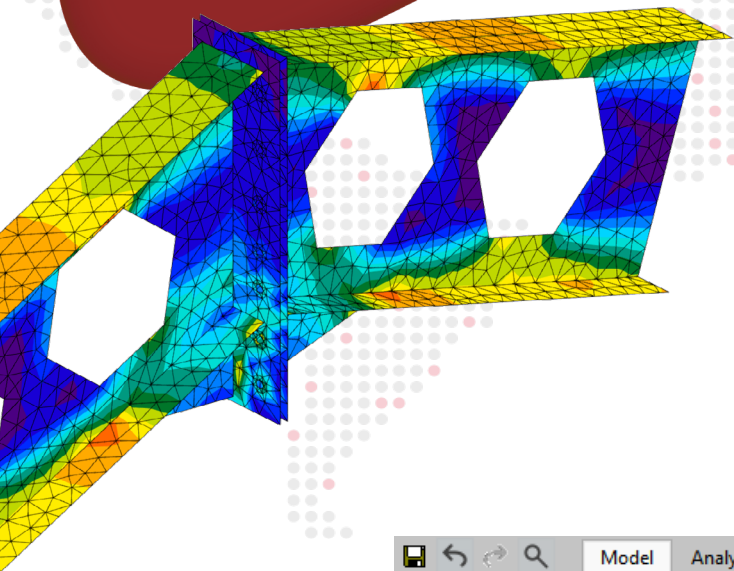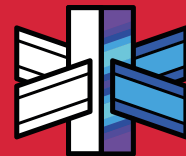# CYPE

CYPE Connect

CYPE Connect allows users to model and analyse, not only **connections between steel elements but also connections between timber structural elements as well as steel-to-timber connections**, using the finite element method.

Connection modelling

Using the "Model" tab, users can add the **different elements that make up the connection** and modify the sections of the node.
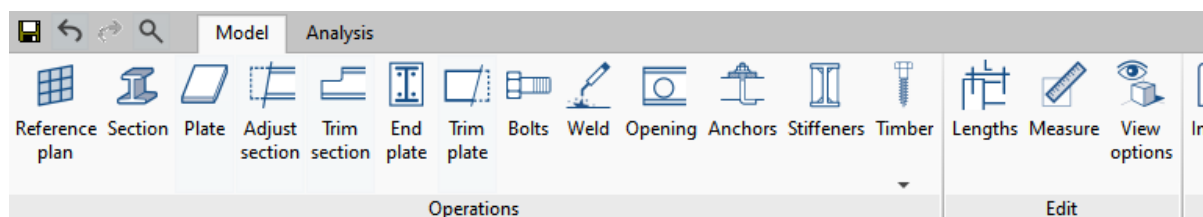
Analysis and checking

The programme **analyses the stresses and deformations of each one of the components in the connection, using the finite element software framework, OpenSees©**, to do so. With the results generated, as well as the checks on steel elements in accordance with the selected steel code, the checks on fixing elements for timber are carried out according to the criteria for the chosen timber code.
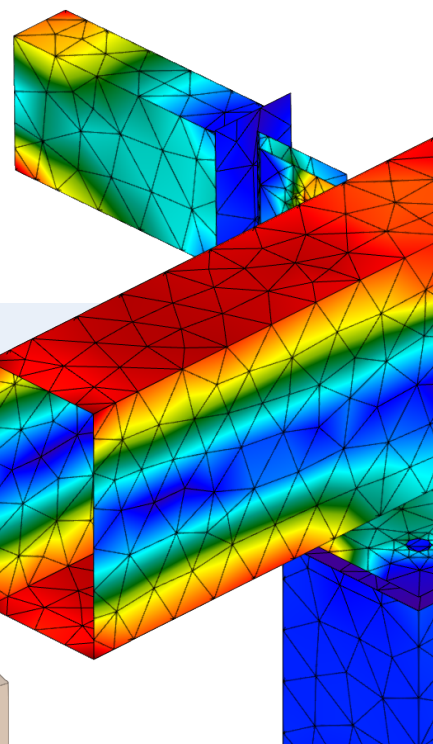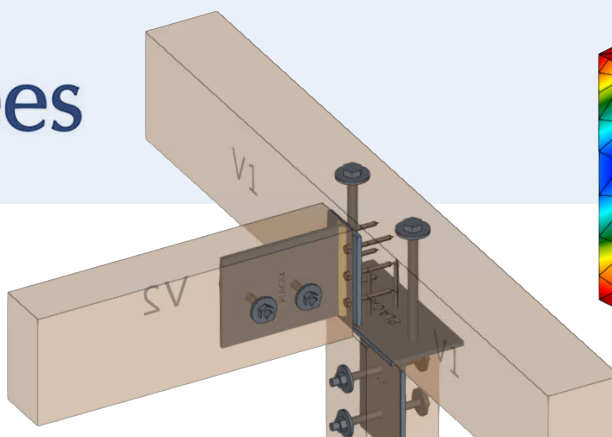
Standards

