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ENGINEERING WORKS -CONCRETE PROTECTION

TECHNICAL PROBLEMS

Engineering works face exposure to an ever-more aggressive environment (acid rain, vehicle emissions, saline air, de-icing salt, etc.) and this can cause them to deteriorate rapidly. They need our protection.

We highly recommend using a concrete protection solution. In certain cases, the structures are exposed to mechanical constraints which exacerbate the risk of damage (e.g. bridge pillars overlooking motorways, which suffer from projections of de-icing salt and sand, erosion by sand-laden wind in certain regions, etc.).

TRADITIONAL SOLUTION

In general, paint has traditionally been used for both decoration and protection (water-proof paint). These paintbased solutions no longer provide adequate protection for several reasons:

- the film of paint is not continuous, as the holes and pores in the concrete are little or poorly covered.

- protection cannot be guaranteed if the concrete has microcracks.

- air in the atmosphere is becoming more and more aggressive, and these aggressive chemicals can find their way into the concrete. They can damage the concrete, leading to blistering and flaking of the paint, among other problems.

SOUPLETHANE TECHNIQUE

SOUPLETHANE is completely air- and waterproof, adheres extremely well to concrete and can be applied in a single, continuous layer. The recommended thickness depends on the constraints to which the concrete is exposed: 400 to 500 microns.

The benefits:

SOUPLETHANE bridges over micro-cracks in concrete, it is impermeable to water and gases, it eliminates all risk of condensation on the concrete and freeze-thaw damage.

SOUPLETHANE offers excellent chemical resistance (pH levels from 1 to 13 with no damage). It is resistant to erosion (sand-laden wind).

Wear performance: 1mm of SOUPLETHANE is equivalent to 1cm of concrete.

It is also highly resistant to UV light, which plays an important role in the longevity of the protective solution. What's more, it comes with a 10-year seal guarantee.

SOUPLETHANE is also highly resistant to the repeated stresses imposed by cleaning (pressure washers) and is very easy to clean (no static electricity).

In fact, when it is exposed to the elements, it is self-cleaning.



INSTALLATION

- prepare the substrate:
- Lightly sand-blast the concrete

• apply SOUPLETHANE

- Apply a hardening base primer for concrete 1 l/7m'
 Apply a single, 400–500-micron layer of SOUPLETHANE using a twin-component high-pressure airless pump,
- Specific cases:

For the bases of pillars exposed to projected gravel, sand, etc.: apply a coating of at least 1.5 mm over a height of around 6m.

QUALITY CONTROL

Aside from the standard film quality checks (adhesion, blisters, polymerisation):

- Check that the film is in a continuous layer, with no uncovered holes or pores in the concrete.

TESTS AND CERTIFICATIONS

- UV ageing tests: LCPC
- LCPC: 2 mm crack bridging in concrete
- CEBTP/LYON: bridging cracks of up to 2mm.
- Chemical resistance: SGN laboratory, Rhône Poulenc
- laboratory in Vitry.
- STER 81 qualification.

Waterproofing