

VisualAnalysis Features



Model × Load × Analyze × Design × Report = **Succeed!**

What will **VisualAnalysis** do for You?

- **Analyze** just about anything
- **Design** steel, concrete, wood, cold-formed, and aluminum
- **Excellent** graphics and reporting
- **Just enough** features to get your job done right (see: levels)

Three Levels Available

- Analysis-only in 2D and 3D
- ***with Design**: Adds code checks
- ****Advanced with Design**

Modeling

- Frames, Trusses, Grids, Beams, Tanks...
- Beam or Truss **Members**, Plate/Shell Elements
- Catenary **Cable** Elements**
- Elastic **Spring** Supports
- Auto-meshed Areas**
- Tension-only/Compression-only elements
- Cartesian, Cylindrical or Spherical Coordinates
- No built-in size limits
- Typical Manufactured **Shapes** Database
- Parametric, Custom or Imported Shapes
- Any **Material**, Libraries included, **Customizable!**
- Simple, Rigid, Semi-Rigid** Connections
- **Sketch** models graphically
- **Copy & Paste** existing objects
- **Import/Export** DXF files, Clipboard text
- Interchange File Formats: STD, SDNF, or POL
- Customizable parametric generation

Loading

- **Automatic** Load Cases & Load Combinations
- Built-in Support for IBC, ASCE7, AASHTO, etc. Combinations
- **Customizable** Load Combinations.
- Semi-Automatic ASCE 7 Wind Loads (Method 2)
- Static Loads: Concentrated, Distributed, Pressure, Thermal, etc.
- Area Loads (keeps model and loads separate to make changes easy!)
- Dynamic Response Spectra, IBC & Customizable
- Dynamic Forcing Function**
- Moving Loads** (Crane Beams)
- Import Load Combinations**

Analysis & Results

- Static Analysis (1st order, **P-Delta**, Iterated)
- **Dynamic Analysis** (Sparse Lanczos, Newmark)
- Superposition Results and Envelopes**
- Member Internal Forces, Displacements, Diagrams
- Plate Forces, Stress, Contour Diagrams,
- Area Edge Results
- Automatic Mesh Refinement with Auto-Meshed Areas**
- Nodal Reactions, Displacements
- **Graphical Results** Viewing
- Sophisticated, Customizable Text Reports
- Spreadsheet report, and save directly Excel XLS**

Design Checks & Building Codes*

- Smart and Flexible Bracing
- Deflection checks
- Size constraints
- Design parameter overrides**
- **Steel** Design for members (AISC, CISC)
- **Wood** Design for members (NDS)
- **Aluminum** Design for members (ADM)
- **Cold-Formed** Design for members (NAS)
- **Concrete** Design of Beams, Columns, Flat Slabs (ACI)

Quality Reporting

- **Simplified** report generation
- **Customizable** reports
- **Filters**, extremes-only, and sorting
- Re-usable report **Styles** (templates)
- **Graphics** in reports

VisualAnalysis Features (continued)



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What will **VisualAnalysis** do for **You**?

Auxiliary Features

- **Custom Shapes** through IES ShapeBuilder (sold separately)
- **Spread Footing** Design through IES QuickFooting (sold separately)
- Mat Foundation Design through IES VisualFoundation (sold separately)
- Export to Google SketchUp (built-in)
- Integration with Autodesk **Revit Structure** with IES VAREvitLink** (free with advanced)
- **Import and Export:** DXF, STD, POL, SDFN, TXT, XLS
- Batch Analysis for command-line operation, programmatic access

Limitations

VisualAnalysis is a practical, down-to-earth tool. Features are limited to help keep the software very friendly and easy to use for everyday projects. There is sufficient power to do large and complicated tasks, but there are many things VisualAnalysis will not do (or will not automate):

- Not an 'ANSYS' or 'NASTRAN' (element types are limited, nonlinear features are limited)
- Not a 'turn-key' system for building or truss design. You decide the layout, pick initial member sizes, etc.
- No automatic total structural optimization.
- Does not run inside AutoCAD (or any other CAD tool)
- No internal pipe pressures
- No orthotropic materials (linear isotropic only)
- No solid (brick) elements
- No curved beams (you may simulate through 'chords')
- No ice-loading (say for transmission towers)
- No staged loading
- No nonlinear buckling analysis, full plastic analysis, pushover analysis
- No pre-stressed or post-tensioned concrete design
- No AASHTO bridge design (multiple lanes, code checks)
- Not a detailing tool, does not produce structural drawings

System Requirements

Software

- Microsoft Windows XP, Vista, or 7.0. Both 32-bit and 64-bit are supported.
- **Not tested:** Linux, Unix, Apple-based systems, (or similar). If it works great, if not we cannot help.
- **Not supported:** Windows 98, ME, 2000, NT, Virtual PC (limited graphics)

Hardware

- Any modern CPU: faster is better.
- 1 GB RAM, minimum.
- 1024x768 minimum display resolution, or better
- Recommended: A high-quality graphics card, 128+ MB RAM, OpenGL 2.1+ support, with an updated driver! Turn on anti-aliasing in your video card settings for the best quality images.
- Wheel-mouse. (3-buttons)
- ~50 MB disk space for programs, program data, utilities and libraries
- Typical project files range from 1K to 1MB, much larger files are created with saved analysis results
- Internet connection required for some features