrant angles are neat, without any accumulated matter

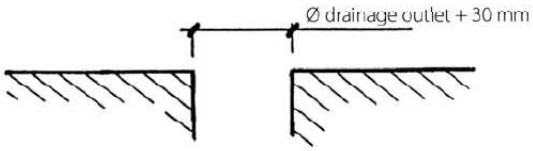


- If requested, upstands reservation will have the following minimum dimensions :
  Depth 40 mm
  Head angle (60 °)

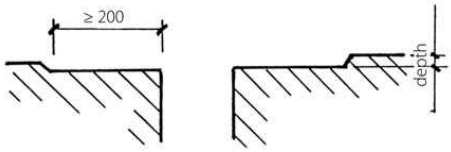


- Upstands reservation is not necessary with the use of sealant **FLASHING TP**.

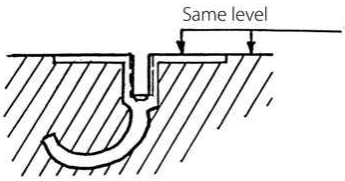
- The diameter (Ø) of reserve spaces for the laying of drainage outlets is 30 mm greater than the diameter of the drainage outlets.



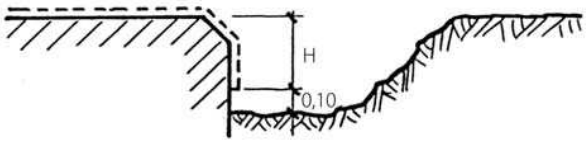
- At right angles to the drainage outlets, the deck should have a square embedded area with the following dimensions :
  - 200 mm at least around the hole ;
  - Depth : 2 mm if the drainage outlet is made of lead and resin
    5 mm if the drainage outlet is made of cast iron (using of **DEPCO**)



- Fittings of safety slides passing through the waterproofing are equipped with flush plates level with the concrete.



- Deck abutments are free (earth, fillin, ...) to receive waterproofing coating remnants.



H = height according to consulting engineer

Where the concrete bridge deck does not meet the requirements the Authorised Contractor must consult with the Highway Authority/Client to decide on the course of action to be taken prior to the commencement of work on site.

In case there is any doubt, the waterproofing company realize suitably test, in order to verify the compatibility between the substrate and the adhesive layer. A testing zone will be done for about 1sqm with adhesion tests (according to NFP98282 norm) or simple manual tests, as described below :

SUITABILITY TESTS TO BE PERFORMED MANUALY

Simplified manual tear out method by peeling to allow checking the compatibility of the support and the reliability of the welding.

NOTA : This orientation test cannot replace quantified tests.

- Locate the areas to be tested according to the apparent homogeneity and the support's aspect (suspect points, touch-ups, ...).
- Prepare the support (sweeping, …).
- Apply to each area of 1 m² the approved primary coating compound (**ELASTOCOL 500 TP** or **AQUADERE TP**).
- After completely dried, weld a piece of the **ANTIROCK BRIDGE** membrane sheet 1 m x 1 m

(leave a free strip of 10 cm).
- Let cool.
- Cut out strips approximately 10 cm wide to manually tear them out (peeling force).

Evaluate the adhesion quality :
- Good: delamination of the membrane sheet's reinforcement, very difficult to tear out.
- Bad: easy to tear out ; define the reason :
  - Underside of the membrane sheet loaded with particles torn out of the support = lack of concrete cohesion.
  - Separation between the concrete and the adhesive layer = chemical incompatibility between the support and the adhesive layer, or presence of humidity.
  - Separation between the membrane sheet and the primary coating compound = check the welding quality.

If the support is the reason, the Civil Engineering Company will perform in agreement with the Highway Authority/Client the required repair work.
After the repair work is completed, the Waterproofing Company will conduct again new suitability tests.

The site record must be signed off by the Authorised Contractor that the bridge is suitable for the acceptance of the Waterproofing System.

3. Installation

3.1. General

Installation of the **ANTIROCK BRIDGE** Waterproofing System shall only be carried out by Authorised Contractors trained by **Soprema**.

Adhesion of the waterproofing membrane to the concrete bridge deck including any concrete repair system(s) used shall be checked prior to installation by random application (see simplified test method in 2.3).

3.2. Conditions of installation

Minimum temperature for works:
Installation of the waterproofing system shall only be carried out at a minimum air and substrate temperature of 4°C and rising.

Air, substrate temperature and relative humidity shall be monitored and recorded during the installation process. Installation of the waterproofing system should only take place when the bridge deck temperature is above the dew point.

Minimum temperature for the layout out primers:
- **ELASTOCOL 500 TP**: ≥ 0°C
- **AQUADERE TP**: ≥ 5°C

Minimum temperature of installation of **FLASHING TP**: ≥ 5°C

Rain:
The concrete bridge deck shall be dry before and during the installation of the waterproofing system:

- For the installation of the primer (**ELASTOCOL 500 TP**, **AQUADERE TP**),
- For the installation of **ANTIROCK BRIDGE**,
- For the installation of **FLASHING TP**.

