Release 10 of Advance Design Connection

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Introduction

We are proud to publish version 10 of Advance Design Connection (ADC), the exclusive GRAITEC branded version of IDEA Statica Connection of our partner Idea Statica.

Version 10 is an ambitious one because it aspires to solve a big engineering problem – seismic design of steel connections. And the aim is to solve it not just for the handbook and simple connections, but for all topologies of connections and joints, loaded in multiple directions. And to keep this process short - minutes. A reliable and quick connection design in a smooth interface, connected to BIM, this is the new Advance Design Connection!

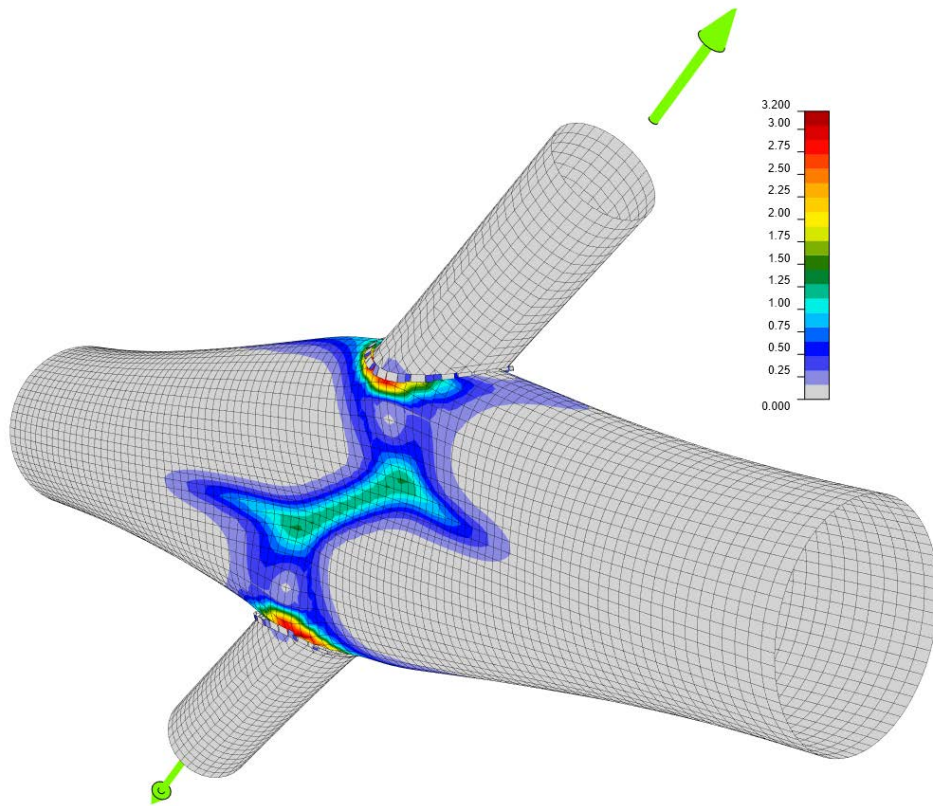As our partner says, "Calculate yesterday's estimates!"

