



EXPLAINED

**CSC** ▶ **Fastrak**<sup>™</sup>  
PORTAL DESIGNER

**Structural Steelwork  
Analysis and Design**



[www.fastrak5950.com](http://www.fastrak5950.com)

# CSC ▶ Fastrak™ PORTAL DESIGNER

Fastrak Portal Designer software provides the fastest and most cost effective design solution for low rise portal framed buildings.

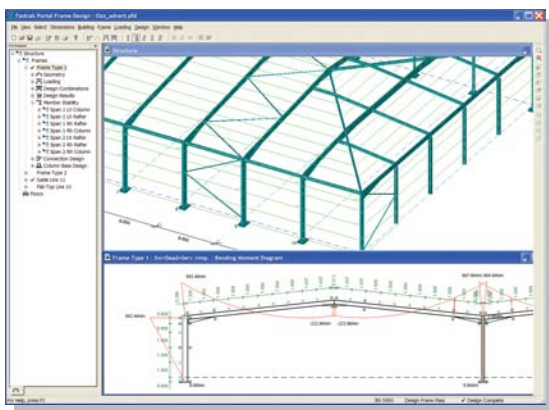
For over 30 years Fastrak Portal Designer has proven to be a "must have" solution and is now the industry standard – all major portal frame building designers benefit from using Fastrak.

More than 75 man-years of development have been invested in this software including full size testing of portal frame structures at The University of Bradford. More recently the work on second order elastic-plastic analysis involved considerable interaction with the Steel Construction Institute (SCI) for the creation of SCI P292, and University of Manchester.

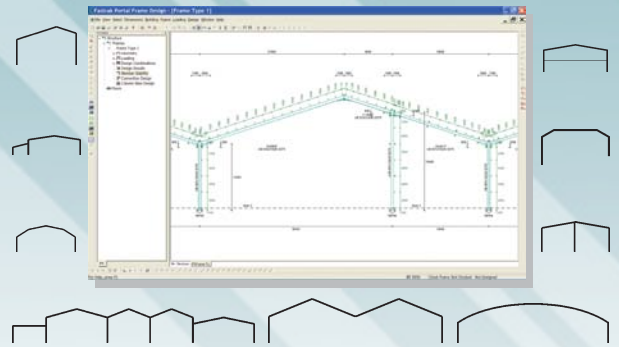
Fastrak Portal Designer is technically excellent, easy to use and will provide a guaranteed return on investment.

## Modelling and Loading

- ▶ Rapid generation of 2D frame or entire 3D building model
- ▶ Intuitive Windows™ interface illustrating the true physical design model
- ▶ Flexible frame geometry including asymmetric, mansards and propped portals
- ▶ Model valley beams, ties, cranes, floor beams, joists, parapets, gable posts and gable rafters
- ▶ Model hips with automated load decomposition
- ▶ Bases may be pinned, fixed or partially fixed
- ▶ Integrated modelling of connections. Haunches can be cut from sections or plate
- ▶ Comprehensive modelling of cold rolled purlins and side rails with integration to proprietary cold rolled design software
- ▶ Integration with 3D+™ Structural CAD System
- ▶ Full graphical verification of loading
- ▶ Comprehensive load types can be applied
- ▶ Automatic calculation of snow loading BS 6399: Part 3: 1988 including Amendments 1, 2 and 3 valley, parapet and step drift loading
- ▶ Automatic calculation of wind loading BS 6399: Part 2: 1997 Standard and directional effective speeds CP3: Chapter V: Part 2: 1972
- ▶ Automatic calculation of notional horizontal loading for sway stability checks



