

Microstran

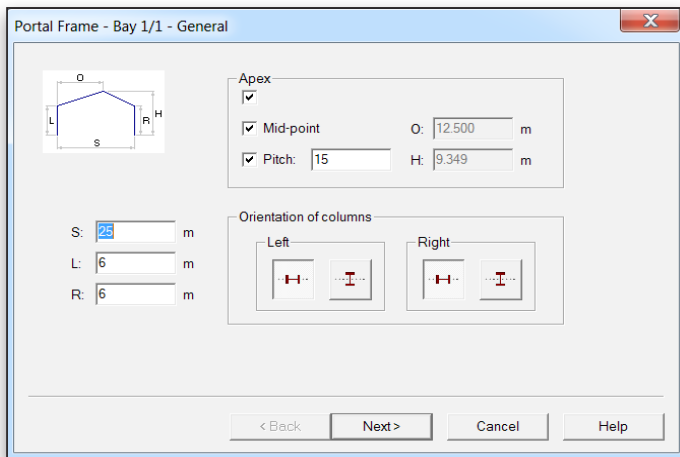
Leading-edge Software for Structural Engineers

Microstran is a powerful general purpose structural analysis package with built-in steel member and connection design. Microstran features powerful modeling commands, a number of commonly used analysis methods, exceptionally fast solvers, and interoperability with a number of other engineering file formats.

analysis considerations including rigid member offsets, temperature effects, prescribed displacements, semi-rigid connections, and moving loads.

Integrated Steel Member and Connection Design

Microstran offers design of members to a number of steel design codes including AS 3990, AS 4100, NZS 3404, AS/NZS 4600, BS 5950, AISC ASD Ed. 9, and SSCJ/AIJ. Microstran performs design checks for beams, columns, and braces, according to the selected design code. Steel connection design is an extension of the steel member design option. After selecting the connection type at any location, design data and actions are automatically transferred to a new window where the user can interactively design the connection. Many connection types are available, including shear and moment connections, base plates, and hollow section truss connections.



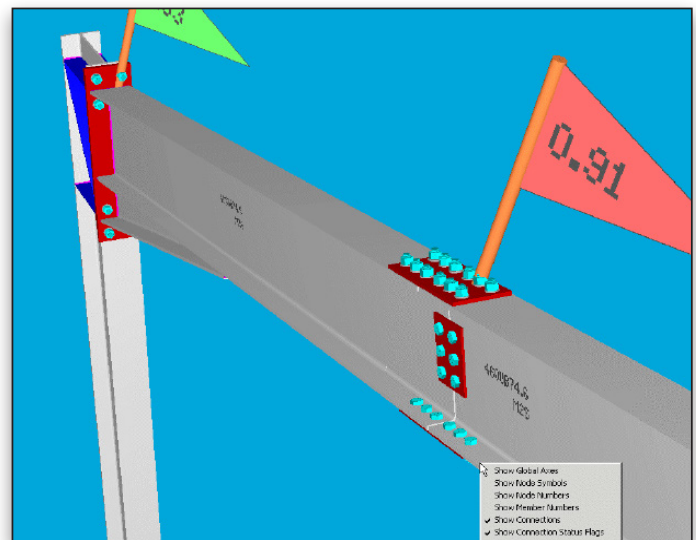
Modeling wizard for common types of structures.

Modeling Features

Microstran offers a myriad of ways to efficiently model a structure. A host of time-saving modeling commands within the graphic interface help the user rapidly construct the Microstran model. Alternatively, using the standard structure wizard users can quickly create common structures such as portal frames, grillages, 3D frames, and continuous beams. Microstran can also import 3D CAD files to be used as the basis for creating models. Users can also create and modify the structure using the tabular input window within Microstran.

Analysis Features

Microstran showcases a number of common analysis methods including linear and non-linear static analysis, elastic critical load, modes of vibration, and response spectrum. Automatic profile optimization facilitates exceptionally fast analysis. Special nonlinear elements including tension-only and compression-only members, gap and fuse members, and catenary cable elements provide flexibility in the types of structures that can be modeled. Microstran also enables other important



Integrated steel connection design showing connection geometry and status.

Section Library Manager

The Section Library Manager helps organize section data, including adding new and revising existing sections. Sections from different sources can be moved between different libraries. The properties of any section in the destination library can be viewed, re-computed, or checked.

System Requirements

Processor

Intel Pentium or AMD processor 2.0 GHz or greater

Operating System

Windows XP or later

System memory

Minimum of 512 MB of RAM, 2 GB recommended

Disk Space

Minimum of 500MB free space required

Display

Graphics card and monitor with 1280x1024 resolution, 256 color display (16-bit high color recommended)

Find out about Bentley at: www.bentley.com

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Microstran At-A-Glance

Modeling

- Model input:
 - » Model by graphic interface, standard structure wizard, or text input
 - » Import 3D CAD files
- Modeling capabilities:
 - » Section input by library, shape, or property values
 - » Spring supports
 - » Member releases
 - » 3D member offsets
 - » Semi-rigid connections with axial springs
 - » Tension-only and compression-only members
 - » Catenary cable element
 - » Node extrusion during copying
 - » Stretch, curve, arc, and helix commands
 - » Member orientation by reference node or axis

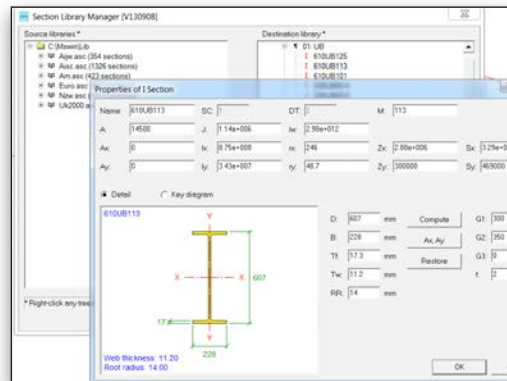
Analysis

- Comprehensive consistency check
- Automatic profile optimization
- Linear and non-linear static analysis

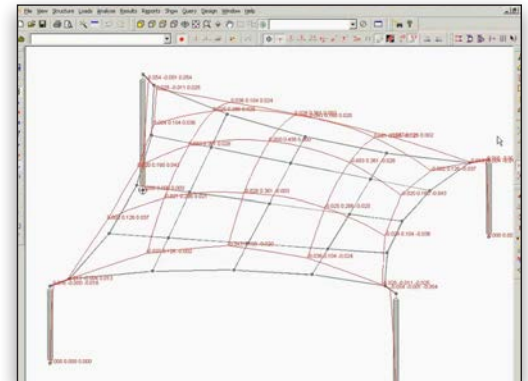
- Elastic critical load analysis
- Modes of vibration and response spectrum
- Master-slave constraints
- Gap and fuse members
- Moving load generator
- Temperature loading
- Prescribed displacements

Design

- Design of steel members to the following design standards:
 - » AS 3990
 - » AS 4100
 - » NZS 3404
 - » AS/NZS 4600
 - » BS 5950
 - » AISC ASD Ed. 9
 - » SSCJ/AIJ
- Beam, column, and brace design
- Support for both auto-design and design-check methods
- Design checks for cold-formed sections
- Integrated steel connection design



The Section Library Manager allows users to create and review custom sections.



Shade catenary cable element subjected to wind uplift.