Seismic check

New 'Capacity design' analysis type replaces the current 'Member capacity design'. The new analysis is capable to code-check joints in seismic areas all around the world because it provides a high-level customization. The 'Dissipative item' operation is added, in which members or plates with applied overstrength factor are selected. Also, the strain-hardening factor can be customized. Occurrence of a plastic hinge can be analyzed and proofed. Capacity design analysis is provided for all available codes (EN, AISC, CISC, AS, and SP).
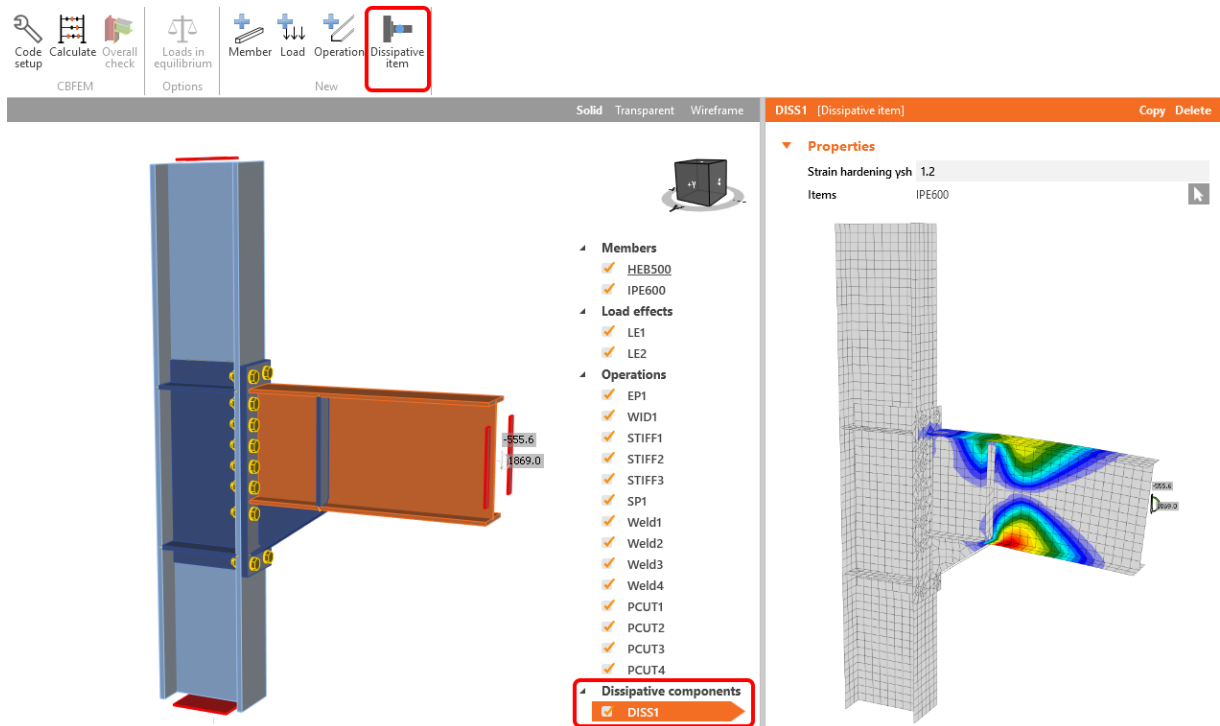
Hollow members local deformation check

SLS check of cross-section local deformation for hollow members.

Check of members and steel plates for extreme load effect

	Status	Item	d0 [mm]	Loads	δ [mm]	δ lim [mm]	δ/d0 [%]
>	❌	CH	168.3	LE1	6	5	3.3
	✅	D1	88.9	LE1	0	3	0.1
	✅	D2	88.9	LE1	0	3	0.1

Operations

- **Stiffener**
  Can be added automatically to welded cross-sections too. Now, the stiffener automatically changes its dimensions according to the smaller flange.
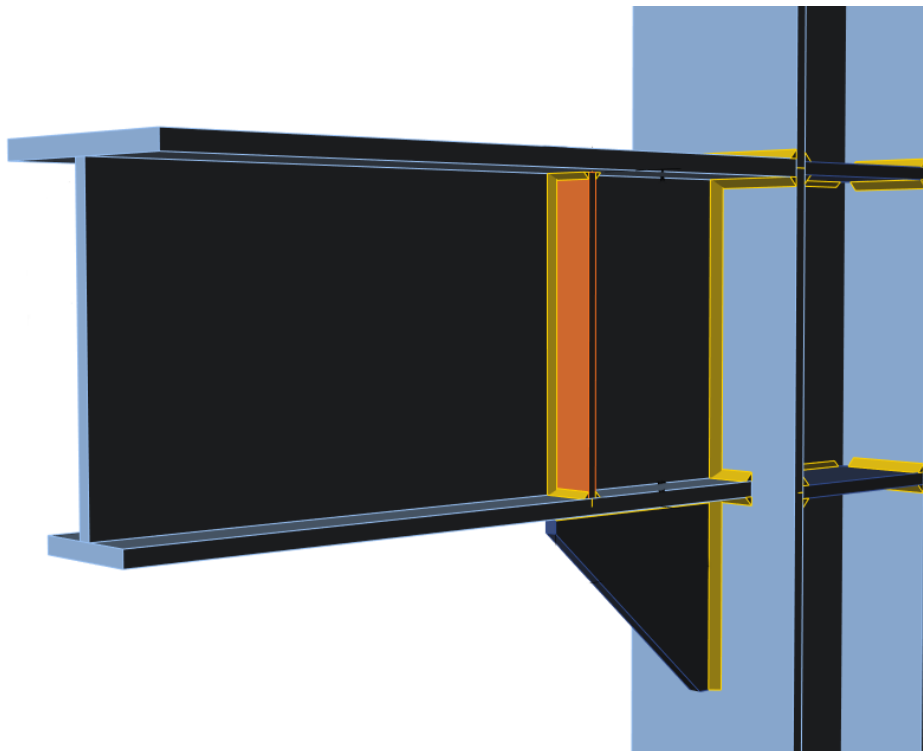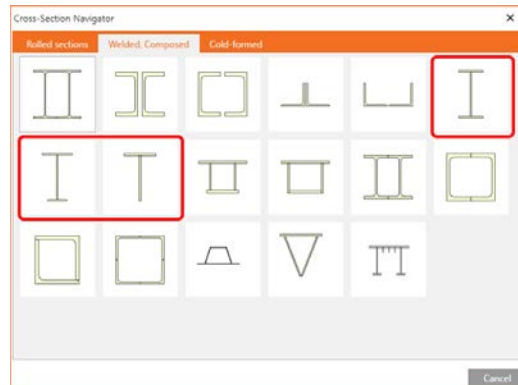