Traffic:
Traffic Management shall be in accordance with Department of Transport Traffic Signs Manual Chapter 8 current edition, or as agreed between the Highway Authority/Client and the Main Contractor in consultation with the Authorised Contractor.

3.3. Primer installation

The adhesive coat must be applied to a dry support using :

- Brush
- Foam scraper + brushing
- Sprayer

One single layer is needed and the accumulations are eliminated.

Wait until the adhesive coat is dry before the installation of the membrane. The drying time varies with the climatic conditions, quantities applied and the porosity of the concrete.

All concrete bridge deck surfaces to receive the waterproofing membrane application shall be prime with **ELASTOCOL 500 TP** or **AQUADERE TP**.

ELASTOCOL 500 TP and **AQUADERE TP** are ready to use. No mixing of the primer is required.

The primer is applied using a stiff brush or roller to achieve a target coverage rate of between (150–250)g·m^{-2} for **ELASTOCOL 500 TP** or (250–350)g·m^{-2} for **AQUADERE TP** depending on the porosity of the concrete deck.

Ponding of the primer shall be avoided. Should ponding occur the surplus primer shall be removed and/or evenly dispersed by brushing or rolling.

The primer must be tack-free, clean and free from loose debris, moisture and other contaminants before application of the waterproofing membrane commences.

Curing time of the primer will depend upon site conditions, but typically is approx. 2 hours at 20°C.

The primer will accept light foot traffic once it is dry, and where necessary will accept vehicular traffic with rubber tires.

3.4. Installation of the membrane ANTIROCK BRIDGE

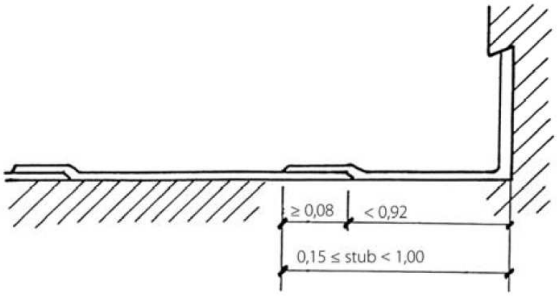
3.4.1. Organisation of the layers

On the deck, the following recommendations must be respected:

- The strips are installed lengthwise on the structure from the low level line.
- Radial joints are covered in the water flow direction.
- Radial joints are offset.
- Side laps minimum 100mm, head laps 150mm minimum
- The membrane shall be fully bonded to the substrate and all lap joints sealed.

The **ANTIROCK BRIDGE** waterproofing membrane shall be terminated into a primed chase (or terminated to a designated level via tape protection where agreed in consultation with the Highway Authority/Client).
The chase shall then be sealed with a suitable sealant.

- The overlays between strips are offset with respect to the radial joints of the deck's membrane sheets.
- When they are located in the high level line, the raised areas are made after the current surface coating.
- When they are located in the low level line, the raised areas can be made equally before or after the current surface coating.
- The raised area stubs will have a minimum dimension of 0.15 m.
- They may possibly have a dimension which compensates for a distance of 0.92 m from the current surface strip closest to the raised area.



Nota: Installation of FLASHING TP doesn't require layer organisation.

3.4.2. Welding of horizontal parts (of light slope)

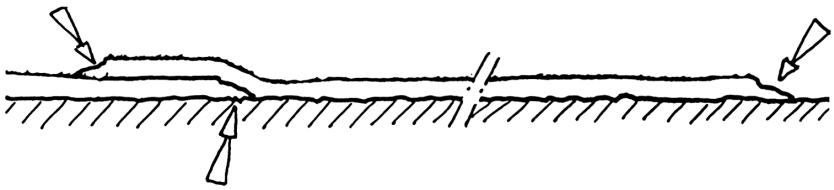
The membrane is installed using traditional torch-on techniques.
Alternatively, the membrane can be laid using semi-automated **Mini-MACADEN** or, where conditions allow, **MACADEN** machine with jumbo rolls. This solution is recommended for all bridges of a size > 1.000 sqm.

Manual welding:
Before the welding, the stripes must be take-off from the roll.

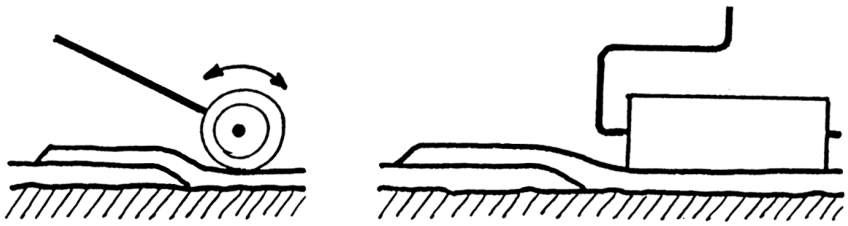
Welding is made with a propane torch by welding alternatively the substrate and the roll:

- Heat the support strongly during the welding operation,
- Melt the bituminous underside of the membrane sheet sufficiently so that it can penetrate into all the concrete's rough surfaces as if when making a precise molding ;

The bitumen must overflow 5 to 10 mm on each side of the membrane sheet;
The edges of the widths are eventually pressed down with a spatula.

