

# ST7

## Steel Section Design

ST7 is suitable for the verification of the structural safety of steel cross sections.

### Available standards

- DIN EN 1993
- ÖNORM EN 1993
- DIN 18800

### Verifications

#### EN 1993:

The steel cross section is categorized in one of the cross section classes 1 to 4 in accordance with the applying load and the c/t ratio of its compression-loaded parts. The verification is determined by the classification.

The verification of cross sections of the classes 1 to 3 is based on the equations 6.1 (stress resistance verification) and 6.2 (utilization of plastic load-bearing capacities

in accordance with the cross section class).

The verification of class 4 cross sections with effective stiffness is currently not implemented.

#### Verification Kindmann/Frickel

The structural safety verification of open, thin-walled cross sections in accordance with Kindmann/Frickel - Stahlbau, magazine 10/1999 is also available:

The user can calculate cross sections with three limbs, such as U-channels sections or single- or double-symmetrical I-Profiles under biaxial loading including Saint-Venant's torsional moment and warping torsion.

In addition to the verification of a single cross section, ST7 allows the user to handle a batch of any number of cross sections in the form of a table.

### Interfaces and batch processing

The user can import profiles from the applications

- S7 - Portal Frame,
- BTII - Lateral Torsional Buckling Analysis
- DLT - Continuous Beam

into the batch of ST7 together with the pertaining internal forces. ST7 provides for the closer examination of the cross section's load-bearing capacity.

### Output

The user can define the scope of data to be put out in the output profile. An abbreviated printout or a more extensive output are optionally available.