- **Welding of hollow section members**
  In the previous releases, when we welded tubes with same dimensions but different thicknesses, there was a singularity:

SHS200x200x8

SHS200x200x5

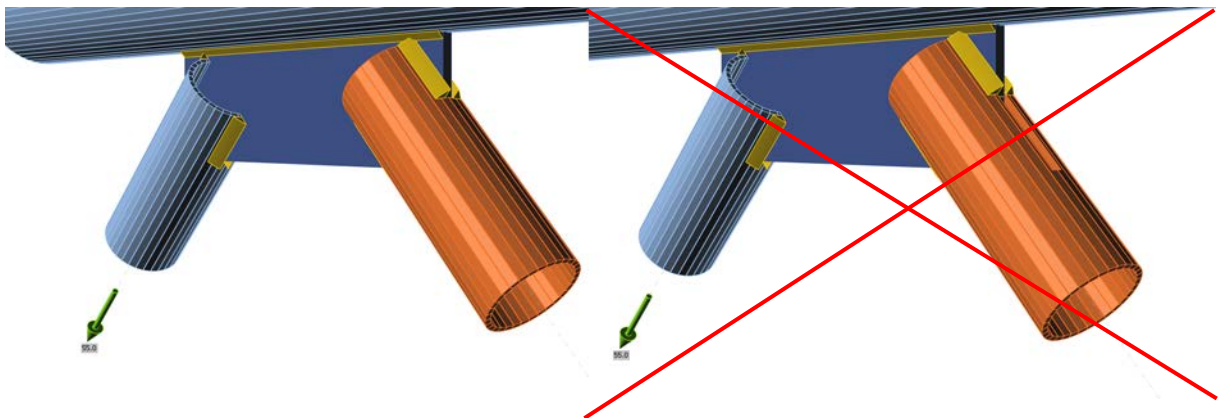9.1

SHS200x200x8

SHS200x200x5

10.0
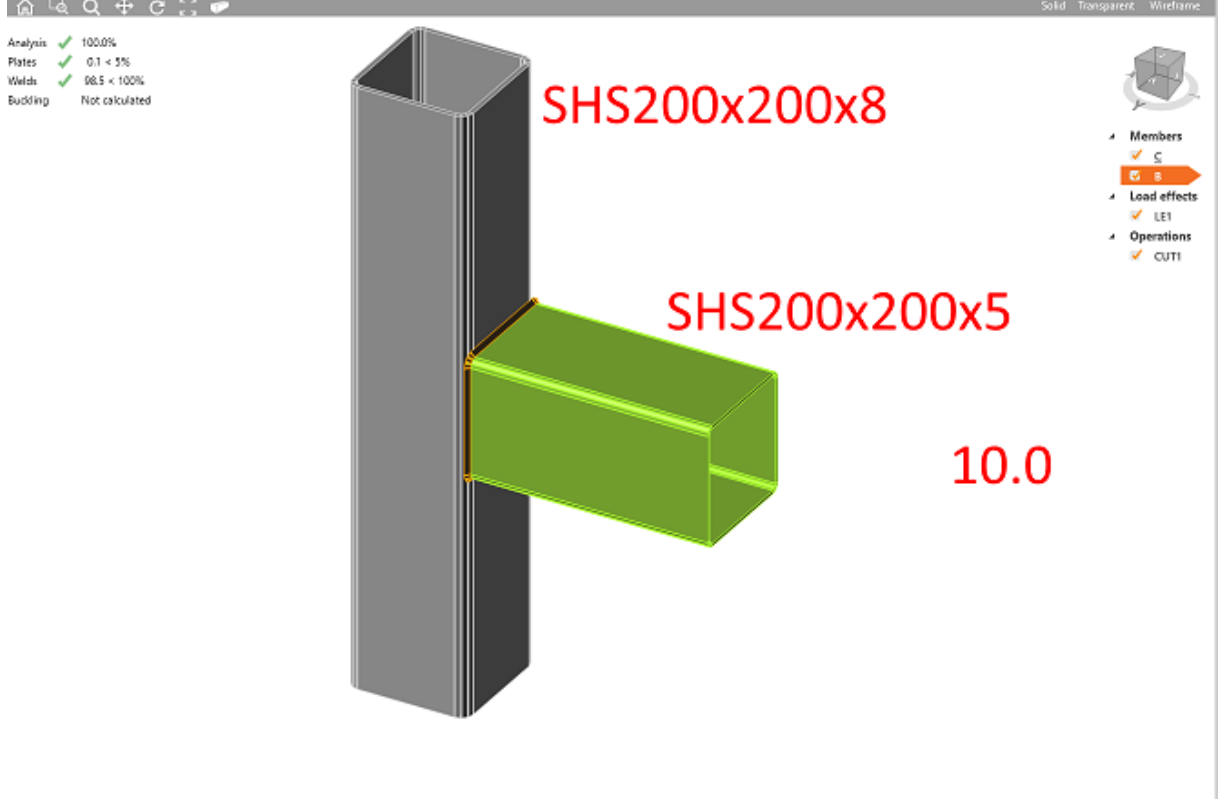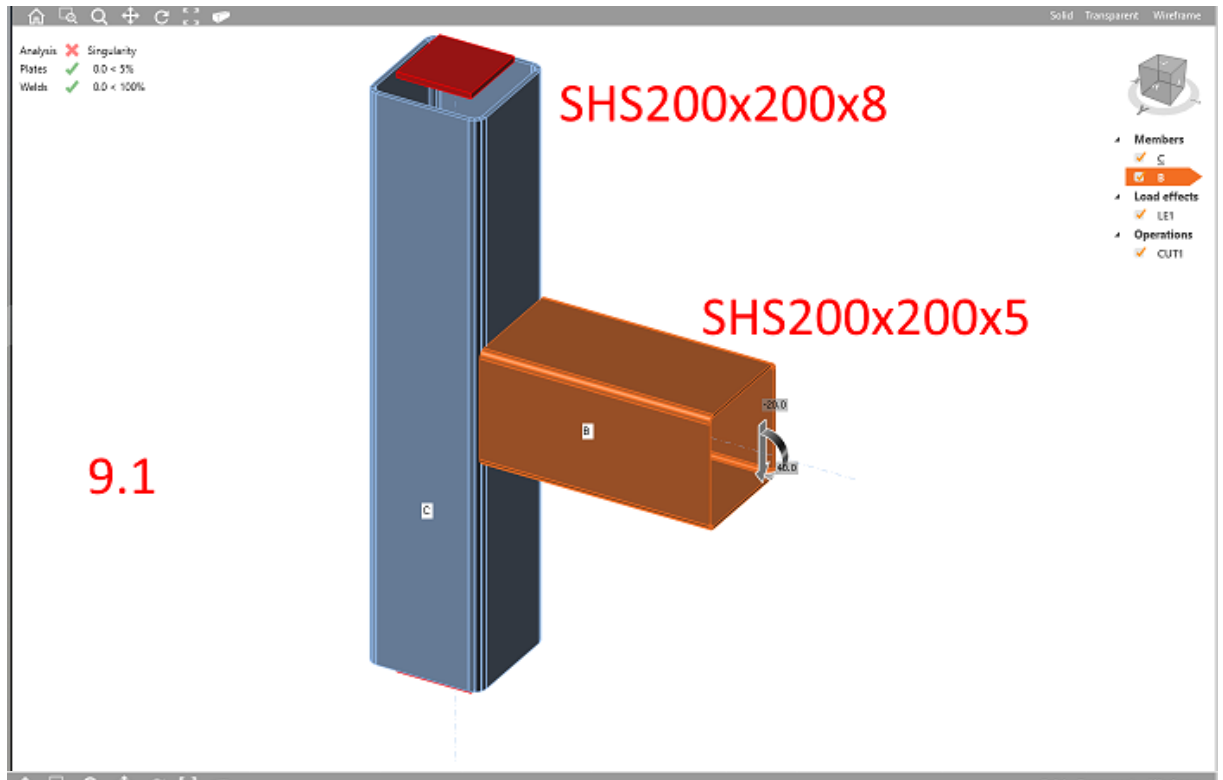
- **Mitre cut for stiffening members**

