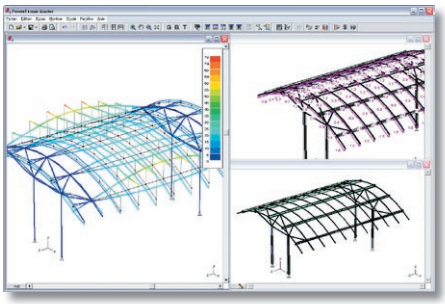
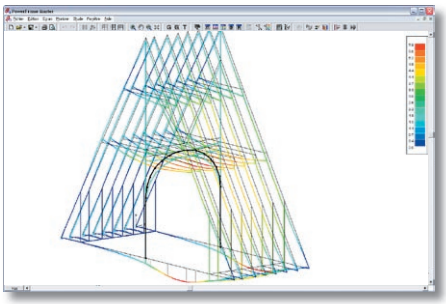
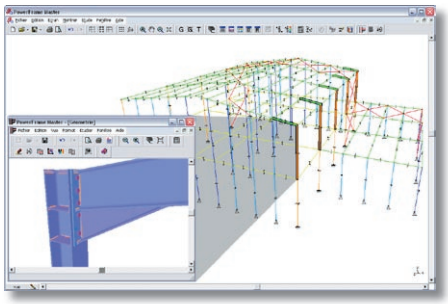
PowerFrame

Structural design analysis of concrete, steel & timber structural frames







Intuitive

Within PowerFrame's user-friendly environment, you define model geometry, boundary conditions and loads graphically.

An extensive set of tools (conveniently grouped in an icon toolbox) provides smooth access to PowerFrame's modeling power: automatic generation of wind and snow loads, elastic supports, variable cross-sections, ... are just a couple of typical examples.

Powerful

PowerFrame is built on state-of-the-art finite element solver technologies. PowerFrame provides you with a rich set of solution sequences, including first-order and second-order static analysis and dynamic analysis.

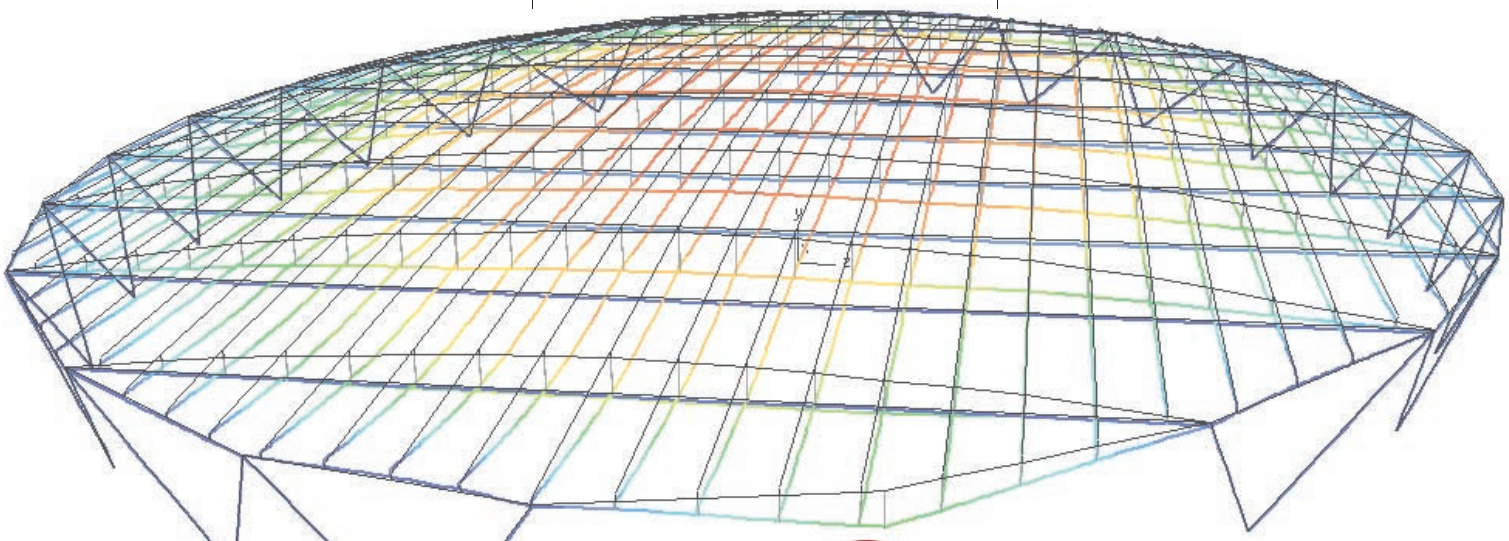
Built-in design rules for steel, reinforced concrete and timber empower you to optimally design portal frames, trusses and beams in an extremely short time period.