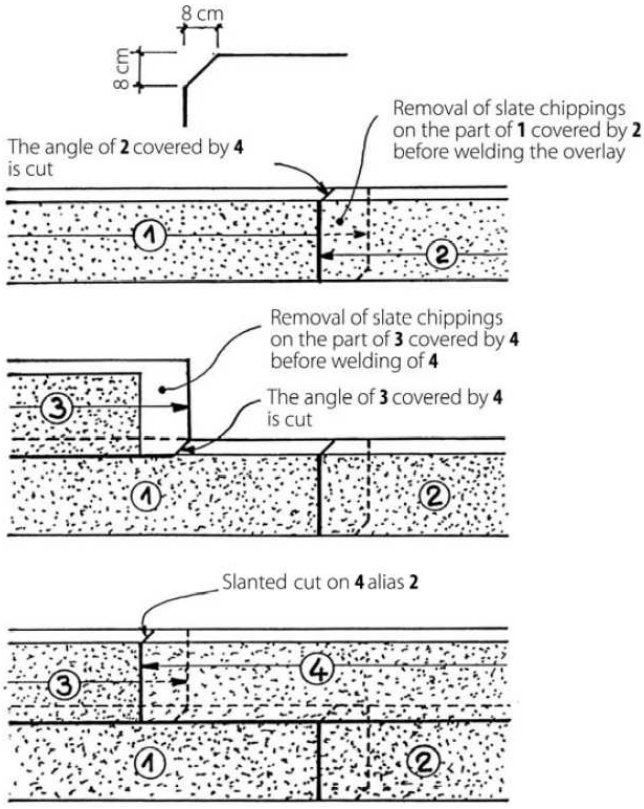


Help fill in the concrete surface with bitumen by taping the surface of the membrane sheet with a suitable roller, particularly on the overlay edges.

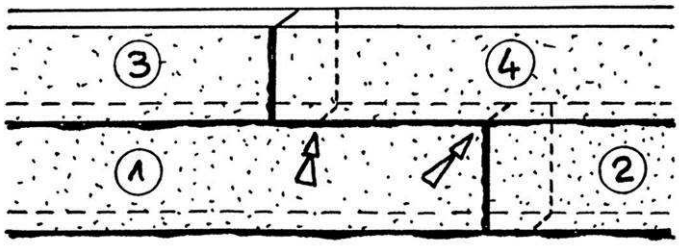


The radial overlays between the membrane sheets are made only after the "removal of slate chippings" from the covered part ;

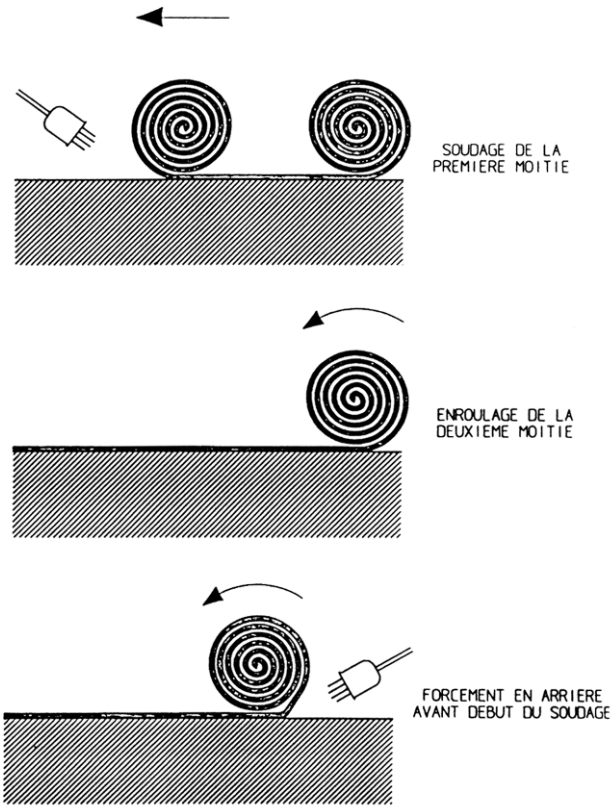
Slanted cuts are made at the membrane sheet corners, covered directly by a self-protective layer.



Check that the bitumen overflowed along the edges of the membrane sheets, especially at the slanted corner cuts.



If to avoid diverting the membrane sheet the roll is unrolled halfway, the second half must be forced backward before welding it.



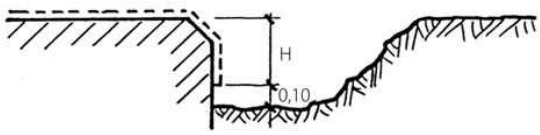
Semi-automated installation:
The parameters of the **Mini-MACADEN** and **MACADEN** are controlled and programmable through a touch panel. Temperature has not to be changed. Only the speed of the machine and its alignment may be changed during operations: faster if the bitumen is too liquid (the heating is too important), slower if the bitumen do not overflow each side of the membrane.

