

# DERAKANE™ Epoxy Vinyl Ester Resins Case History

## DERAKANE Lining of Large Concrete Process Water Basin



Lining of large concrete basins, comparable project from 1998

### Location / Year

Applied in 1995 for refinery in Belgium.

### Manufacturer

Atako Technology Chemicals Nv, Belgium.

### Fabrication

ATB-300 GL lining system; a "shrink free" modified system based on **DERAKANE 470** epoxy vinyl ester. Typical thickness 3 mm, reinforced with chopped strand mat. Here the lining was applied on concrete surface.

### Technical Data

Length: 60 m (197ft)

Width: 50 m (164 ft)

Height: 5 m (16 ft)

There are also impellers in the basin to mix up the fluids thus there is also a mechanical impact on the laminate lining.

### Service Conditions

Inside the basin the temperature range is from +75°C (167°F) to +100°C (212°F), outside the basin it may be -20°C (-68°F) during winter season.

Process water at around 70°C (158°F) with upsets to 90°C (194°F).

The process water intake is always in between 90° (194°F) and 100°C (212°F).

Varying pH value from 3 to 14.

### Comment/Design

Being 20 years in service the lining is reported to be still strong.

When the decision was made for **DERKANE** a lining based on PU and epoxy already failed.

Beside the chemical and heat resistance a great challenge is the high temperature range from minus during winter to almost boiling due to the process water.

By using the ATB-300 GL Honeycomb system expensive concrete repair can be prevented and drains included underneath the system, which has 2 functions:

- As a leak detection system.
- To evacuate upcoming ground water

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