Steel

- ABNT NBR 8800:2008
- AISC 360-16 (LRFD)
- Código Estructural
- EAE 2011
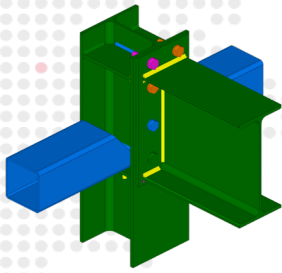- Eurocode EN 1993
- IS 800:2007
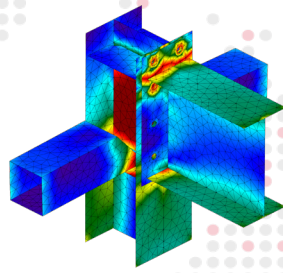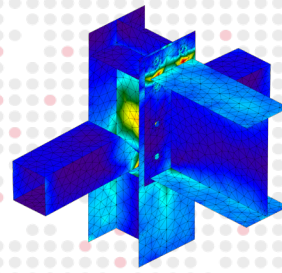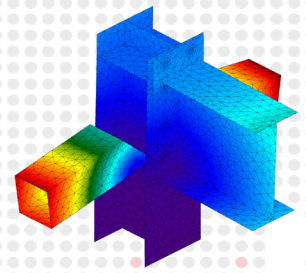
Timber

- Eurocode EN 1995

Results

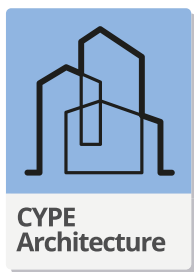**Maximum demand capacity ratio**

Von Mises stress

Equivalent Von Mises deformation

Displacements

Workflows

Interoperability

CYPE Connect imports bars from steel and timber structures modelled in **CYPECAD and StruBIM CYPE 3D** as well as the forces and combinations considered in the analysis to be used in the connection design for the generated nodes.

CYPE Architecture
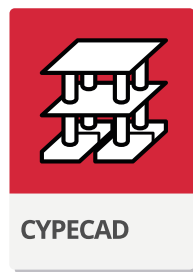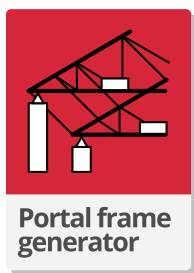
3D architectural modelling software, specifically designed for multidisciplinary collaboration.

CYPECAD

Structural designs subject to horizontal and vertical forces as well as fire action, for houses, buildings and civil work projects.

### Portal frame generator

Development of the geometry and loads of portal frames consisting of rigid nodes, lattices or trusses.

StruBIM CYPE 3D
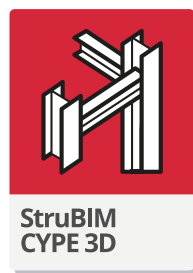
Design of 3D structures with steel, composite, aluminium or timber bars.

CYPE Connect
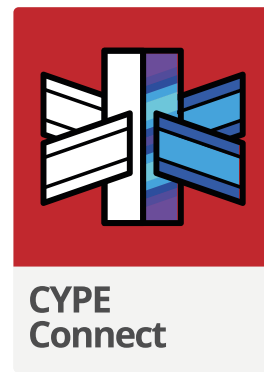
Modelling and analysis of steel element connections, connections between timber structural elements and steel-to-timber connections, using the finite element method.

StruBIM Steel
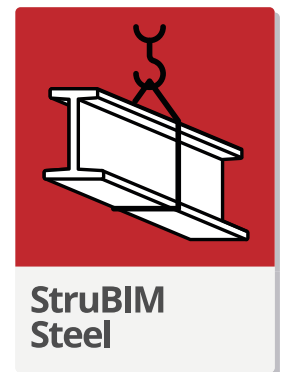
Creating BIM models for manufacturing steel structures. The program includes the necessary elements (sections, plates, bolts, weld beads and anchors) for defining the structure and offers, as a result, the manufacturing files in DSTV format.