1. The roller is mounted on the chassis machine and the membrane is engaged, the machine is pre-aligned.
2. Turning on the **Mini-MACADEN**: advancement and automatic guidance.
3. Visual monitoring of welding for possible adjustment speed.
4. Stop the burner at the end of roll.
5. Manual welding the ends of the roll.

For optimum performance, the **Mini-MACADEN** requires the following operatives:
- an qualified operator **Mini-MACADEN**,
- one operator for welding the ends of rolls
- two people to handle rolls.

3.4.3. Deck's ends

The deck's ends are cleaned of soil to weld correctly the **ANTIROCK BRIDGE** on the requested high.



H = height according to consulting engineer

The requested vertical high will be 20 cm. If possible it will cover the junction pile / slab.
This part is welded manually only from the top to the bottom.

3.5. Upstands and details

3.5.1. Upstand connexion

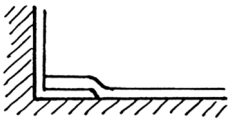
If horizontal waterproofing is connected on an upstand, two solutions may be used:

- **ANTIROCK BRIDGE** with protection,
- **FLASHING TP**

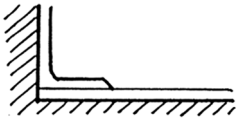
a) Solution with **ANTIROCK BRIDGE** :

ANTIROCK BRIDGE membrane sheet is welded to the adhesive coat of the raised area when the coat is dry.
Its stub of 15 cm minimum is welded:

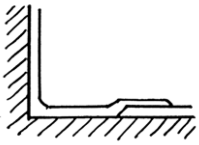
- Either, in low point, the membrane in upstand is laid under the membrane in main part:



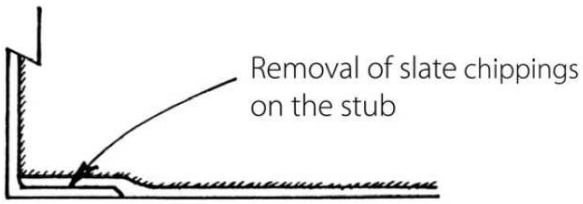
- Or, in high point, the upstand is realized after the main part:



- Or to the deck with overlay on the deck's waterproofing membrane sheet



When raised areas with **ANTIROCK BRIDGE** were made before the waterproofing of the current surface, this surface is overlaid on the raised area stubs.
Prior to welding, remove the slate chippings with light welding on the overlay area on the stubs.



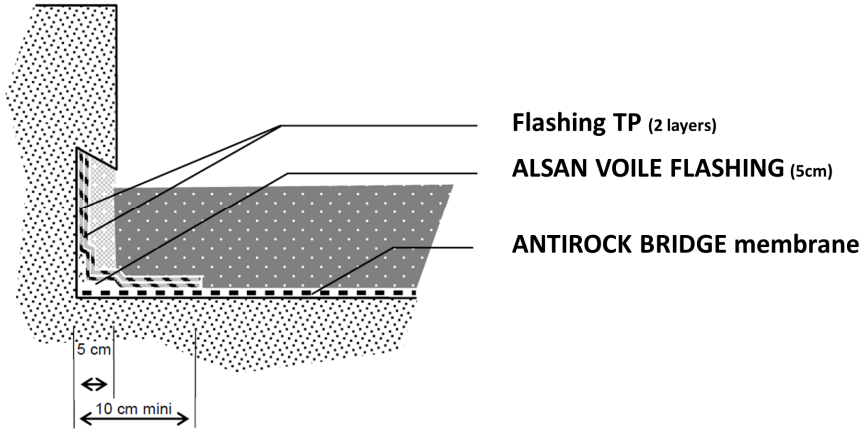
b) Solution with **FLASHING TP** :

The **ANTIROCK BRIDGE** membrane is laid to the upstand limit. The non-adhesive slates are brushed on a approx. 20 cm band.
FLASHING TP in installed in 2 layers of 800 g/m² each in all parts:

- 10 cm minimum in horizontal
- 10 cm minimum in vertical.

Drying time is approx. 2 hours (depending of climatic conditions). This delay has to be respected before the application of the second layer (the first layer has to be dry on touch) and before asphalt application.

If the angle presents a connection between two materials or two concrete parts, **FLASHING TP** will be reinforced by **ALSAN VOILE FLASHING** (stripe of 10 cm) with additional 500 g/m² of **FLASHING TP**.



c) Protection of upstands

The raised areas must be protected by a grated cement coating compound. In case of installation if **FLASHING TP**, it is possible to interpose slates in the **FLASHING TP** in order to increase the cement adhesion.

This protection may be done in blocks.

3.5.2. Installation of drainage rainwater pipes

It is possible to use **DEPCO** rainwater pipes. The have to be welded directly in the substrate and covered by **ANTIROCK BRIDGE** membrane open in the pipe.