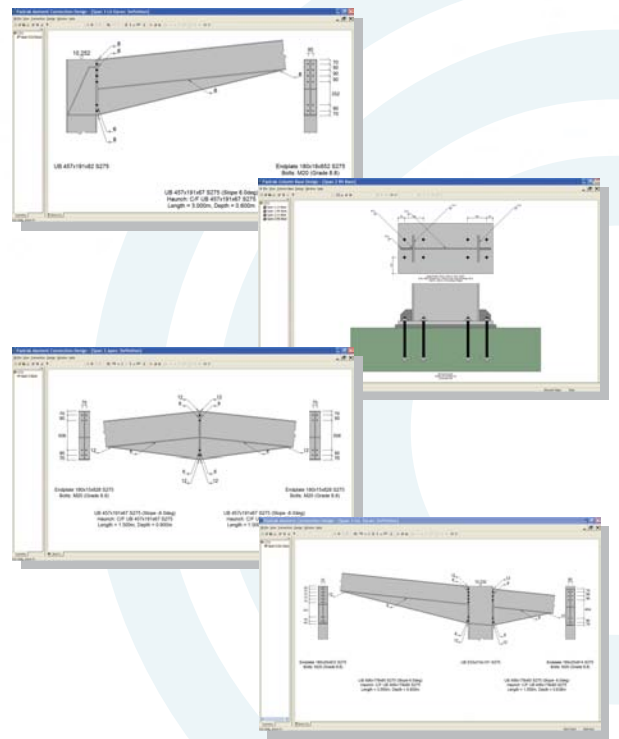
▶ 2D or 3D Modelling of Portal Framed Buildings



▶ Flexible Frame Geometry

## Design

- ▶ Fast and efficient preliminary and detailed designs
- ▶ Fully automatic elastic-plastic analysis and design to provide the most economic design available for portal framed buildings
- ▶ Full hinge history to collapse including allowance for hinge reversal and spurious mechanisms
- ▶ Automated member stability checks
- ▶ Automated sway stability (including calculation of notional horizontal forces)
- ▶ Comprehensive implementation of SCI P292 for full second order elastic-plastic analysis when necessary
- ▶ Automated checks for snap through stability
- ▶ Deflection limits may be applied to frame prior to design
- ▶ Detailed and optimised connection design for eaves, apex, valley and bases, seamlessly integrated with Portal Frame design package
- ▶ Design for fire boundary condition
- ▶ Crane beam design



▶ Comprehensive Connection Design Suite

**“Fastrak Portal Designer enables Atlas Ward Structures to retain our competitive edge.”**

Atlas Ward Structures Ltd

**“Fastrak is very easy to use and provides enormous time savings at the crucial stages of a project.”**

Barrett Steel Buildings Ltd

**“As a very small practice we need the best software solutions to enable us to compete with larger organisations, Fastrak Portal Designer enables us to do so.”**

Sabre Structures Ltd

**“Fastrak Portal Designer is a superb software package that helps our business cater for the growing structural steel market in Ireland.”**

O'Connor Sutton & Cronin

**“The software is excellent, both efficient and professional. We are extremely pleased with Fastrak – it has paid for itself many times over.”**

