



## PLAXIS 2D

The most used tool for geo-engineering

PLAXIS 2D and the Thermal, 2D Dynamics and 2D PlaxFlow modules create a powerful and user friendly finite element package intended for two-dimensional analysis of deformation and stability in geotechnical engineering and rock mechanics. PLAXIS is used worldwide by top engineering companies and institutions in the civil and geotechnical engineering industry. Applications range from excavations, embankment and foundations to tunnelling, mining and reservoir geomechanics.

The software is equipped with a broad range of advanced features to model a diverse range of geotechnical problems all within a single package. The geometry is modelled via predefined structural element types and loading types using CAD-like drawing tools, leading to fast and efficient finite element model creation. A large range of material models is offered to accurately model the behaviour of various soils and rock types, which together with a robust calculation procedures provide realistic assessment of stresses and displacements.

The PLAXIS Output program consists of a full suite of visualisation tools to check details of the underground soil-structure model for powerful and versatile post processing. Python based scripting facilities are available to couple PLAXIS 2D to other software applications.

### PLAXIS Academy

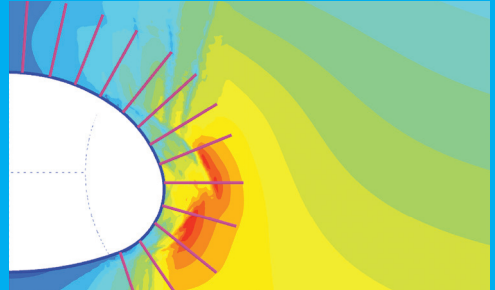
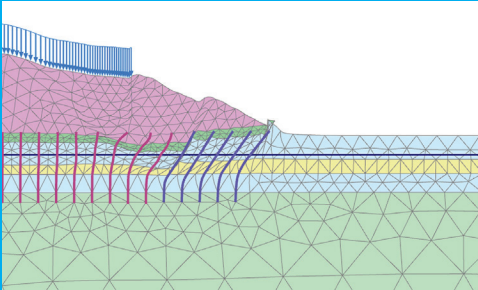
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### Fast and efficient finite element model creation

The user-friendly PLAXIS interface guides the user across several modes to efficiently create models with a logical geotechnical workflow. The Borehole mode allows definition of multiple boreholes to create any complex soil profile or geological cross-section. In the Structures mode, structural elements, like piles, anchors, geotextiles, and prescribed loads and displacements can be defined. It is also possible to import geometry from CAD-files. PLAXIS 2D contains a Tunnel Designer wizard to quickly create and edit tunnel cross-sections and loading conditions. The Mesh mode features automatic and manual mesh refinements, automatic generation of irregular and regular meshes and tools to inspect the mesh quality.

### Realistic assessment of stresses and displacements

The Staged Construction mode allows users to accurately model the construction process by activating and deactivating soil clusters and structural elements in each calculation phase. Calculation types offered, including plastic, consolidation, dynamic and safety analysis, allow PLAXIS to be used in a broad range of geotechnical problems. PLAXIS offers various constitutive models ranging from simple linear to advanced highly non-linear models, so that a wide range of soil and rock behaviour can be simulated. The well proven and robust calculation procedures ensure that calculations converge and provide accurate results. With multi-core calculations and a 64-bit kernel PLAXIS can deal with the largest and most complex models.

### Powerful and versatile post processing

The versatile Output program offers various ways to display forces, displacements, stresses, and flow data shown in contour, vector and iso-surface plots. Cross-section tools allow areas of interest to be inspected in more detail, and data can be copied from tables for further plotting purpose outside of PLAXIS. The Curve manager enables the creation of graphs which can plot various types of results across a selection of calculation phases.

With the Python based remote scripting, it is possible to port results to other software packages that support various API's.

### Applications

- Rock-mass response and surface settlements due to tunnelling, mining or reservoir depletion
- Slope stability and seepage analysis for large earth dams, tailing dams, embankments and pit mines
- Predicting differential settlements of buildings adjacent to excavation pits
- Stability of and seepage into excavation pits, lateral displacements of diaphragm walls
- Calculate necessary consolidation time for pore pressure dissipation in undrained loading problems
- Bearing capacity and foundation settlement analysis for high-rise buildings, LNG tanks and other structures

### Request a free demo

To learn more about PLAXIS and to download a free demo version, visit [www.plaxis.com/demo](http://www.plaxis.com/demo).