



Structural Analysis & Design Software

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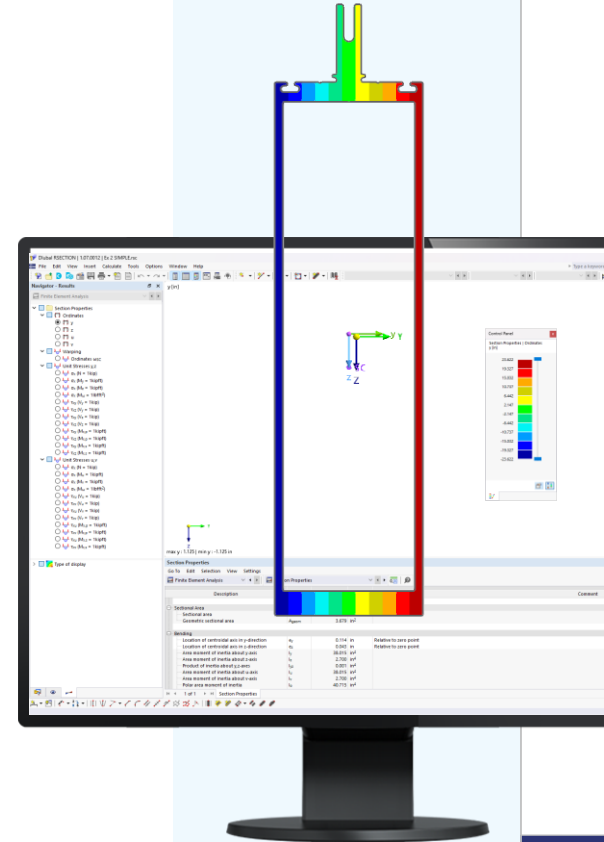
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Webinar

Custom Cross-Section Modeling in RSECTION 1



Questions During the Presentation



GoToWebinar Control Panel
Desktop

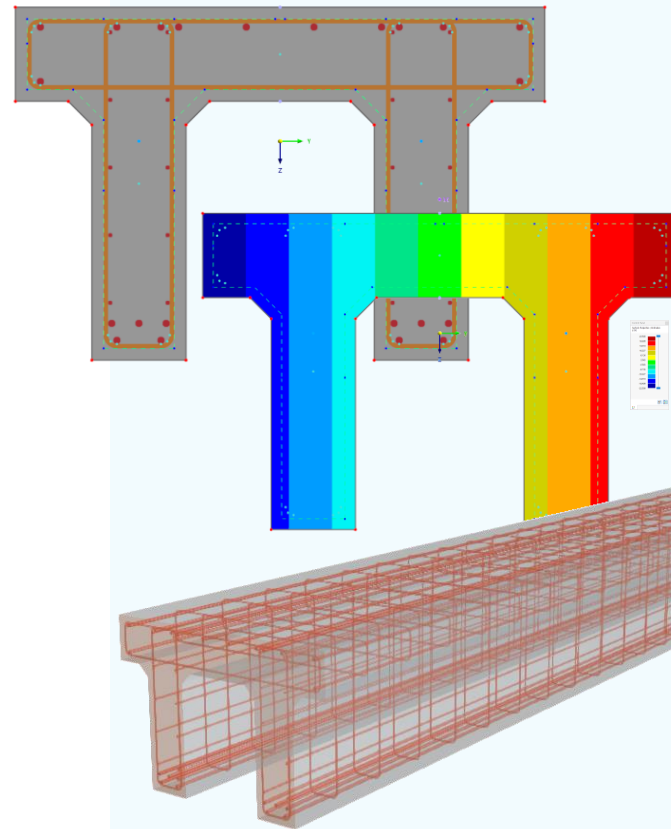


The screenshot shows the GoToWebinar desktop control panel. At the top, there is a toolbar with several icons. A blue arrow points from a box labeled "Ask questions" to the question icon (a speech bubble with a question mark). Another blue arrow points from a box labeled "Adjust audio settings" to the settings icon (a gear). Below the toolbar, the main area is titled "Questions" and contains a large question mark icon with the text "No questions yet" and "Questions from your attendees will appear here." At the bottom, there is a section titled "Submit a question" with a text input field labeled "Enter your question" and a "Send" button. A small note below the input field states "Your question will be sent to the staff".



