

GT STRUDL® STRUCTURAL MODELING, ANALYSIS & DESIGN

Capabilities:

- Linear and nonlinear static and dynamic analysis.
- High-performance static and dynamic analysis equation solvers.
- Base plate modeling and analysis.
- Multimaterial beam and FEA analysis.
- Offshore structural analysis and design.
- User control of the iterative analysis and design process.
- Database management of all model data and analysis results.
- Ability to leverage company engineering standards.
- Comprehensive and detailed user documentation.
- Specification-driven design.
- Reinforced concrete design.
- Modeling on AutoCAD® and BricsCAD®.

GT STRUDL® supports your modeling, analysis, and design requirements for comprehensive steel and concrete designs. Take advantage of powerful documentation and intuitive design tools for 3D visualization. Complementary modeling environments offer essential tools for fast and productive system analysis. Boost accuracy by eliminating component design and manual drawing. Plus, benefit from workshare collaboration to enhance quality and gain detailed insight into your projects.

For efficiency and collaboration, GT STRUDL delivers a durable, proven, and reliable solution, backed by a proven track record of more than 30 years in a variety of industries, such as Public Utilities, Manufacturing, Civil Works, Heavy Construction, Commercial/Residential Building, Offshore Engineering, Ship Design, A/E/C Consulting, Government Agencies, and Academia.

Comprehensive Solution

GT STRUDL offers fully integrated and database-driven software for beam and general finite element analysis and comprehensive structural engineering design. The solution includes 10 functional areas that operate seamlessly with one another, combined with amazingly fast computational speed, GT STRUDL provides virtually unlimited power and flexibility for projects of any size or complexity.

Interoperability

GT STRUDL is natively interoperable with Intergraph Smart® solutions and CADWorx® Structure. This enables structural data-rich models created outside of GT STRUDL to fully leverage the power of GT STRUDL. It is also interoperable with third-party solutions through CIS/2 and GTI files. Reduce duplication of effort to save time and ensure data accuracy.



Quality Assurance

Since 1983, the GT STRUDL QA/QC program has been in full compliance with applicable provisions of the U.S. NRC's 10CFR21 and 10CFR50 Appendix B regulations. In addition, GT STRUDL QA procedures conform to the ASME NQA-1- 2008, including the 2009 Addenda Subpart 2.7 (NQA-1a-2009).

Steel & Concrete Structure Modeling

- Physical member definitions, labels, inquiry, and display.
- Nonlinear spring elements, support and member end springs, tension, and compression-only members, large sag catenary, and parabolic cables.
- Nonlinear fiber element plastic hinge and plastic zone member models.
- Friction-bearing, base-isolation elements.
- Integer and alphanumeric naming of joints, members, finite elements, and loading conditions.

Finite Element Analysis Using Plates, Shells & Solid Elements

GT STRUDL includes all the tools necessary for FEA of a broad range of structural projects, from the simplest to the most complex.

- Linear and nonlinear static and dynamic analysis.
- High-performance equation solvers.
- Maximum response harmonic analysis.
- Steady state time history dynamic analysis.
- Nonlinear pushover analysis.

Load Specifications & Generation

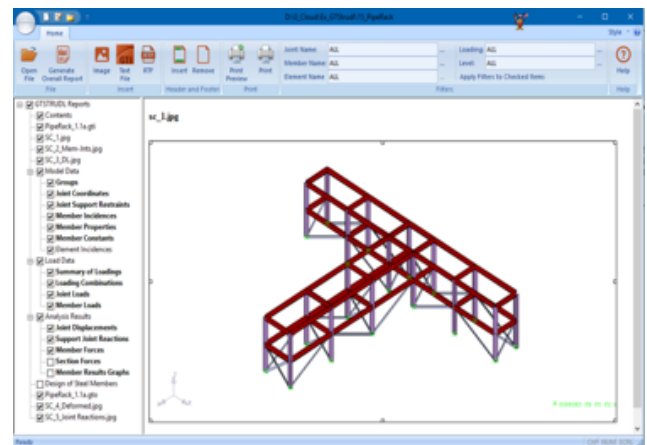
- Seismic and wind load generators per ASCE 7-05/7-10.
- Area load generator.
- Response spectrum analysis.
- Gupta and Lindley-Yow mode combination methodologies.
- Broad range of user-specified damping properties.
- Composite modal damping ratio calculations.

Design Codes

- **AISC:** 14th, 13th, 9th, N690, 341 & Older Editions; ASD/LRFD Methods.
- **British:** BS5950 & BS449.
- **AISI:** AISI89 for Unistrut Sections.
- **ASCE:** ASCE 7-05 & ASCE 7-10 Wind & Seismic Load Provisions; ASCE 52 Guide for Design of Steel Transmission Towers* & ASCE/SEI 48-05 Steel Pole Structures.
- **ASME:** Boiler & Pressure Vessel Code, Section III, Rules for Construction of Nuclear Facility Components, Div. 1-Subsection NF.
- **Eurocode:** EC3 plus National Annexes*.
- **Canadian:** CSA S16 & CAN.
- **Indian:** IS800.
- **Chinese:** GB (GuoBiao Standards).
- **Offshore:** ISO 19902, APIWSD (RP 2A-WSD) & Older Editions, NS 3472E.
*PreRelease Feature

Report Generation

- Interactively generate custom reports of model and load data, results, and figures.
- Move sections within the report from hierarchical tree display using the interactive interface.
- Filter by joints, members, elements, and loadings.
- Take advantage of customer footers, customer headers, and summary of loads.
- Save/Restore options on filters, order, and checklist.



About Hexagon PPM

Hexagon PPM is part of Hexagon (Nasdaq Stockholm: HEXA B; hexagon.com), a leading global provider of information technology solutions that drive productivity and quality across geospatial and industrial landscapes.