KEMICA COATINGS
Reinventing coatings

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Offshore

PLATFORM BRIDGE SURFACING

TECHNICAL PROBLEMS

Metal bridges on oil platforms are subject to various constraints:

- mechanical (foot and vehicle traffic)
- corrosion: galvanic corrosion by stagnant seawater
  - they require a non-slip finish for safety reasons.
  - they must meet the current fire safety requirements.

TRADITIONAL SOLUTION

- Normally, floors are treated with resin-based mortars to address the issue of wear, but the mechanical constraints or deformations in the substrate can lead to cracks. Corrosive products can penetrate these cracks and damage the structure. These floors are both difficult to repair and to clean, and it is not always possible to obtain an adequate non-slip finish. Simply protecting the bridge with a coat of paint is woefully insufficient.

SOUPLETHANE UR 5 TECHNIQUE

SOUPLETHANE UR 5 is applied in a thin layer (approximately 2mm) directly onto the metal substrate and treated with a non-slip finish.

• the benefits:

- Very good resistance to wear and foot traffic (1 mm is equivalent to 2 or 3 cm of concrete)
- An effective non-slip finish. To avoid any risk of sparks forming, the chosen non-slip agent is basalt (instead of corundum). The grains are then sealed into the resin.
- Very good adhesion to the substrate (20 MPa) which avoids, in the event of damage, any risk of disbondment of the coating.
- Easy to repair without the need for solvents. Apply the new product directly to the existing coat, even in hot (t > 50°C) or cold (t < 10°C) conditions.
- Applied in a thin layer, this product removes a significant amount of excess weight on the structures which would be required by the other techniques (a saving of around 20kg/m²)
- Good resistance to UV light and bad weather
- Follows, without any damage, any repairs to the substrate (accidental impacts, thermal expansion of the support, etc.)
- Good fire resistance: self-extinguishing. No toxic smoke.
- Provides an effective water seal for the bridge: in the event of any defects (holes caused by corrosion, cracked welds, etc.), gaps can be bridged immediately with glass fabric or nylon without any prior intervention necessary.

SPECIFICATION

- Sandblasting: SA 2.5.
- Application of a thin coat of SOUPLETHANE (thickness: 3 mm) - the non-slip treatment is applied in 2 phases, once the protective film has polymerised:
• application of a layer of resin (approximately 500 microns}
• application of the non-slip aggregates, which penetrates the first layer
• the grains are sealed by a layer of SOUPLETHANE UR 5 resin.

QUALITY CONTROL

- Check the thickness with a microtest.
- Visually check the coating: good polymerisation, no blisters, holes, etc.
- Check that the film has properly adhered to the substrate.

TESTS AND CERTIFICATIONS

• Pressure resistance CNEXO - 600 kg/cm²
• Resistance to salt mist: SNCF-Levallois Laboratory - 2 000 h salt mist
• Fire resistance: Bfl-S1

WORK REFERENCES

• CFP: Abu Dhabi
• IRAN: SALMAN offshore oil platform