  Now we can apply a Mitre Cut at each end of the stiffening members.
  Previously we could apply only one at the first or at the second end.
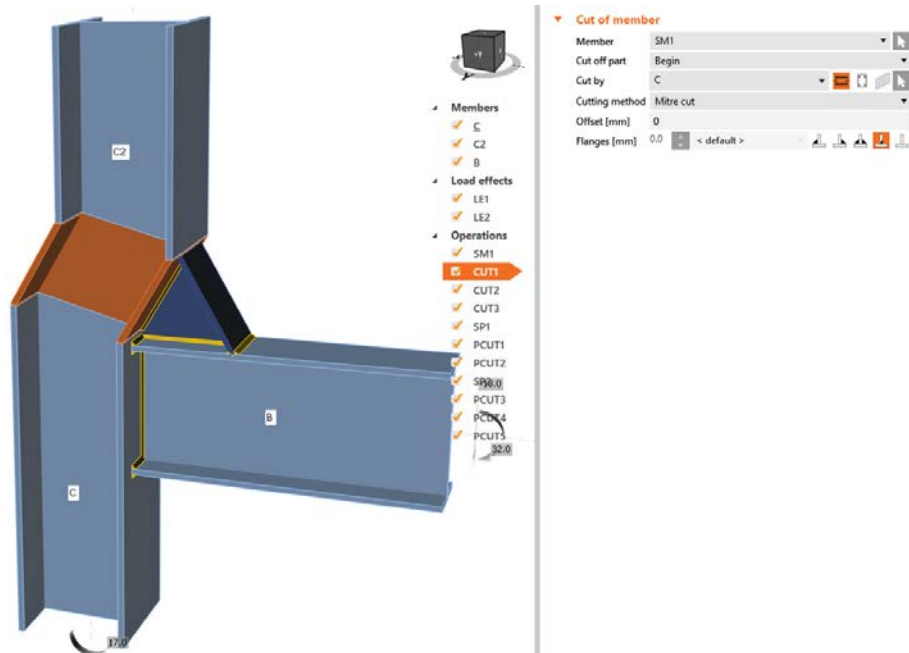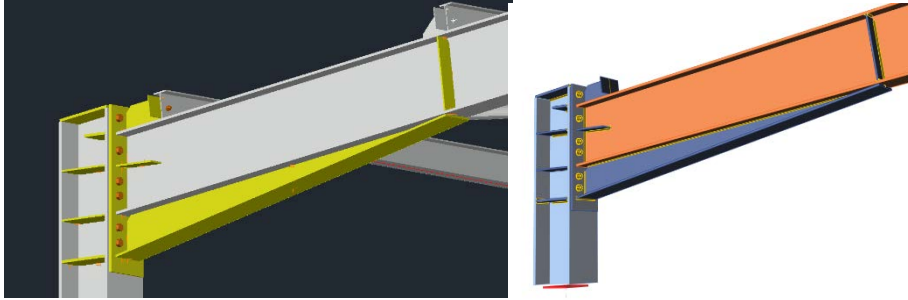

- **Hollow member cut by a plate**

  For the gusset plates, the true contour is now cut into the hollow member.

Code-check manager

CAD links update

A lot of effort was put to improve BIM procedure in terms of a better detection of the welds. In the 10.0 version, welds longitudinal to the beam are imported correctly in frame joints.

Code-check manager

Export from Advance Design 2020

Of course, Advance Design 2020 is fully compliant with Advance Design Connection 10 and it allows exporting all connections of all types of structures.