

# WHAT'S NEW IN ADVANCE DESIGN 2014



Advance Design® is specifically dedicated to structural engineers who require a professional and easy-to-use BIM solution for structural analysis and design (concrete / steel / timber).

The 2014 release comes with increased functionality mainly focused on two key subjects: the BIM and the design capabilities.

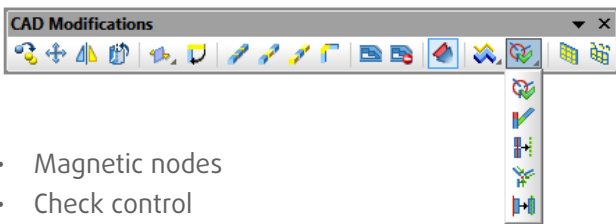


### New features in Advance Design 2014:

- Additional BIM tools to fine-tune an imported descriptive model
- A new 2D climatic generator according to Eurocode 1.
- Automatic support stiffness calculation
- Rebar improvement for reinforced concrete columns.
- New postprocessing grid
- Extended functionality for time history analysis
- Import / export of support actions.
- New options on graphical results, reports, elements display.
- Collision check in Advance Design Steel Connection

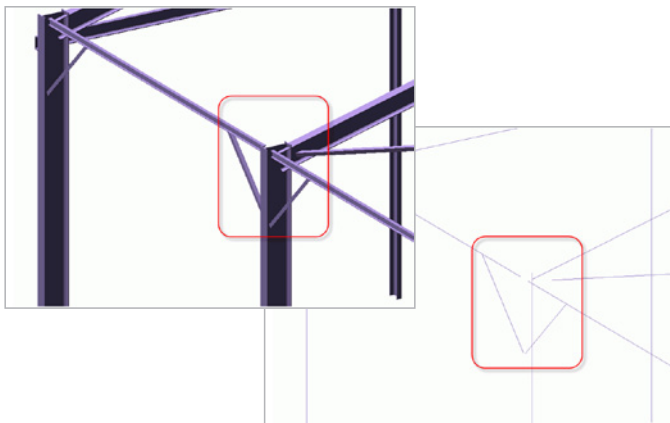
### Additional BIM tools

Advance design 2014 provides a set of new tools to make BIM exchanges easier between the engineering offices and the architect:



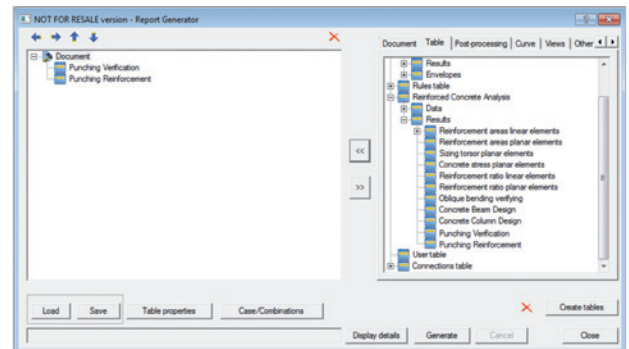
- Magnetic nodes
- Check control
- Auto trim & Extend
- Projection on plane
- Stretch to node
- Offset cancel

The system automatically detects problems, providing a detailed interactive list as well as dedicated tools to adjust the model.



### Automatic support stiffness calculation

Advance Design 2014 features a method to calculate support stiffness values based on a new soil library



- New fields in the support property list to define the footing dimensions and the soil layers.
- Possibility to save soil layers templates to be re-used on other models.
- New report tables with soils description.

Soils description				
Name	Density $\gamma$ (T/m <sup>3</sup> )	$\phi$ angle (°)	Cohesion C (MPa)	Elastic modulus Es (MPa)
Peat	1.80	25	0.01	0.69
Clay(solid)	1.90	26	0.05	28.44
Sand(loose round)	1.90	36	0.00	58.84
Stone	2.70	45	15.00	220.65

Soil templates				
Template	Layer n°	Soil	Thickness (m)	Elastic modulus Es (MPa)
Soil Type 1	1	Peat	5.00	0.69
	2	Clay(solid)	4.00	28.44
	3	Sand(loose round)	8.00	58.84
Soil Type 2	1	Stone	5.00	220.65
	2	Silt	3.50	5.39
	3	Clay(soft)	2.50	2.21
	4	Gravel(no sand)	1.00	147.10
		Stone	2.00	220.65

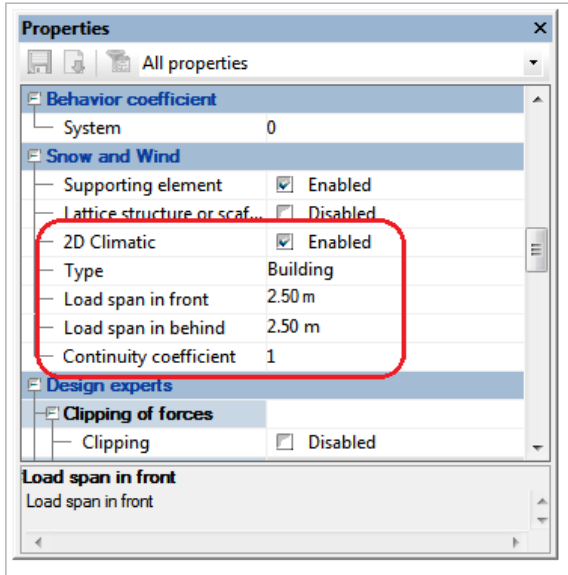
  

Soils layers per punctual supports	
Punctual supports templates	Elements
No Zone Assigned	1.

