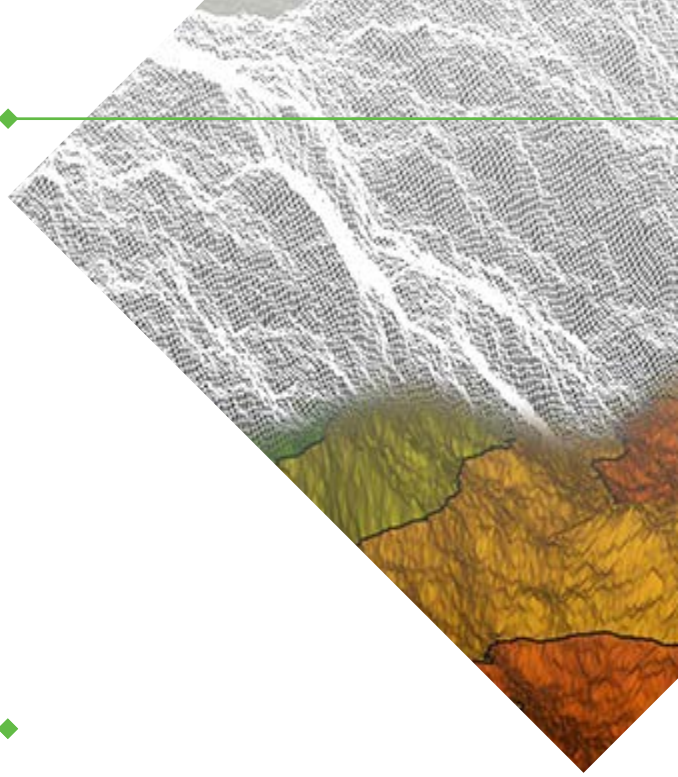
Bentley®
Advancing Infrastructure

PRODUCT DATA SHEET



PLAXIS® Designer

Powerful 3D Conceptual Design Capabilities Built for Geotechnical Engineers

PLAXIS Designer offers powerful 3D conceptual design capabilities that are specifically built for geotechnical engineers, bridging the gap between raw data and conceptual models. One of the most difficult aspects of designing 3D models is manipulating 3D geometry. Whether it is the representation of complex geology or the representation of geotechnical designs such as roads, mine pits, or tailing dams, these structures are most suited for 3D analysis.

3D CONCEPTUAL MODELING AND VISUALIZATION

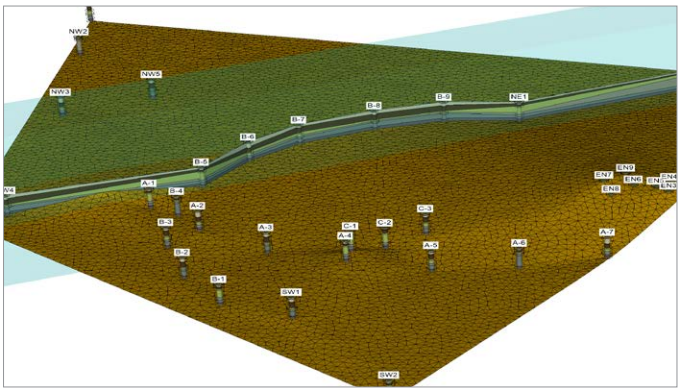
PLAXIS Designer gives you the ability to organize your geotechnical site data and use complex geometry to create conceptual models. The application allows you to overcome the challenge of merging and interpreting your data from various sources. Geology and water conditions can be imported from OpenGround® Cloud boreholes, Leapfrog® geological volumes, sensemetrics® piezometers, meshed topology surfaces, and data from many common file types. 3D geometry can be exported for geotechnical analysis in the form of 2D slices or as full 3D models. PLAXIS Designer reduces overall design and prototyping time and efficiently completes analysis. Your time and expertise are valuable, and you should spend it by finding better solutions through analysis, not by designing geometry.

