

BRIDGE DECKS

TECHNICAL PROBLEMS

Major engineering works (and bridges in particular) must be protected by an excellent water seal which prevents any risk of corrosion to the reinforcements and any damage caused by the freeze-thaw cycle. They are also subject to significant mechanical stress (pressure from vehicles, vibrations, friction on the road surfacing, etc.) and chemical corrosion (oil, petrol, any corrosive liquids spilt onto the road, de-icing salt).

TRADITIONAL SOLUTION

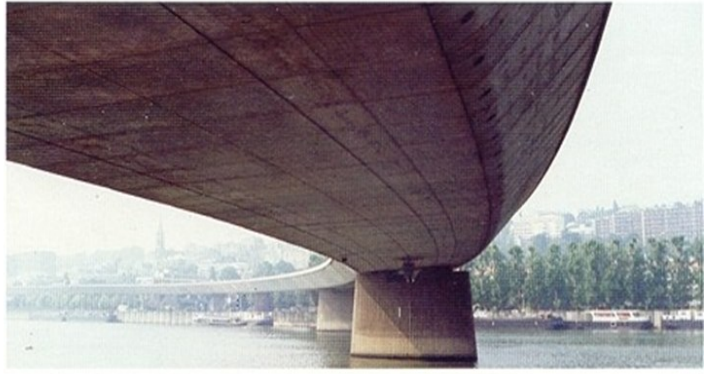
The application of a standard multi-layer sealant system, heat-sealed onto the bridge decking, or installing a sealant system onto the road surface. The drawback: the sealant layer cannot always offer adequate resistance for chemicals which could spill onto the road. Under these circumstances, you need to remove and restore the surfacing and the sealant, effectively immobilising the structure. In the event that the sealant is accidentally ruptured (following an accident, for example, or a defect during installation), there is a risk that water or corrosive products could penetrate the non-adherent sealant layer and the support, creating major risks caused by the lack of an effective seal.

SOUPLETHANE TECHNIQUE

- SOUPLETHANE is applied as an adhesive liquid film, with a thickness of at least 1.5mm, in a continuous layer of the horizontal or vertical concrete support. It provides good resistance to chemicals, even highly corrosive acids and bases, and resists significant mechanical forces (113 MPa).
 - The road surfacing can also be made to adhere better to the sealant layer by spraying on a layer of sand to the final SOUPLETHANE layer, improving the meld between the surfacing and the resin. Please note too that snow and ice do not adhere to SOUPLETHANE, making it easier to clean and maintain the bridge while ensuring that the bridge structure is not overloaded by snowfall.
- There's no risk of the sealant layer sliding and the surfacing coming away under exceptional stress, such as emergency breaking by HGV trucks. And, even though it is extremely adhesive, SOUPLETHANE can be used to bridge cracks of up to 2mm wide in the concrete. It can withstand the thermal shock of road surfacing being poured over it without any deformation or damage (140° to 160°).

the benefits:

- quick to install - apply it in one single layer. It follows the contours of the support flawlessly, while providing excellent adhesion to the concrete.
- road surfacing adheres well to the sealant.
- good resistance to compression (113 MPa).
- good resistance to most chemicals, even concentrated.



SPECIFICATION

• prepare the substrate:

- A clean substrate, dust-free, scoured with a pressure washer.
- The quality of the concrete must match our technical specifications.

• apply SOUPLETHANE

- Spray on using an airless pump, in a single layer no thinner than 1mm thick.
- Sprinkle the final layer with sand (G2 quality) to ensure good adhesion to the road surfacing.

QUALITY CONTROL

- Check the condition of the concrete: dry and dust-free.
- Check the thickness (min. 1.5 mm) and the evenness.
- The sand used to improve the surfacing adhesion must only be applied to the last layer of resin once the SOUPLETHANE film has fully polymerised. This will ensure that the grains do not penetrate the film and create any sealant defects.

TESTS AND CERTIFICATIONS

- UV ageing tests: - LCPC
- LCPC: **2 mm** crack bridging in concrete
- CEBTP/LYON: bridging at -10°C for 2 mm cracks.
- Chemical resistance: Labo SGN, Rhône Poulenc (Vitry).
- Resistance to thermal shocks: 140°C, test LCPC.
- STER 81 qualification.