NOTA : Rainwater pipes have to be connected to a main water evacuation system.

3.5.3. Dilatation joints

Connection between waterproofing membrane and dilatation joints has to be studied on each project as it depends of the nature of the used joint.

4. Overlays

4.1. Asphalt

The overlay has to be installed within one week after installation of the membrane **ANTIROCK BRIDGE**.

The asphalt surfacing is based on a coarse bituminous mixture as defined in EN 13108. The maximum temperature of the asphalt installation is 200°C.

The properties of the bituminous surfacing to be used over the membrane must be defined including at least the following:

- Mix design
- Application & rolling temperatures (minimum / maximum)
- Nominal thickness (> 7cm).

The tensile bond strength and shear bond strength of the overlay to the membrane must be confirmed by test to confirm compliance with the contract requirements. This should take into consideration the requirements of Interim Advice Note 96/07, Guidance on implementing results of research on bridge deck waterproofing.

NOTA: ANTIROCK BRIDGE is designed to allow light traffic necessary for site and material for overlay installation (including trucks).

4.2. Other overlays

ANTIROCK BRIDGE waterproofing system may be overlaid with concrete, sand or pavements. For these solutions, please contact SOPREMA's civil engineering department to have installation details.

4.3. Drainage

The evacuation of the water contained in the asphalt must be done with adequate drain systems and connected to main evacuation.

4.4. Control of overlays thickness

If requested, the applicator can install on **ANTIROCK BRIDGE** surface some stripe of **BANDE DE DETECTION RADAR** (very 10 m approx.) in order to detect with radar system the thickness of the asphalt overlaid.

BANDE DE DETECTION RADAR contains an aluminium reinforcement which is easily detectable with radar detection system.

5. Quality plan

5.1. Generalities

Main products are those indicated in BBA certificates.
Each product presenting a default will be separate for control.

The current Method Statement together with all necessary Material Safety Data Sheets and COSHH Risk Assessment for the Works shall be deposited with the Highway Authority/Client and maintained on-site.
A site record shall be maintained for each day's production by the Authorised Contractor. The records shall be dated and numbered consecutively for each phase of a contract. These should be signed off by the Highway Authority/Client.
Copies of the records shall be submitted by the Authorised Contractor to Soprema (Certificate holder) at the completion of each contract.

5.2. Controls of manufacturing and delivery

All batches/components of the waterproofing system shall be supplied with a Certificate of Conformity/Analysis.
Every batch shall be subject to visual quality control checks to ensure compliance with the system specification.

Each component of the waterproofing system received on-site shall be logged and stored in accordance with the manufacturer's instructions to prevent contamination or deterioration.

The batch numbers and coverage rate/usage of the primer shall be recorded.
The batch / lot numbers of the **ANTIROCK BRIDGE** membrane shall be recorded.

Applicators must justify of training for waterproofing membrane application techniques specifically on bridges or parking decks.
These formations are proposed by SOPREMA in one of its training centers.

5.3. Welding controls

5.3.1. Generality

The visual control will consist in verifying the respect of the Chapter 2 recommendations and the regular bitumen overflow along the welding.

If necessary, the adhesion will be controlled by one of the three following methods:

- Simplified method describe in §2.3.
- Pull off method (destructive test).
- Infra-red control (non-destructive test).

5.3.2. Pull off test of the waterproofing coating on the support (norm NF P98-282)

Purpose of the test:
The Authorised Contractor shall assess the adhesion by testing for tensile bond strength. A minimum result of 0.3 MPa is required, 1 test for each 100sqm with a minimum of 6.

Initial tensile adhesion values achieved must be recorded on the site record. If however, lower untypical tensile adhesion values for the system are recorded then the Authorised Contractor must consult with the Highway Authority/Client to decide on the course of action to be taken prior to the commencement of installation of the system.

Test process:

After brushing of the non-adhesive slate chippings, the pulls off plates are glued to the surface of the membrane sheets.

For an adjustment of the welding quality, patches will be placed, particularly at locations where welding deficiencies are most frequently encountered:

- Overlay edge

- Welding touch-ups of the rolls at the center of the membrane sheets

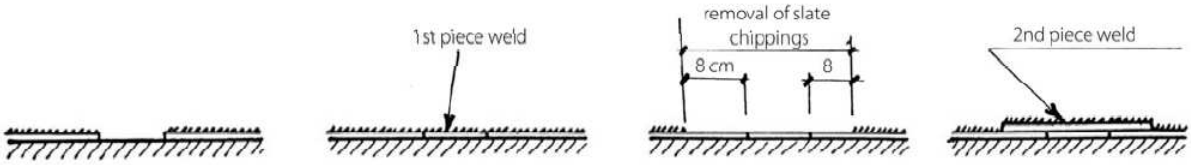
Results:
Results of the direct traction must be changed in Mpa in order to compare with the 0,3 MPa minimum requested (at 20°C).