Content

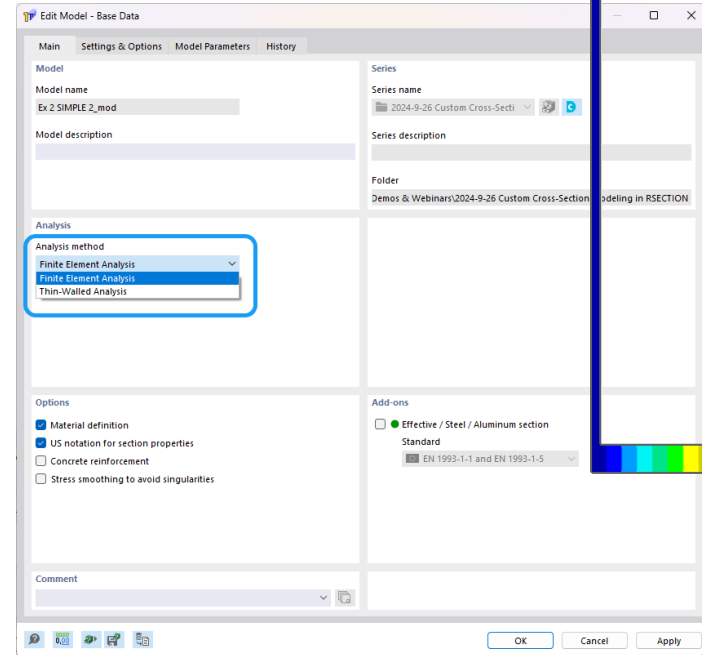
- 01 Introduction to RSECTION analysis methods
- 02 Ex. 1 – Built-up steel section
- 03 Ex. 2 – Cold-formed steel shape (.dxf import)
- 04 Ex. 3 – Aluminum extrusion (.dxf import)
- 05 Ex. 4 – Aluminum extrusion
- 06 Ex. 5 – Reinforced concrete massive section
- 07 Integration in RFEM 6 for member analysis and design



RSECTION Analysis Options

Thin-Walled Analysis vs. Finite Element Analysis

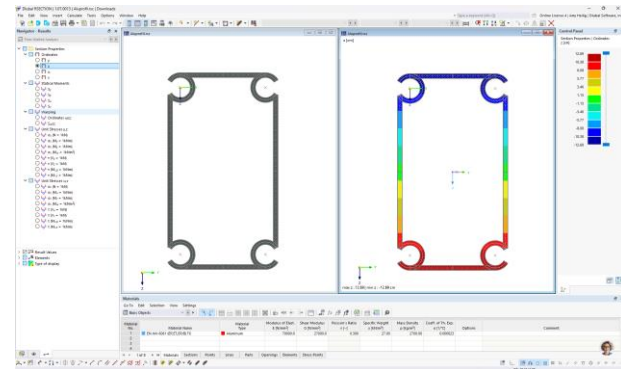
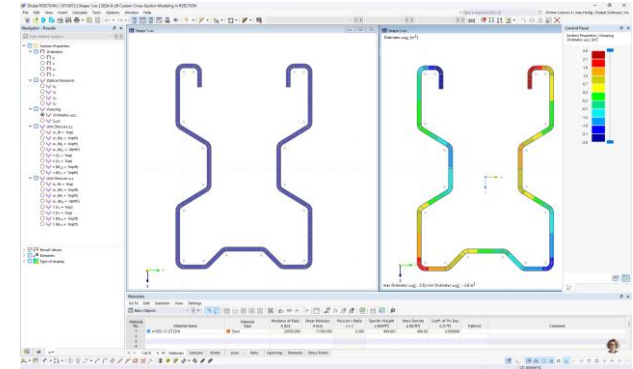
- Thin-walled analysis for sections w/ thin-walled elements (open, closed, or connected)
- Finite element analysis for sections with massive profiles (including openings)
- Some section properties are identical regardless of the analysis type (e.g., A , I_y , I_z , r_y , r_z , S_y , S_z , etc.)
- Other properties will vary depending on analysis type (e.g., A_y , A_z , J , C_w , etc.)