DESIGN AND ANALYZE

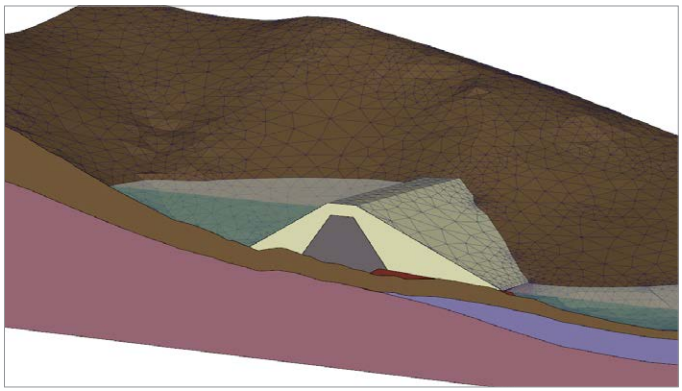
A rich variety of functionality is implemented into PLAXIS Designer to allow you to edit existing geology or integrate new geotechnical designs with existing topology. Advanced features handle accurate intersections of surfaces, object overlap, pinchouts, and mesh cleanup operations. You can store multiple designs in the same project file. PLAXIS Designer enables you to efficiently handle construction and excavation actions, including:

- Defining a road cut into the side of a hill or the shape of an open pit
- Generating construction sequences by building layers of material to create embankments, earth dams, or user-defined shapes
- Generating a set of slurried depositional surfaces for a user-defined filling scenario
- Calculating volumes of material to aid in construction activities
- Utilizing multiple 3D model-building methodologies, including extrusions, 2D cross-section stitching, 3D layer cake, and material volumes

PLAXIS Designer models can be exported to PLAXIS 3D LE, PLAXIS 2D LE, and PLAXIS 2D for geotechnical analysis in the areas of slope stability, stress and deformation, consolidation, and groundwater.



Quickly and easily create meshes from your borehole data.



Accurately represent your site data in 3D.

SYSTEM REQUIREMENTS

MINIMUM: Intel Pentium-based or AMD Athlon-based processor, Windows 10 or Windows 11, 4 GB RAM, 2 GB hard disk, video card with 256 MB VRAM that supports OpenGL 3.3, display 1024 px by 768 px or better

RECOMMENDED: 8 GB RAM (more memory typically results in better performance)

PLAXIS Designer At-A-Glance

DISPLAY

- 2D, 3D, and cross-sectional views
- Configurable display features
- MSAA (antialiasing) support
- Geometry
- Define regions
- Define surface grids
- Define surface meshes (TINs)
- Define polygons, polylines, scatter points
- Define water levels and piezometers
- Define boreholes and fence diagrams
- Define elevation and thickness contouring
- Define reality modeling/image draping
- Define slurried deposition
- Define bedding guides for anisotropic material layering
- Define enclosed volumes as material volume meshes (MVMs)
- Define faults and planar surfaces
- Advanced construction features available
- CAD drawing functions available
- Customizable display features available

IMPORT

- Import piezometer data and updates from the sensemetrics cloud platform
- Import boreholes from OpenGround Cloud, gINT®, and CSV
- Import block models
- Import from OBJ, 3DS, Plain ASCII/CSV, DEM, DTM, DXF, Esri grid, STL, and LandXML

EXPORT

- Export model volumes and slices to PLAXIS 3D LE, PLAXIS 2D LE, PLAXIS 2D for analysis
- Export data to flat file (CSV)
- Export data to OBJ
- Export data to STL

CALCULATIONS

- Data transformations (translation, rotation, scaling)
- Surface adjustment (planar calculations, overlap testing)
- Kriging (for generating grids)
- Extrusion (generate surfaces from cross-sections)
- Set operations (union, xor, subtraction)
- Surface intersections
- Surface clean up and repair
- Mesh refinement
- Surface remeshing
- Merge operations (combine surfaces, regions, polygons)
- Boundary calculations
- Volume calculations
- Filling curve
- Slicing
- Surface cuts and excavations
- Build surfaces from boreholes and fence diagrams
- Depositional surfaces
- Build 3D model volumes from multiple cross-sections

SUBSCRIPTION ENTITLEMENT SERVICE SUPPORT

- Provide a universal ID to link together all activity within Bentley applications
- Manage license entitlements at a user level, without requiring activation keys or hardware dongles
- Access personal learn material, paths and history, timely product-related news, automatic product updates, and notifications