PROSEC

CALCULATE THE SECTION PROPRETIES OF ANY CROSS-SECTION

ANALYSIS | G01

Summary

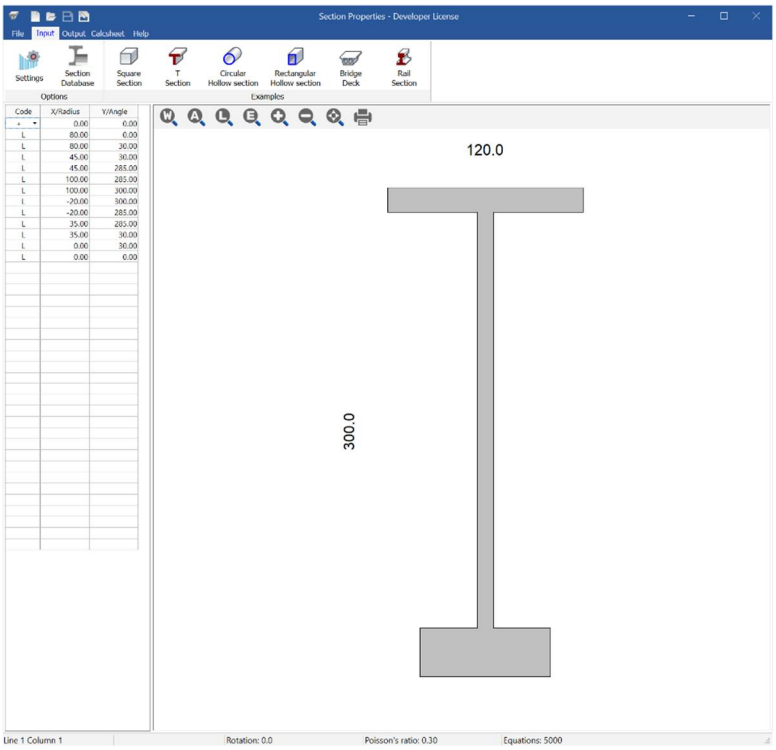
The calculation of cross-sectional properties of general shapes often involves the solution of equations that require numerical approaches. **Prosec** uses a finite difference procedure to calculate over 30 bending and torsional section properties.

What makes this module special?

- Evaluate any section geometry
- Bending and torsional properties
- CAD input
- Store properties in the **PROKON** section database

Detailed Description

The cross-sectional properties are important when working with beams in a frame analysis. **Prosec** determines the cross-sectional properties of any general shape, and these can be stored in a database for use in **Sumo** or **Frame**. The cross section can be defined by coordinates or imported from a CAD program.



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Prosec employs a finite difference method to calculate various section properties.

- **Bending:** area, location of centroid, orientation of major and minor axes, moments of inertia, elastic and plastic section moduli, radii of gyration, outside perimeter length, void ratio, and section efficiency factor.
- **Torsional:** normalised shear stress, effective shear area, location of shear centre, St. Venant torsional constant, mono-symmetry constant, torsional modulus, and warping torsion constant.