For other temperatures, refer to the temperature curve of **ANTIROCK BRIDGE** "Adhesion on the worksite to hydraulic concrete versus temperature", in Annex 1.

In case of insufficient results, the concerned area will have to be repaired as describe in § 5.5.

Sealing of the plates locations:

- Application of an adhesive coat at the bottom of the cavity in case the original was tear out during the test.
- After drying, welding in the cavity a piece of **ANTIROCK BRIDGE** fit to the cavity's size.
- Removal of slate chippings on the piece and 8 cm around its periphery
- Welding of a 2nd piece of **ANTIROCK BRIDGE** on the entire area on which slate chippings have been removed.



5.3.3. Infra-red control

This method allows a non-destructive control on 100% of the surface. It is generally used for large bridges.

This control has to be realised by a specialist. Please contact **Soprema**'s civil engineering department to have assistance of an experimented operator.

5.4. Other site works

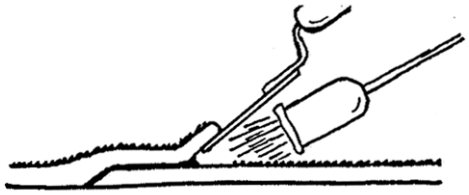
At the end of the applicator works, the integrity of the waterproofing membrane shall be confirmed by carrying out a visual inspection of the membrane and the lap joints and by non-destructive testing. These controls have to be repeated before asphalt installation.

Precautions shall be taken to avoid contamination or damage by the spillage of petrol, oil, diesel fuel, hydraulic fluid and other solvents onto the waterproofing system. Any part of the waterproofing system damaged by such spillage shall be cut out and the damaged area repaired as described in §5.5.

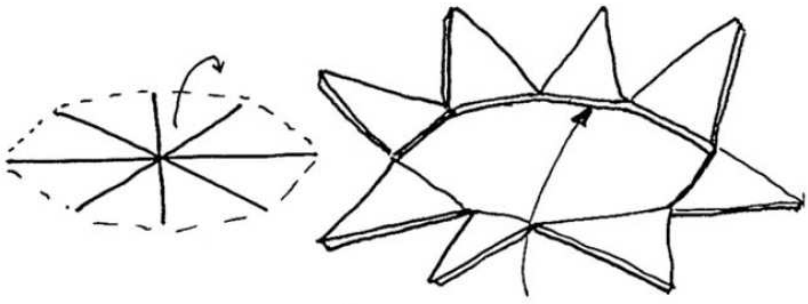
5.5. Possible repairs

In case of damage or detected defects, it is necessary to identify concerned areas, mark them and repair.

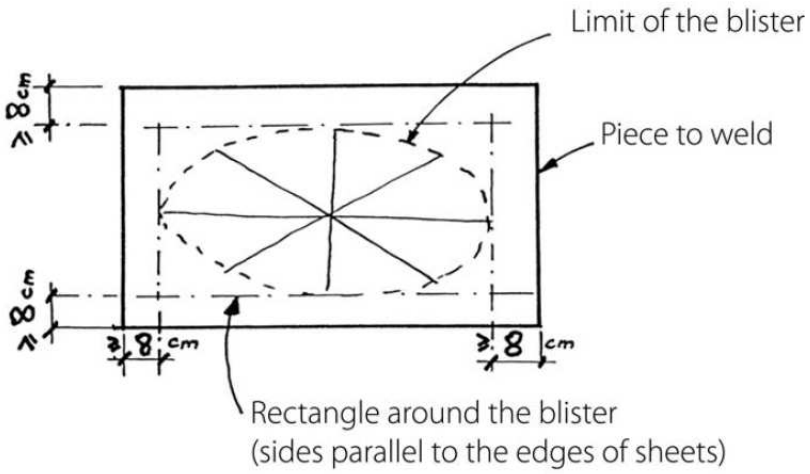
No bitumen overflow
Make sure using a spatula that the concerned junction is OK. If necessary, carefully make a welding touch-up with the blow torch flame.



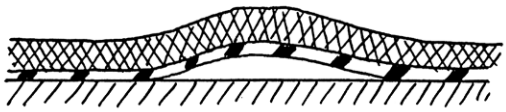
Possible blistering before implementation of the asphalt coat
Open the blister. Its periphery after opening must adhere to the concrete.



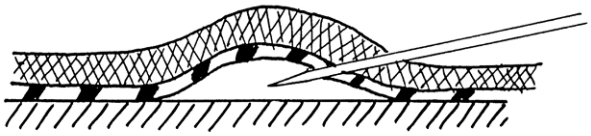
- Determine the reason for the separation and ensure this lack of adhesion is only punctual.
- Re-weld the non-adhering parts after possibly applying an adhesive coat to them ;
- Determine the enveloping rectangle of the blister ;
- Draw a rectangle whose sides are at least 8 cm from the previous one and remove the slate chippings from the surface of this last rectangle ;
- Weld a piece of **ANTIROCK BRIDGE** to the part on which slate chippings have been removed.



