

Bentley PLAXIS[®] Designer Product Fact Sheet

PLAXIS Designer (formerly SVDESIGNER) is a 3D conceptual model builder used to significantly reduce model creation times by visualizing, optimizing, and merging engineered earth structures, staged construction and excavation, topology, borehole, piezometer, and field instrumentation geotechnical data into a well-defined design model for subsequent numerical analysis. Use data from OpenGround and numerous other sources and input formats. PLAXIS Designer conceptual models can be exported to PLAXIS 3D LE, PLAXIS 2D LE, and PLAXIS 2D numerical modeling modules for analysis in the areas of slope stability, stress/deformation, consolidation, and groundwater. Please note: Geotechnical SELECT Entitlements are required for the following, and are marked with the “*” symbol in the list below.

Features

GEOMETRY

- Define Regions
- Define Surface Grids
- Define Surface Meshes (TINs)
- Define Polygons, Polylines, Scatter Points
- Define Piezometers
- Define Boreholes and Fence Diagrams
- CAD Drawing Functions Available
- Customizable Display Features Available
- Elevation and Thickness Contouring
- Slurried Deposition
- Advanced Construction Features Available

DATA INPUT

- Boreholes - gINT, OpenGround (Keynetix), CSV
- Existing Ground
- Geological Map
- Reality Model / Image Draping
- Geological Cross Sections
- Water Levels and Piezometric Surfaces
- Sensemetrics - Piezometer Import and Update

*GSE – Geotechnical Select Entitlement.

Features

GEOTECHNICAL MODELING

3D Modeling
Faults Modeling
Planar Surfaces
Volumetric Surfaces – Material Volume Meshes (MVMs)
Groundwater
Material Designations
Cut Fill
Location-specific Properties
Cross Sections and Fences
Bedding Guides for Anisotropic Material Layering
Build 3D Model Volumes from Multiple Cross-sections*
Block Modeling*

VISUALIZATION

2D Mapping Visualization
3D Visualization
Review and Markup
Movies
Ad-hoc Cross Sections or Fences
2D and 3D Views
Cross-Sectional Views
Configurable Display Features
MSAA (Antialiasing) Support

GEOTECHNICAL ANALYSIS EXPORTS

Slope Stability
Groundwater
Stress and Deformation
Consolidation

IMPORT

OpenGround and gINT
PLAXIS LE V21 Analysis Models
SOILVISION V10 Analysis Models
PLAXIS LE Output
OBJ, STL, 3DS, ASCII, CSV, DEM, DTM, DXF, ESRI Grid, LandXML

EXPORT

Export Data to Flat File (CSV)
Create PLAXIS 2D Model from Slice*
Create PLAXIS 2D LE Model from Slice
Create PLAXIS 3D LE Model

Features

CALCULATIONS

Manual Data Input / Editing
Data Transformations (Translation, Rotation, Scaling)
Surface Adjustment (Planar Calculations, Overlap Testing, etc.)
Kriging (for Generating Grids)
Extrusion (Generate Surfaces from Cross-Sections)
Set Operations (Union, XOR, Subtraction)
Surface Intersections
Surface Cleanup / Repair Tools
Mesh Refinement
Surface Remeshing
Merge Operations (Combine Surfaces, Regions, Polygons)
Boundary Calculations
Volume Calculations
Slicing
Surface Cuts and Excavations
Build Surfaces from Boreholes/Fence Diagrams
Filling Curves
Depositional Surfaces

MORE FEATURES

Artwork (Arrows, Labels, etc.)
Data Management / Organization (Tagging, Date Stamps, Coloring)
Multi-Core CPUs, Multi-Threading and 64-bit Environments Supported