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CHEMICAL PRODUCT

STORAGE TANKS

TECHNICAL PROBLEMS

Chemical products are stored in tanks, and these must be fully lined to protect them from the chemicals inside. Depending on the aggressive nature of the products stored, this protection may consist of anything from simple anti-corrosion paint to the use of special steels or synthetic materials.

TRADITIONAL SOLUTION

• **special steels:** in general, STAINLESS STEEL, but this is not suitable for all chemical products. The chemicals can corrode welded joints.

• **plastic tanks:** drums made from reinforced polyester, polypropylene, etc. Suitable for certain chemicals, but not all. A risk of the materials cracking, low mechanical resistance, and seal problems at the joints or connections are difficult to remedy.

• special coatings:

- solvent-free epoxy type coatings, hot- or cold-applied: this rigid tank lining has trouble following any deformations in the support (shocks, thermal expansion, etc.) and are almost impossible to repair satisfactorily.

- brauthite type coatings: these must be kiln-fired, a complex and expensive operation.

- ebonite type coatings: thick sheets of rubber (4 to 6 mm), glued and hot-vulcanised. It is difficult to remedy problems in weak spots (flanges, tap holes). For this, all welds and sharp edges must be ground down.

SOUPLETHANE UR 6 TECHNIQUE

After preparing the substrate (sandblasting), SOUPLETHANE UR 6 is applied using a high-pressure twin component airless spray pump in a single, thick layer (1 to 5 mm). The thickness will depend on the nature of the environment and the risk of exposure to mechanical shocks. The protective film is applied in an even and unbroken layer, including on any flange and tap-hole connections.

• The benefits:

- It is applied cold, as a liquid, and it can be applied directly on site.

- SOUPLETHANE is highly resistant to most chemicals: however, you must ensure beforehand that there is no incompatibility with the liquids stored, and that the liquids are not too hot (maximum usage temperature: 70-80°C continuous exposure).

- SOUPLETHANE is resistant to thermal shocks: e.g. when a hot liquid meets a substrate at a room temperature.

- It is food safe, so it is suitable for the storage of food products such as fruit juice, oil, wine, vinegar, cocoa, milk, etc.

- It offers good resistance to mechanical impacts; it is easy to repair and to clean. It can be cleaned with hot water or steam, which will be necessary if the same tank is designed to store different products which are incompatible with each other.

Anticorrosion



SPECIFICATION

Prepare the substrate:

First, we recommend rounding off any sharp edges. However, you don't have to grind down the welded joints (as is the case for glued-on linings).

- Shot-blasting: SA 2.5.

Apply SOUPLETHANE UR 6: use a high-pressure twin component airless pump and apply it in a continuous layer. Any weak spots (tubes, connections, flanges, etc.) must first be manually treated before the coating is applied.

The coating of the thickness will vary enormously from one application to another, and generally depends on three factors:

- the aggression of the chemicals
- the temperature of the fluids stored
- the risk of mechanical impact

If there will be controlled, progressive exposure to aggressive chemicals, use a thicker layer to extend the lifetime of the lining.

- thickness: 1 to 2 mm for diluted acids and bases, food
- products, hydrocarbons (non-aromatic)
- thickness: 3 to 4 mm for concentrated acids
- thickness: 2 to 5 mm: hot and aggressive liquids

QUALITY CONTROL

No matter what the contents are, the following checks are indispensable:

- Check the thickness with a microtest
- Check the porosity with a holiday detector: 3,000V per mm of thickness. No sparks are permitted.

• You must check that the application procedures are correctly followed:

- sanding
- CAREFUL dusting

• Quality of the coating: no blisters, good adhesion, good polymerisation

TESTS AND CERTIFICATIONS

 \bullet Resistance to salt mist: SNCF-Levallois Laboratory - 2 000 h salt mist

• Chemical resistance: SGN Laboratory Rhône Poulenc, Guigues

WORK REFERENCES

- EUROOIF
- COGEMA Pierrelatte
- RHÔNE POULENC
- CPN Blayais. Nogent