

Industrial WWTP of the disposal company Lindenschmidt

Biological treatment of liquid hazardous waste!

The medium-sized disposal company *Lindenschmidt Umweltservice KG*, located in Kreuztal-Krombach, owns a modern vehicle fleet and a chemical-physical treatment plant for solid and liquid hazardous waste. After a pre-cleaning procedure liquid hazardous waste is treated biologically in three underground activated sludge tanks belonging to the environmental services enterprise. The effluent is conducted in the local sewer system, which leads it to the municipal waste water treatment plant.

In the beginning of 2011 the industrial waste water treatment plant was consisting of two aeration tanks. The ever-changing influent composition out of liquid hazardous contents led to an excessive wear of the existing aerators. In consequence the oxygen transfer was inhomogeneous, which had endangered the operation safety critically. As 2011 went on, the technical decision has been made to install the large-scale and long-time stable MESSNER® Aeration Panels.

The aeration panels are equipped with a heat-resistant, chemically inert TPU-membrane and a two square meter stainless steel (AISI 316) base plate. Since installation in the two activated sludge tanks the aeration system has been reaching a much higher service lifetime and better efficiency in oxygen transfer. This resulted in a significant increase of the disposal constancy for liquid waste.



After the waste receiving has been expanded, a third underground aeration tank was built in 2014, wherein 49 MESSNER® Aeration Panels were installed. This is equivalent to 55% tank bottom coverage (refer to the picture on the left). At the same time the process engineering was optimized by implementation of a new interactive control system completely integrated in the existing PLC. Today MESSNER® ICS is controlling each aeration tank individually. This

flexible operation mode has been leading to a load-dependent elimination of the waste water ingredients.

Result / Benefit:

The capacity of a disposal company is determined by the existing resources for the downstream treatment processes. If those resources in turn are restricted in their performance by special technical components, will this limit the whole disposal chain.

Since installation of the extremely robust and simultaneously high efficient MESSNER® Aeration Panels Classic HT for high temperature applications the operation safety of the waste water treatment has been highly raised. The required oxygen is supplied in a sustainable and long-term way. Thus, the disposal of liquid waste is now trouble-free. Nerve-racking and expensive downtimes could be reduced to a minimum.