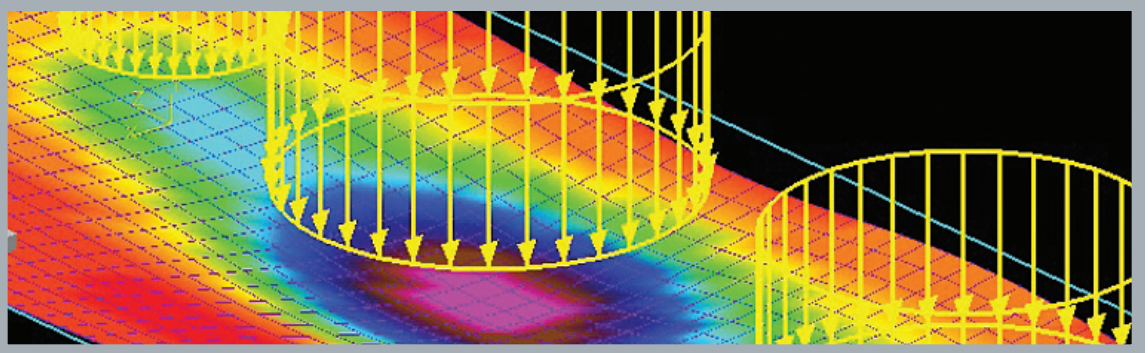
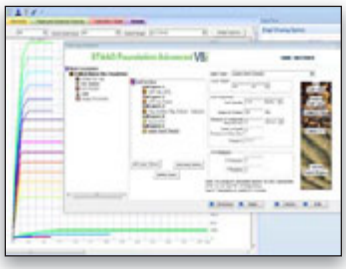
PRODUCT DATA SHEET



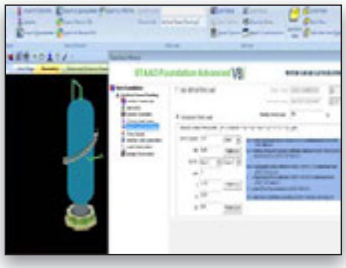
STAAD Foundation Advanced V8*i*

Comprehensive Foundation Design

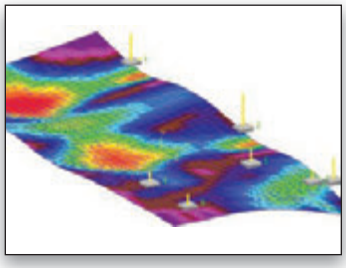
STAAD Foundation Advanced V8*i* is the one-stop solution for foundation analysis and design addressing the building, plant and tower industries by combining myriad foundations ranging from common foundations like isolated, combined, pile cap, and mat to specialized plant foundations like vessel foundations or annular ring tank foundations to state-of-the-art lateral analysis of drilled piers.



An example of drilled pier lateral analysis and automatic generation of p-y curves.



Wizard-based vertical vessel foundation design in STAAD Foundation.



An illustration showing mat foundation moment contour on deflected shape.

Improves Accuracy

The software integrates all common footing designs including isolated footings, combined footings, pile-cap arrangement and design, octagonal footings, mat foundations, drilled pier foundations, and guyed tower foundations.

Plant foundation mode contains vertical vessel, horizontal vessel foundations with different shapes, and configurations along with annular ring tank foundation and laterally loaded drilled pier analysis. These accurate design capabilities are powered with wizard based input, automatic load (wind and seismic) generation and configurable load combination tools. A wizard-based foundation solution mode called "Foundation Toolkit" is available for spread footing, combined footing, pile cap, drilled pier axial analysis, and guyed tower foundations.

Optimizes Foundation Design

Currently, STAAD Foundation Advanced V8*i* supports seven concrete codes: ACI-2005, BS 8110, IS-456-2000, AS 3600-2004, CSA 23.3-04, GB50007-2002 and EN 1992-1-1-2004. Load generation tools include wind and seismic load as well as automatic and user-defined load combinations generation. PIP STC 01015 code is implemented for equipment foundation load generation. The program performs all necessary design checks for most optimized foundation design. Alternatively, it provides tools to check existing foundations. Its powerful 3D graphics enable engineers to quickly identify and investigate displaced shapes, stress contour, soil pressure, and reinforcement layout.

Increases Productivity

STAAD Foundation Advanced V8*i* is seamlessly integrated with STAAD.Pro V8*i* (a leading product in structural analysis and design). Any analyzed STAAD.Pro file can be imported into or exported to STAAD Foundation Advanced V8*i*, while automatically bringing in all column positions (and/or plates), attached column dimensional properties, support reactions, and loads. Any changes made to the column positions or loads can be re-imported to further evaluate the substructure. STAAD Foundation Advanced V8*i* can import and export input data from spreadsheets and can export detailed output.

Finite Element Analysis (FEM) for Accurate and Economical Designs

No matter how complex the foundation is, STAAD Foundation Advanced V8*i* can design it with its object-based modeling environment via the mat foundation module. Whether it is rectangular, complex polygonal, circular or includes openings, STAAD Foundation Advanced V8*i* tools can model, analyze, design and produce drawings. The sophisticated mesh generation automatically handles holes (cut-outs) as well as inner regions with different thicknesses or soil property. Physical loading objects can be as diversified as circular load, quadrilateral load, line load, and point load on space.

STAAD Foundation Advanced V8*i* takes full advantage of 3D FEM analysis and employs an innovative technique to optimize reinforcement requirements. The program automatically detects uplift and redistributes the force.

Reduces Redesign Time

STAAD Foundation Advanced V8*i* generates detailed drawings that include plan, elevation and sectional views with rebar marks. Schedule drawing gives a summary table for design results. GA (general arrangement) drawing includes all the footings designed in the project to scale with grid lines and grid marks that help to identify interference. Drawings can be exported to DXF or DWG formats to produce site drawings. The most popular feature is Calculation Sheet, which shows detailed output with relevant code clauses and equations.

