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Can you use **Steel Member Design for Combined Stress** to design a castellated beam?

PROKON does not have a design module dedicated to castellated beams. However, you can do some of the design checks using **Steel Member Design for Combined Stress** as follows:

- In the **Section Database**, go to the table for parallel flange (or taper flange) I-sections. Scroll to the bottom of the table and enter the overall section dimensions of the castellated section on a new line. For the web thickness, use an average value that will give the same overall cross-sectional area. The **Section Database** module will automatically calculate the section properties for the entered beam section. On the *File* menu, save the information as your new default database (this will make the new section available to all **PROKON** modules).
- Use this new section in you **Single Beam Analysis**, **Frame Analysis** or **Sumo Structural Modeller** model.
- Use **Steel Member Design for Combined Stress** to perform the member and section strength design checks for flexure and axial force.
- Use hand calculations for additional shear checks in the web.

Notes:

- When entering the castellated beam section in the **Section Database**, you must enter it as a regular I-section. If you enter it as a custom section, **Steel Member Design for Combined Stress** will have insufficient information available to perform the design checks.
- The above procedure effectively models a section with a solid web. This should be a reasonable approach for flexural design. You need to check the performance of the open web in shear by hand calculations.
- Cross-check your design results with the supplier's database.