WSP Buildings Ltd

**“We have used Fastrak Portal Designer for many years. The level of technical support from CSC is second to none.”**

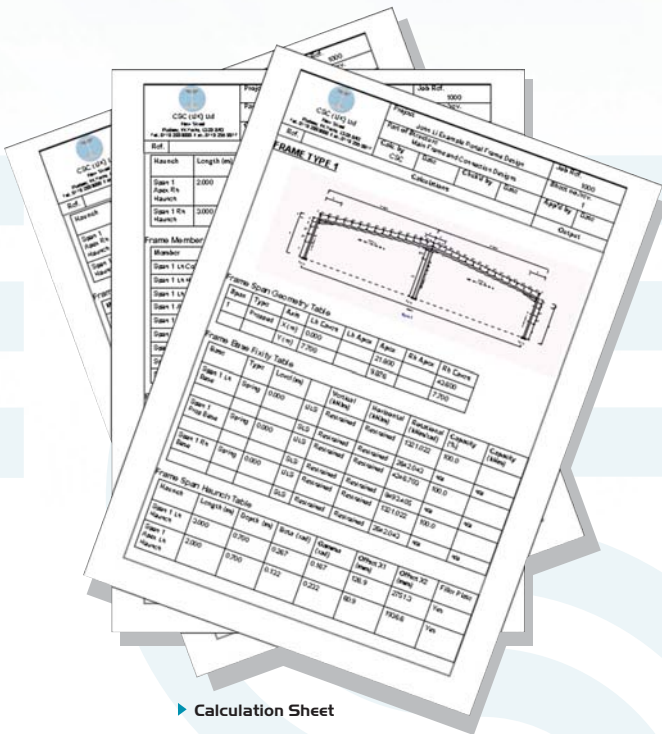
Stewart & Harris Ltd

### Results

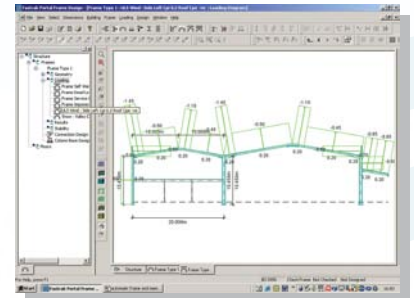
- ▶ Tailor output to meet your requirements
- ▶ Quality presentation of design calculations
- ▶ Output sent directly to printer or to Microsoft Word™
- ▶ On screen design summaries including diagrams
- ▶ Automated creation of comprehensive general arrangement drawings
- ▶ Integration with 3D+™ and other 3D CAD modelling software packages
- ▶ Export material quantities to Microsoft Excel™
- ▶ Integration with FabTrol® MRP for automated estimating

### Benefits

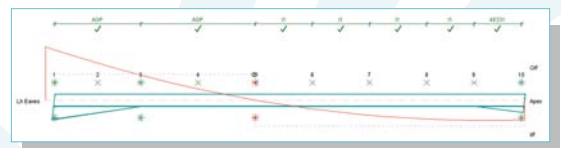
- ▶ Very fast automated designs thereby increasing profitability from fee generation
- ▶ Optimised minimum weight design solutions to assist with winning the project
- ▶ Quality design calculations for submission
- ▶ Automatic generation of general arrangement drawings and material quantities
- ▶ **Be competitive, save time and money using Fastrak Portal Designer**



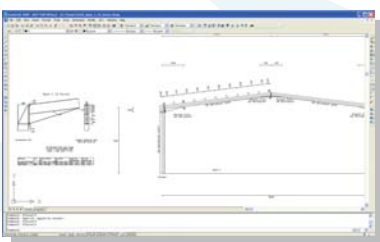
▶ Calculation Sheet



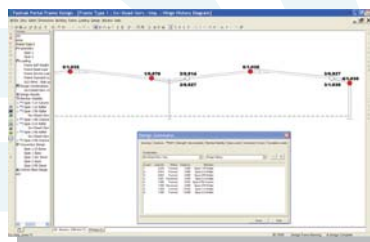
▶ Automated Wind Loading



▶ Automated Member Stability



▶ Automated General Arrangements



▶ Hinge History

### Purchase Options

- ▶ Total or modular solution to meet your requirements
- ▶ Choose from single to multi-span versions of the main frame designer
- ▶ Wind loading and snow loading modules available
- ▶ Optional connection design including bases
- ▶ Optional crane beam design

## Innovative software for structural engineers

CSC's product portfolio also includes:

### **CSC ▶ TEDDS®**

The calculation pad for the professional engineer ▶ [www.tedds.com](http://www.tedds.com)

### **CSC ▶ S-Frame**

3D structural analysis suite ▶ [www.s-frame.com](http://www.s-frame.com)

### **CSC ▶ Fastrak BUILDING DESIGNER**

Structural steelwork analysis and design ▶ [www.fastrak5950.com](http://www.fastrak5950.com)

### **CSC ▶ Orion**

Reinforced concrete analysis and design ▶ [www.orionc.com](http://www.orionc.com)

### **CSC ▶ 3D+**

The CAD system for structural engineers ▶ [www.3dplus.info](http://www.3dplus.info)

### **CSC ▶ Services**

Training, technical support and consultancy for structural engineers



software and solutions  
for structural engineers

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