## 2D Climatic generator

As requested by many users over the last few years, Advance Design 2014 now features a brand-new 2D climatic generator.

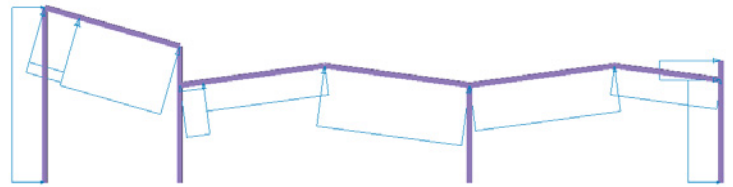
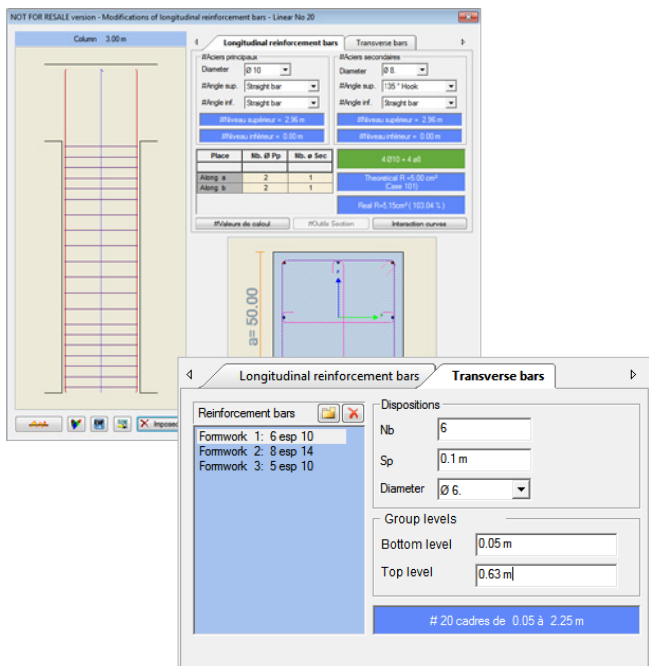
Simply define the 2D view of the structure, as well as out-of-plane dimension, and Advance Design 2014 will automatically generate Wind and Snow forces according to EN1991-1-3 & EN1991-1-4.



## Rebar improvement for RC Columns

A new dialog for RC Columns has been implemented:

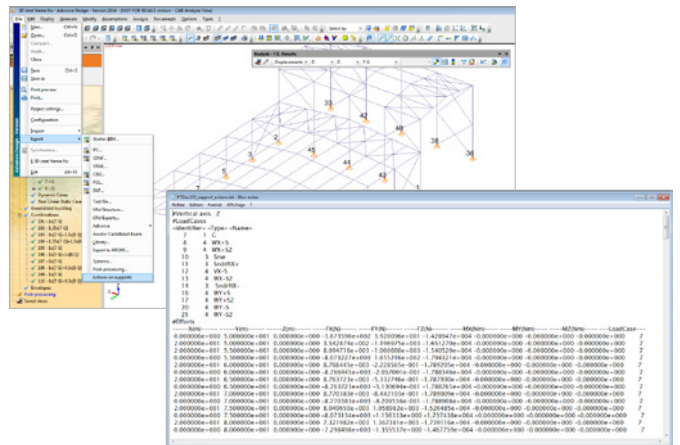
- Diameters of the main and secondary longitudinal bars.
- Hook angles at the two extremities of the column
- Number of longitudinal bars on each side of the column
- Detailed definition of the transversal reinforcement, in current and extremity zones (used for the capacity design check).



## Import / Export of support actions

In Advance Design 2014, separate models can now easily interact with each other through the ability to Import/Export support actions.

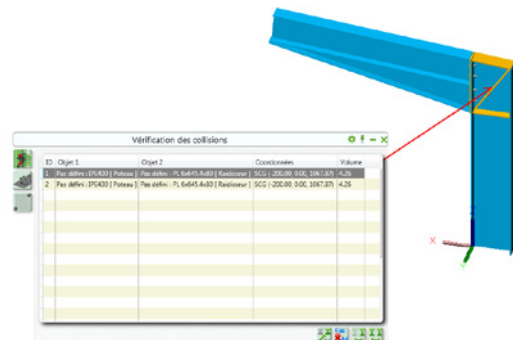
Simply select the supports from your calculated model and export them to create a \*.TXT file with forces, load cases, position... ready to be imported in any other structure.



## Collision check in ADSC

Advance Design 2014 features an improved connection design engine with advanced tools for element collision detection.

The new Collision Check function will warn user when connection elements overlap and it will clearly point out the collision location.



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