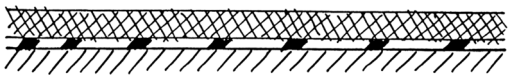
Possible blistering during the installation of the first roadway pavement layer



The blister can be pierced with a pointed tool through the paved layer.



The more the tool is tilted, the better the self-repairing of the perforation will be.



5.6. Final report

All partial reports or/and site controls are contained in the Final Report which will be sent to the Highway Authority/Client.

6. Use restrictions

The **ANTIROCK BRIDGE** waterproofing system is chemically compatible with most of materials. Anyway, in case of doubt, please contact SOPREMA's civil engineering department to have additional details.

ANTIROCK BRIDGE membranes are covered with a mineral protection (light grey colored slate chippings) with give them a natural UV protection and the necessary mechanical protection during installation.

7. Materials

7.1. Primer ELASTOCOL 500 TP

ELASTOCOL 500 TP primer is a homogeneous mixture of bitumen and solvents.

Characteristics	Norm	Value
Physical state	-	Homogeneous black liquid
Density at 20°C	NF T 30-020	950 kg/m3
Dry matter	EN 3251	35% (±2%)
Adherence with Antirock Bridge	NF P 98-282 EN 13596	> 0.3 MPa > 0.8 MPa
Pseudo-viscosity cup no. 4 at 20°C	NF T 30-014	Between 17 and 23 sec
Flash point	ASTM D 56	30°C

Documents related to this product all have MISFR120 unique reference.

7.2. Primer AQUADERE TP

AQUADERE TP is an elastomer bitumen-based emulsion.

Characteristics	Norm	Value
Physical state	-	Dark brown liquid
Density at 20°C	NF T 30-020	1005 kg/m3
Dry matter	EN 3251	44% (±2%)
Adherence with Antirock Bridge	NF P 98-282 EN 13596	> 0.3 Mpa > 0.8 Mpa
Flash point	ASTM D 56	Non-flammable

The use of **AQUADERE TP** is ideal for projects where the natural ventilation isn't strong enough. It provides the fast evaporation of solvents. It is also used in project with limited environmental impact.

Documents related to this product all have MISFR121 unique reference.

7.3. Waterproofing membrane ANTIROCK BRIDGE

ANTIROCK BRIDGE membranes have the following characteristics:

Characteristics	Norm	Value
Mass per unit area	EN 1849-1	5,3 kg/m²
Thickness	EN 1849-1	3,3 mm the selvedge 4,0 mm on protections
Tensile properties Tensile strength (L / T) Elongation (L / T)	EN 12311-1	 ≥ 550 N/50mm / ≥ 400 N/50mm ≥ 30% / ≥ 30%
Water absorption	EN 14223	0,75%
Flexibility at low temperature (CBR)	EN 1109	-10°C
Flow resistance at elevated temperature	EN 1110	100 °C
Bond strength	NF-P 98 282 EN 13 596	≥ 0,4 N/mm² ≥ 0,7 N/mm²
Shear strength	EN 13 653	0,3 N/mm²
Resistance to compaction of an asphalt layer	EN 14692	Pass
Watertightness	EN 14694	Pass

Documents related to this product all have WPBFR004 unique reference.
ANTIROCK bridges membrane are CE marked no. 1119-CPR-13105 in accordance with EN 14695:2010.

7.4. Accessories

7.4.1. FLASHING TP

FLASHING TP is a ready to use, single-component, bitumen-polyurethane waterproofing resin.

Characteristics	Average value
Physical state	Brown thixotropic paste
Density at 20°C	1 050 kg/m3
Viscosity at 23°C	200 cPo approx.
Tensile strength	2.5 MPa
Elongation at break	350 %

Documents related to this product all have WPLFR102 unique reference.

7.4.2. DEPCO rainwater pipes

DEPCO rainwater pipes consist of a flexible SEBS elastomer bituminous flange and a pipe outlet (rigid tube). Different diameters are proposed.

7.4.3. ALSAN EP120

ALSAN EP 120 is a bi-component epoxy resin. **ALSAN EP 120** is mixed with silica to create a mortal adapted to the reparations to make.

Characteristics	Average value
Physical state	Liquid
Density at 25°C	1070 kg/m3
Viscosity at 23°C	500 cPo approx.
Shore D	65

Documents related to this product all have WPLFR103 unique reference.
ALSAN EP 120 is CE marked in accordance with ETE-07/0111.

7.4.4. BANDE DE DETECTION RADAR

BANDE DE DETECTION RADAR is a bituminous stripe, 8 cm of width, with an aluminum mesh visible by radar. It is auto adhesive.

Documents related to this product all have WPBFR805 unique reference.

8. Manufacture of the products

ELASTOCOL 500 TP and **AQUADERE TP** primers and also **FLASHING TP** are manufactured by SOPREMA in Strasbourg's plant.
ANTIROCK BRIDGE is produced by SOPREMA in Strasbourg plant certified EN ISO 9001 and EN ISO 14001.