Limit state design verifications can be done according to Eurocodes 2 and 3, and according to a wide range of national standards.

Complete

PowerFrame provides you with a complete solution - standard. Each of the 3 available PowerFrame versions offers structural and loads modeling capabilities, static and dynamic analysis, limit state design verification and reporting capabilities. All of this at a fixed price.

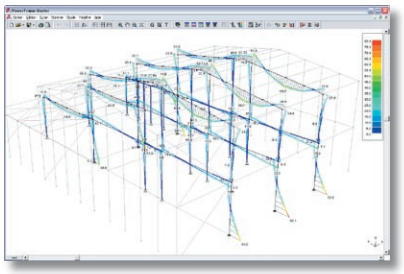
Simply select the version (Starter, Standard & Master) which best fits your application needs. Each version can be completed with an optional module for advanced dynamics.

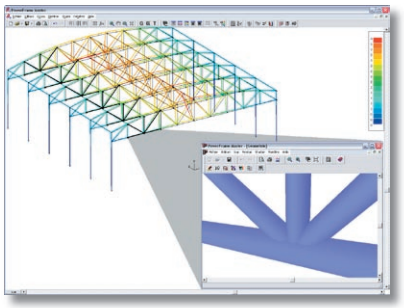


Bicycle shed at the renovated railway station square at Sint-Niklaas (B)
(Winner category A of 2004 Belgian Steel Construction Contest)
Architect: Architectenbureau Cepezed, Delft (NL)
Engineering office: Eurostation, Anderlecht (B)

BuildSoft

PowerFrame





3 PowerFrame versions are available. Each version offers complete functionality for specific application scenario's and can be extended with an advanced dynamic analysis module:

- PowerFrame Starter designs any planar frame structures, ranging from multi-span beams up to trusses and 2D portal frames.
- PowerFrame Standard designs any 3-dimensional structural frames.
- PowerFrame Master enables the engineer and steel contractor to combine the limit state design of structural steel frames with the limit state design of welded and bolded connections, to deliver optimal over-all economy.

Features

Graphical definition of geometry, boundary conditions and loads.

Selection of cross-section properties from built-in library. Library can be extended with user-defined cross-sections (automatic calculation of section properties).

Automated creation of wind and snow loads. Automated creation of loads combinations. (all according to EC1 and national standards)

First-order static analysis - with allowance for structural imperfections. Second-order static analysis with user-controlled accuracy level.

Automated buckling length calculation for steel, concrete & timber members.

Reinforcement design for concrete members - according to EC2 and national standards.

Cross-section resistance and buckling stability (compression & bending) verification of steel members - according to EC3 and national standards.

Limit state design of bolted and welded connections (compliant with EC3 specifications), integrated with global limit state design of portal frames (PowerFrame Master).

Cross-section resistance and buckling stability verification (compression & bending) of timber members - according to EC5.

Modal analysis (calculation of eigenfrequencies and eigenmodes).

Dynamic response analysis (modal superposition method) for harmonic & periodic loads.

Seismic analysis based on Eurocode 8 (3D spectral modal analysis method, with quasi-static correction).

Automated design optimisation of structural frame members.

Integration with CA design software through DXF and DSTV file formats.

Complete, highly readable analysis report (can be saved as RTF file).

Benefits

PowerFrame enables both the regular and the occasional user to set up a complete analysis model in the shortest possible time. Analysing and comparing multiple model versions, to explore design alternatives, now becomes possible and practical.

PowerFrame empowers engineers to design steel, concrete and timber structural frames for maximum economy, based on their behaviour in ultimate and serviceability limit states.

PowerFrame makes the complex European and national standards easily accessible for the engineer.

For more information on PowerFrame, please contact:

PowerFrame is a product of BuildSoft NV

Hundelgemsesteenweg 244/1
B-9820 Merelbeke, België
+32 (0)9 252 66 28
+32 (0)9 252 66 29
info@buildsoft.eu
www.buildsoft.eu

www.structuraldesignanalysis.com