

## Coatings for Biogas-Applications:

# Efficiency for the biogas-sector – durable concrete protection for hydrolysis tanks!

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**>>** A new large plant for the production of biogas is currently being built near Stuttgart/Germany. The facility includes 2 hydrolysis tanks with concrete floor areas of 91 m<sup>2</sup> each. The combination of our high quality primer CP-Synthofloor Beta 8016 and the premium coating Proguard CN 200 provides steadily corrosion protection for the concrete substrate.

For the optimum adhesion and functionality of the coating it is necessary to prepare the concrete surface adequately. The roughening could not happen as usual by grit blasting. In this case it had to be carried out with a hand-held milling machine to avoid damages on the walls made of enamel coated metal sheets.

The epoxy-primer CP-Synthofloor Beta 8016 provides high quality physical properties and is also free of solvents and plasticizers. Therefore, our product is physiologically absolutely harmless.

The primer was applied with an adequate coating knife and was rerolled afterwards. Before curing fine quartz sand was dispersed over the

complete area. These particles integrate into to the cross-linking of the polymer matrix and achieve a perfect adhesion of the top coat.

Proguard CN 200 offers an outstanding, permanent chemical resistance at operating temperatures up to 130°C. Hence, it is the ideal coating product for the high requirements in the hydrolysis tanks.

To keep the walls of enamel metal sheets clean, the coating was applied with a rubber squeegee. The edges were accurately stripe-coated with a paint-brush.



### Essential product properties of Proguard CN 200:

- 100% solvent-free
- permanent resistance against aggressive acids, alkaline solutions and a various number of chemicals at high operating temperatures
- drinking water approval for hot water application up to 85 °C
- easiest use, application by airless spraying method
- 1-coat-system
- direct application on steel without use of a primer



The German company ISDW GmbH – Industry service and maintenance, is specialized in installation and repair of large sealing technology and specific pumps as well as the coating of engine parts and machine components. Furthermore, concrete substrates in the field of waste water technology and waste disposal are sealed professionally with high-performance coating products.

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#### Our Products:

- CP-Synthofloor Beta 8016
- Proguard CN 200

### Why concrete has to be coated?

Also tanks and fermenters of concrete need a resistant coating for a failure-free operation. The belief concrete could stand aggressive chemical attacks within the fermentation processes is a false conclusion.

Even after a short operating time extreme damages of the concrete can occur due to heavy chemical attack of the highly corrosive biomass and biogas. Furthermore, the use of herbal and animal waste material as pomace, slaughterhouse waste, slop, fat and oil increases the corrosiveness of the substance. Components for the chemical impact are methane, ammonia, sulfuric acid, hydrogen sulfide as well as organic acids.

Conventional coating systems for biogas plants provide inadequate corrosion protection. Solvent-based coating products cause for instance osmotic blistering and the so-called washed-out concrete is induced by insufficient acid resistance. Concrete erosions of 1 up to 2 cm are measured per year, which cause fatal leakages and consequential expensive renewals as well as loss-making downtimes.

**We are manufacturer of high quality coating systems for effective corrosion prevention in the whole range of biogas applications.**

**Steel or concrete fermenters, hydrolysis tanks, hygienisation vessels and all component parts are protected reliably and permanently.**

**Our corrosion protection experts will gladly assist you!**