

## Summary

The intention of the paper is to include the excess pore water pressure caused by hydrodynamic loads in the conventional slope stability analysis used for the design of underwater slopes in order to optimize slope angles of submerged pits in sand and gravel. The design is based on E DIN 4084: 2002 and on the results of investigations on the pore water pressure propagation in soils which have been performed at the slopes of inland waterways.

The results of the calculation show that due to the hydrodynamic impacts of operation, waves and oscillating water tables the slopes of submerged pits in sand and gravel need to be less steep.

Finally the present studies are used to develop a simple and practicable slope stability analysis in consideration of hydrodynamic loads and in consideration of stress-independent soil strength.