9. Installation and technical assistance

When requested by the applicator, **SOPREMA** will offer its technical assistance for conception and application (start of a site installation as an example).

10. Maintenance

Usually, **ANTIROCK BRIDGE** membranes are laid under asphalt. There is no specific maintenance other than the normal bridge or parking deck ones (cleaning of rain water pipes as an example).

In the specific case when **FLASHING TP** parts are visible, it is necessary to ensure that no vegetation grow between asphalt and upstand.

11. Prevention

11.1. Safety

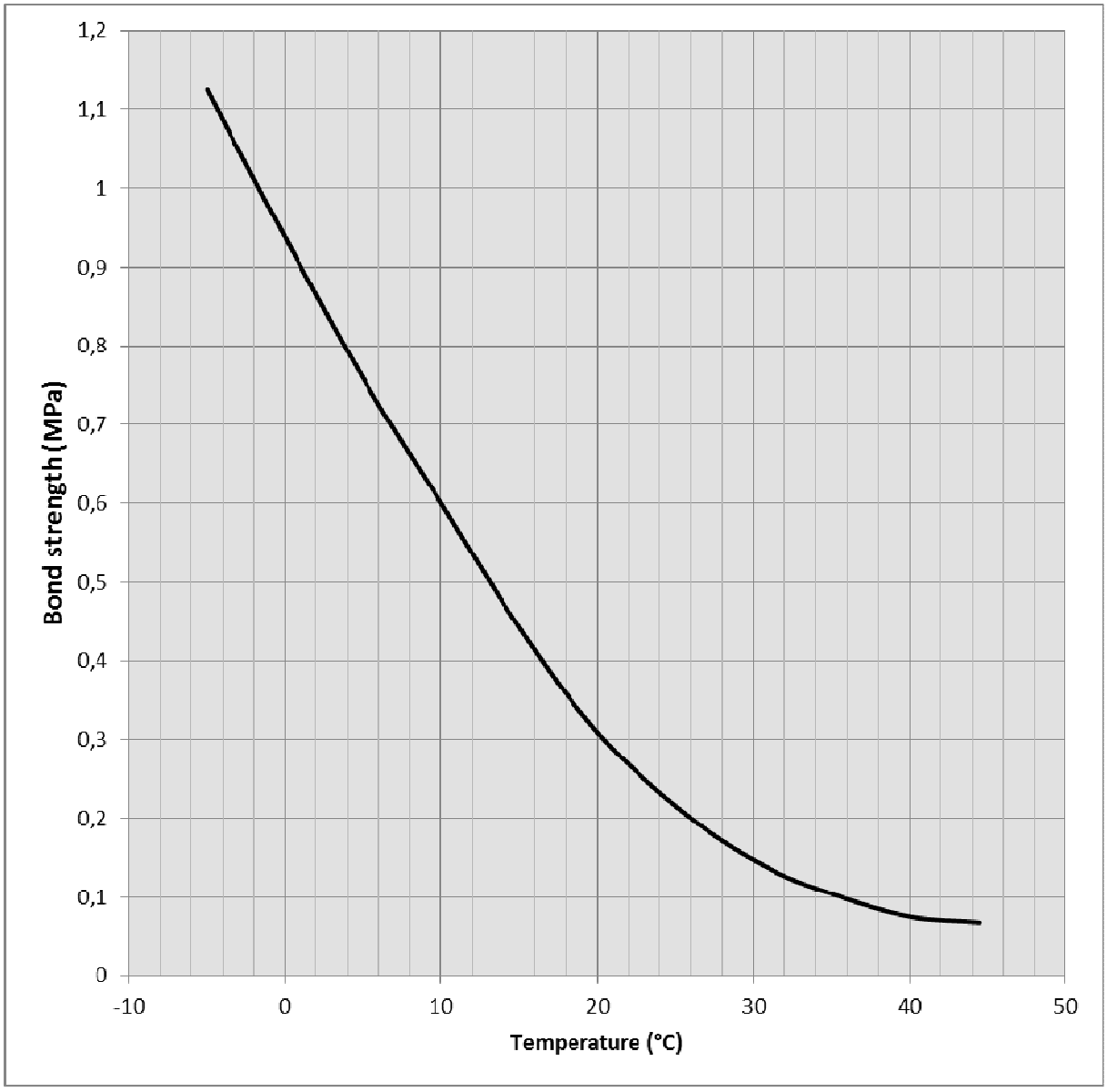
Safety datasheet contain all information relative to use these products in the safest conditions.

11.2. Storage precautions

Liquids have an application limit date. It has to be checked before application. Respect instruction of the safety datasheet.

ANTIROCK BRIDGE rolls are delivered on a 25 rolls UV protected pallet. It is necessary to maintain roll vertical for storage.

Annex 1 – Adhesion to hydraulic concrete in accordance with temperature, on work site



NOTA : The temperature researched is the substrate temperature at the moment of the test. Each time it is possible, it conveys to do the test at 20°C.