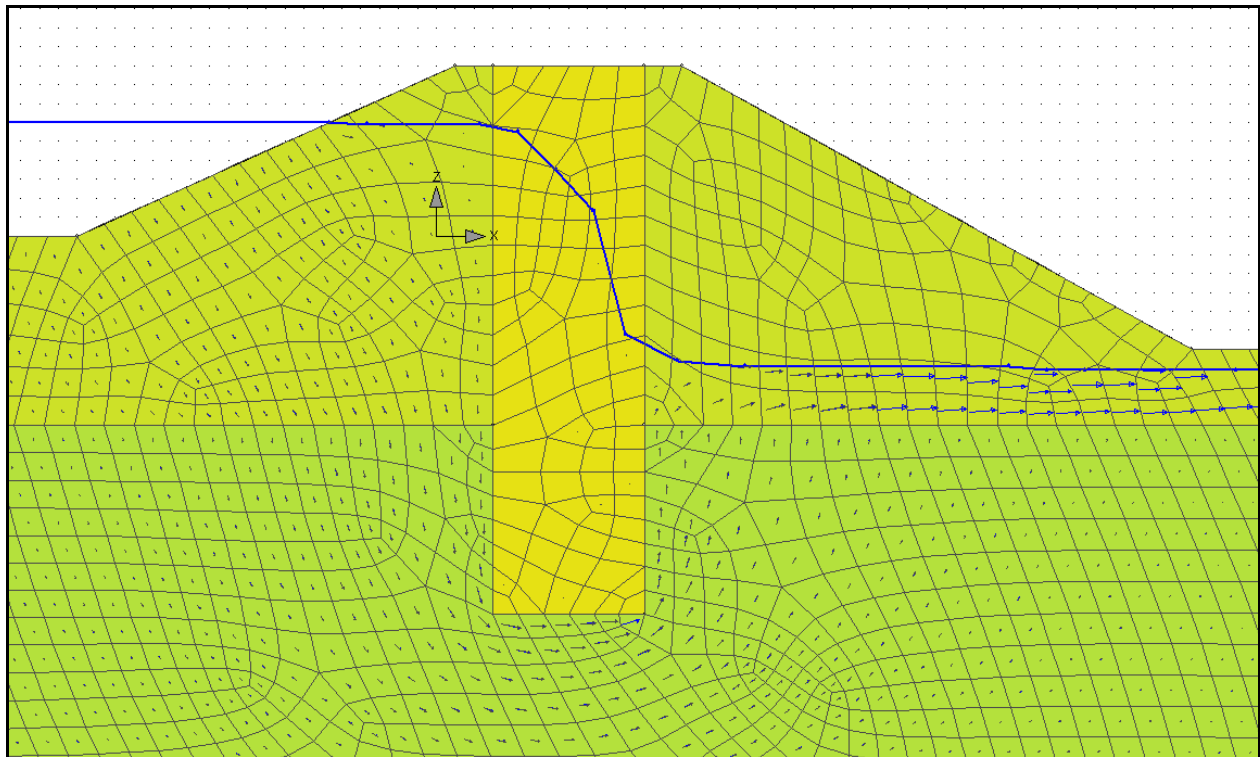


FIDES-Flow

Calculation of Seepage for Geotechnic Problems

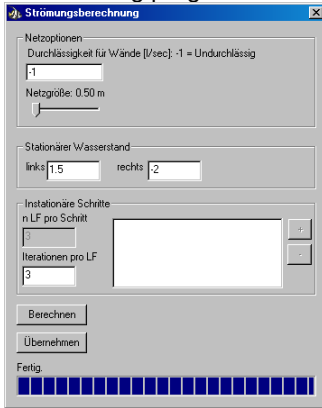
The devastating water catastrophes of the last few years sensitized officials and engineers to the stability issues of dams and dykes. The planning engineers ask for easy-to-use tools that helps them judging the influence of the water that flows through the soil. FIDES Flow can easily perform the calculation of steady state or transient water flow, the free water surface, the streaming quantities and velocities as well as the water pressure in plane sections. The results can be visualized and used for stability calculations in other programs of the FIDES Geotechnics Series. Thus, FIDES-Flow will not be used as a standalone program, but as an extension module for other programs as e.g. FIDES-KEA, FIDES-SlipCircle, FIDES-EarthPressure.



Performance characteristics

User interface

- The program does not have its own user interface since it can only be operated through other FIDES-Geotechnics Series programs.
- Fully integrated into:
 - FIDES-GeoStability
 - FIDES-SlipCircle
 - FIDES-EarthPressure
- Automatic saving of input values at the document of the calling program



Results

- Free groundwater surface
- Flow velocities
- Stream quantities
- Potential values

Application range

- Seeping of dykes and dams
- Computation of free water surface for retaining structures in ground water
- Influence of ground water lowering
- Correct consideration of pressure potentials for slip circle and kinematic failure mechanisms
- Correct consideration of streaming for earth pressure and stability analysis by correcting the specific weight of the soil

Calculation

- Steady state ground water calculation due to the law of DARCY
- Automatic meshing of the FEA system
- Non steady state calculation

