

SOFISTIK offers many programs to accomplish general geotechnics such as soil and foundation engineering tasks:

TALPA

TALPA allows the linear and non-linear plain strain/stress FE-analysis of any plane (2D) structure. The system input can be done using CADINP, MONET, SOFIPLUS or via the program especially suited for excavations WallsFEM. TALPA is mostly used to analyse axi-symmetric systems (e.g. tanks) or 2D system like excavation pits, tunnels or dams.

**HASE
Soil Structure Interaction**

The program HASE is used for the analysis of vertical deformations in semi-infinite solids according to the stiffness coefficient method. The settlement of large complex constructions can be analysed, as well as their influence on neighbouring structures. A 2/3D Ground-Soil interaction can be conducted via the combination with the modules SEPP, ASE and STAR. The system input is done via CADINP, SOFIPLUS or the FIDES input program WinGEL, which is especially suited for 2D-systems.

**PFAHL
Analysis of pile foundations**

The program PFAHL is used for the analysis of individual piles and general pile structures. The pile element is an elastically bedded beam, for which a variable bedding profile can be defined in circumferential- and longitudinal direction. The superstructure is defined as a rigid system via coupling or as an elastic system with existing stiffness' via beams or finite elements. In addition an analysis according to 2nd order theory is also possible. Therefore the buckling check can be conducted in an easy, concise and graphical way. The input is done using CADINP, SOFIPLUS or the

FIDES program PilePRO, which is especially suited for pile structures.

**HYDRA
Analysis of potential problems**

A large number of physical problems can be described by potential problems and can thus be classified as Laplace's (DH=0) or Poisson's (DH=q) differential equations. They consist of e.g. magnetic field problems, heat conduction problems and groundwater flow. HYDRA is specialized on the calculation of the last two problems, although it can also handle other problems of this type. The system input is mainly done using CADINP and supplementary with SOFIPLUS or MONET.

**WIST
L-shaped retaining wall**

The program WIST analyses any current checks concerning stability and analysis of an L-shaped retaining wall. With the analysis the stabilities are determined and or the geometry of the spur for given safeties are optimized. The geometry of the wall can arbitrarily be chosen. The system input is done via CADINP or CADINP interactive.

