

Q3

Thin-walled Cross Section

The Q3 application performs the following calculations for composite steel shapes:

- Cross sectional properties
- Core
- Axial stresses

Equivalent bar system

This system can easily be generated from existing composite profiles. The user can calculate

- standard warping,
- warping resistance and
- stresses due to torsion and shear force,

on this system, also when considering closed cross sections.

To ensure a contiguous system, the user can link nodes/bars if required.

User interface

The user can define the system either via the graphical user interface and/or enter the data via tables. The Frilo profile section options offer standard cross sections, which the user can position, rotate and mirror with the help of reference points.

User-defined profiles

User-defined profiles such as double-T, sheet, bar steel, U-channel, angle, hollow and thin-walled open profiles are entered by specifying the dimensions.

Interfaces

DLT - Continuous Beam,
ESK/RS/TRK - frame applications:

The cross section options of these applications allow the selection

and import of a Q3 item. The values of the moment of inertia, the area, and the resistance moment are transferred.

BTLI - Second Order Bending Torsion Theory:

Thin-walled profiles with up to 20 sections can be imported in this application. The imported profile is treated like a Q20 profile. The equivalent member system is transferred with all dimensions in the ASCII format.

