

Sealing of a slurry silo in accordance with the Water Resources Act, Germany

Groundwater protection

- **Project name**
Slurry silo on the Gröne farm, Nortrup, Germany
- **Client**
Thomas Gröne, Nortrup, Germany
- **Designer/consultant**
Naue GmbH & Co. KG, Espelkamp, Germany
- **Installation company**
Naue Sealing GmbH & Co. KG, Bückeburg, Germany
- **Products**
Carbofol® 612
Secutex® R 401





Pic. 1: Tank in cleaned state before the installation of the geomembrane



Pic. 2: Secutex® protection strips in the area of the outstanding heads of the screws

Naue has long been active in the field of groundwater protection, particularly in agriculture. Naue's innovative and safe solutions ensure, among other things, that substances hazardous to water, which are found in many areas of everyday life and can change the quality of groundwater or water bodies (e.g. detergents and cleaning agents, pesticides and fertilisers), do not get into groundwater, rivers or lakes.

Successful slurry tank sealing

An impressive example of this is the successful waterproofing of a slurry tank carried out on a farm in Nortrup, Germany in February 2024. The existing tank, with a concrete base 16 metres in diameter and a steel wall 3 metres high, required subsequent waterproofing to protect the building structure acting as barrier from the aggressive substances contained in the liquid slurry.

Our resistant Naue Carbofol® 612 high-density polyethylene (HDPE) geomembrane (3mm thick, DIBt approved) was used. These geomembranes meet the wide range of chemical resistance required by the German Institute for Building Technology (DIBt) media list, as well as all physical requirements. Carbofol® geomembranes are easy to weld, so that even overlaps and complicated joints can be made gas- and watertight.

When using high-quality single-layer sealing systems, appropriately dimensioned, mechanically bonded Secutex® protection nonwovens are required above and below the Carbofol® geomembrane, depending on the project requirements. In this project, a Naue Secutex® R 401 with a mass per unit area of 400 g/m² was used between the tank and the geomembrane to protect the geomembrane from, for example, punctual impacts caused by the protruding screw heads on the inner wall of the tank.

Compliance with strict legislation

This is particularly important as the handling of these substances is subject to strict legal regulations, such as the German Water Resources Act (WHG) and the Ordinance on Installations for the Handling of Substances Hazardous to Water (AwSV). These regulations also apply to agricultural facilities such as JGS plants (for slurry, liquid manure and silage seepage) and biogas plants, and are implemented by specially developed Technical Rules for Substances Hazardous to Water (TRwS).

Installation solutions from certified installers

Particular challenges in this project included the detailed connection solutions, such as the attachment of the geomembrane to the upper edge of the tank using a PE connection profile, the professional connections for the inlet and outlet, and the cladding of the wooden support column for the roof support. A PE pipe of the appropriate diameter was cut in half lengthwise and rejoined with an extrusion seam. In this case, it was not possible to fit the pipe over the support column as the existing roof structure blocked access. Sealing work of this kind is routine for Naue's fitters, who are certified in accordance with the German Water Resources Act (WHG) and is carried out with the utmost precision. Naue Sealing's specialist company is certified in accordance with §62 of the AwSV (German Ordinance on Installations for the Handling of Substances Hazardous to Water).