RSECTION Analysis Options (cont'd)

Thin-Walled Analysis

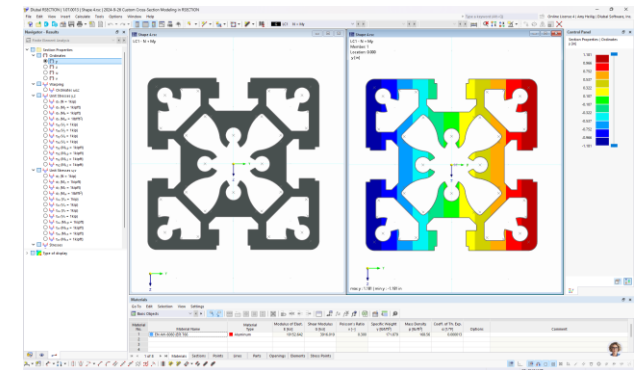
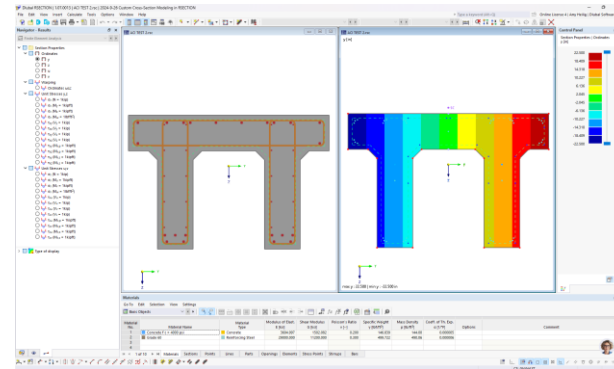
- Thin-walled cross-sections (aluminum, steel, cold-formed steel, etc.)
- Requires generation of “elements” for calculation
- Simplified assumptions and analytical formulas applied
- Stress and force flow along element length, not width
- Shear, torsional, and warping properties for elements only (e.g., fillet radius neglected)
- Subpanel generation on elements for **local buckling checks**
- Complex sections or sections that deviate greatly in shape from the generated elements may have incorrect properties (FEA method preferred)



RSECTION Analysis Options (cont'd)

Finite Element Analysis

- Massive cross-sections (concrete, timber, etc.)
- Finite element calculation method applied
- Adequate mesh required for accurate results
- Higher numerical and time demands compared to analytical calculations
- Offers a wider range of applications including complex sections
- Stress and force flow along section length and width
- Shear, torsional, and warping properties for full cross-section
- Possible, but not required, to generate “elements”
- Subpanel generation on elements for **local buckling checks**



— Dlubal Software Information



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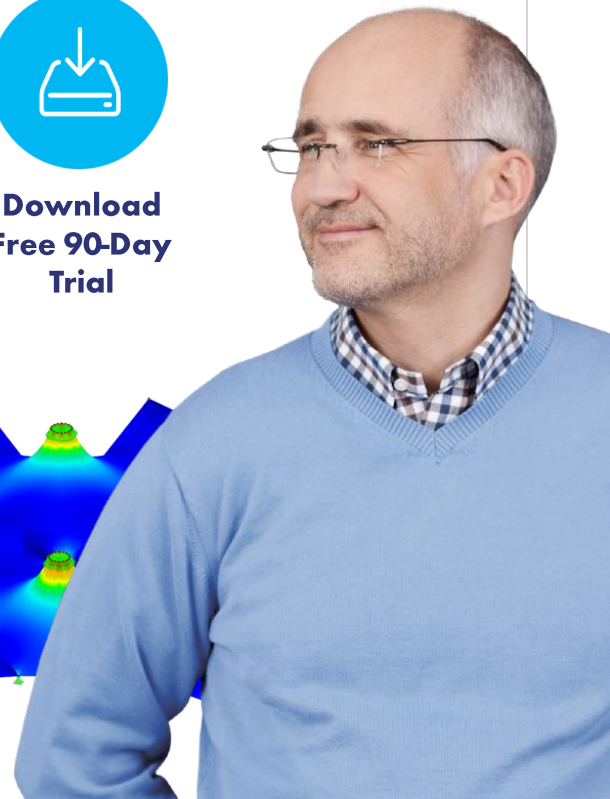
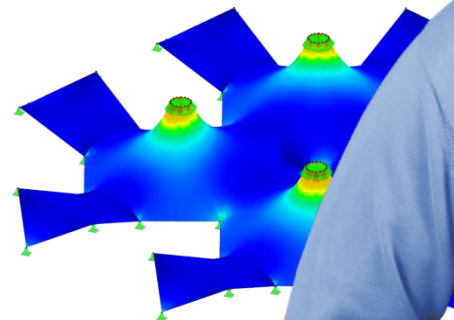
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