System Requirements

Processor:
Intel Pentium or AMD Athlon

Operating System:
Windows 7, Vista, XP, and 2000

RAM:
500MB recommended

Hard Disk:
300MB free disk space
(2GB recommended)

Display:
OpenGL 3D graphics supported

Resolution: 1280x1024

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STAAD Foundation Advanced V8*i* At-A-Glance

General Footings

- Intuitive user-friendly graphical user interface; the workflow is categorized and arranged to flow from top to bottom
- Complete foundation project environment that includes isolated, combined, strap, pile cap, octagonal footing, and mat foundations; it connects all the modules through a global layer
- Tabbed view, navigator tree Ribbon control and custom skin style
- Spreadsheet integration with detailed output
- Physical mat foundation modeling environment that saves time and reduces errors by considering holes, control regions, physical beam and column lines; provides an option for both triangular and quadrilateral plates
- Physical loading—like point load on space, quadrilateral load, circular load, or line load that allows user to simulate any physical loading like tank and wall loading
- Seamlessly integrates with STAAD.Pro V8*i* to import/export loadings, reactions, column positions; users can import any set of analyzed plates to design; tracks changes made in STAAD.Pro V8*i* model and can merge the changes with STAAD Foundation V8*i* file
- Powerful OpenGL-based graphics that help visualize output like displacements, stress on displaced shape, combined beam stress, and entities like plates and beams in 3D for a realistic rendered view
- Automatic pile arrangement

Output

- DXF export of Detailed and GA drawing
- Detailed structural drawing with customizable drawing options and labels
- Base pressure and plate stress color contours
- Step-by-step detailed calculation sheet with code clauses and equations to verify output
- GA drawing with grid marks to help identify interferences
- Foundation grouping for production drawing and sample calculation
- Printable bending moment and shear force graphs for combined footing
- Printable capacity graphs and analysis diagrams for laterally loaded drilled pier

Analysis and Design

- Support for both flexible and rigid methods. Optimize footing dimensions
- Sophisticated FEM analysis format foundation powered by reliable STAAD analysis engine
- Support for unlimited number of load cases and load combinations
- User-defined reinforcing zones and blocks for optimal reinforcement distribution
- Slab design along any cut line to simulate manual mat design technique
- Pedestal design
- Proper handling of biaxial moment for all footing types using finite difference approach

Design Codes

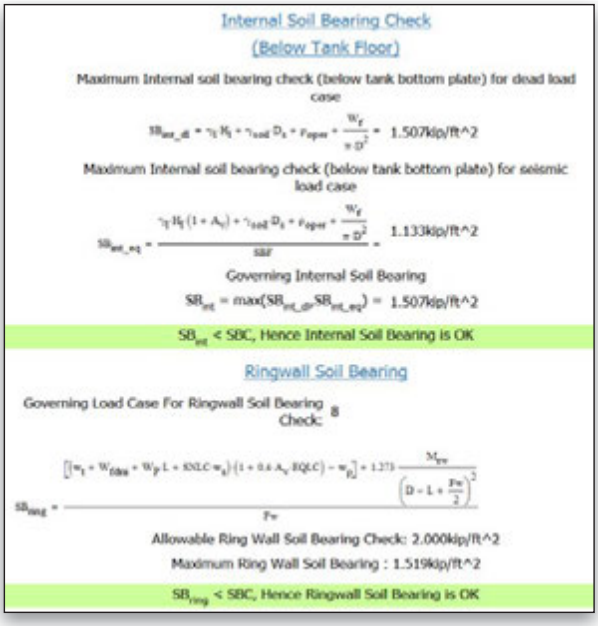
- United States - ACI 318-2005
- United Kingdom - BS 8110
- India - IS 456-2000
- Australia - AS 3600-2004
- Canada - CSA A 23.3-04
- Chinese - GB50007-2002
- Euro - EN 1992-1-1-2004

Features Specific for Plant Foundations

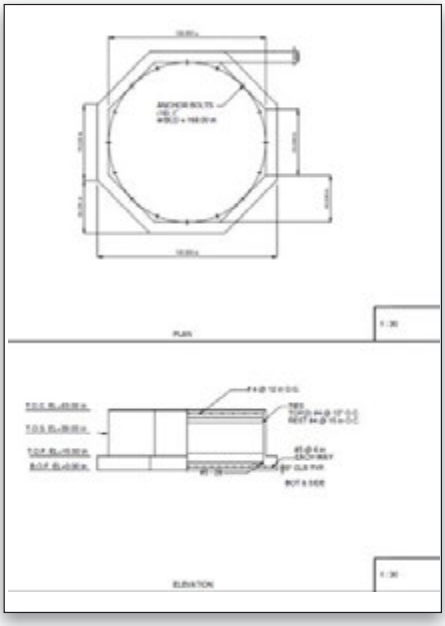
- Specific modules for the plant industry such as vertical vessel foundation, heat exchanger foundation, annular ring tank foundation and laterally loaded drilled pier analysis
- Generates load combination automatically based on several country codes like ASCE-7 and PIP STC 01015
- Generates wind load and zip-code-based seismic load automatically based on ASCE 7, IS 875, IS1893
- Creates different configurations of vessel foundations

Foundation Toolkit Features

- Time-saving wizard-based input for isolated footings, combined footings, pile cap arrangement and design
- Drilled axial pier module supporting API and FHWA 1999 and alternative Vesic method
- Guyed tower foundation module based on ACI 318



Calculation sheet for annular ring tank foundation.



Octagonal footing detailed drawing.