ADVANCE CONCRETE

WHAT IS NEW in Advance Concrete 2014

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Welcome to Advance Concrete 2014

Advance Concrete 2014 has a full set of great new features and customer enhancements in several areas:

- AutoCAD 2014 compliancy
- Tool palette customization options
-
- Speed improvements when creating PDF files
- New Render module
- User interface enhancements
- Stability improvements for all Advance Concrete modules
- Handling improvements external drawing technology

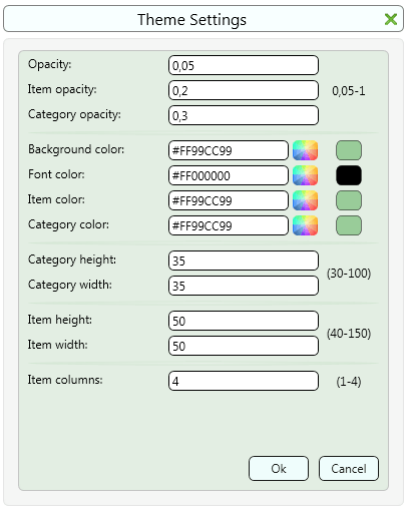
User interface enhancements

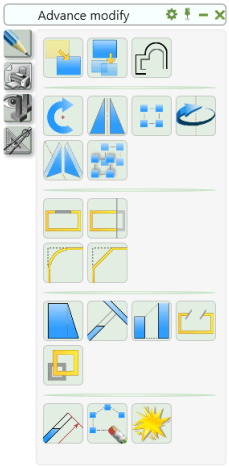
User interface 1: Customizable tool palette

A new tool palette containing the frequently used commands was introduced with Advance Concrete 2013 and the new Advance Concrete 2014 release provides different options to customize this tool palette according to your requirements.

On the top-right of the tool palette, users can find a new button called **Settings** which opens a new dialog box which includes the following options:

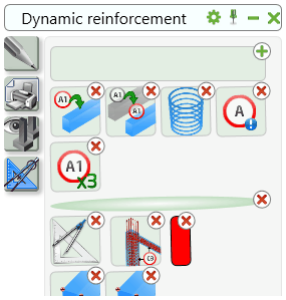
- Opacity and colors can be changed
- Category and item height and width can be adjusted
- Number of columns can be set from 1 to 4





The icons displayed in the tool palette can be reorganized with a long right-click on the palette which provides access to the customization. The following manipulations are then possible:

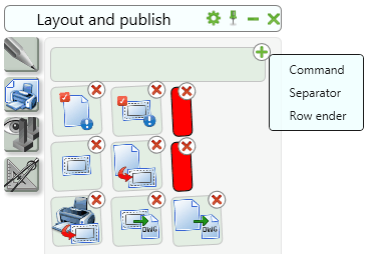
- Tap the top-right red cross to delete an icon
- Drag & drop an icon in the same or different group

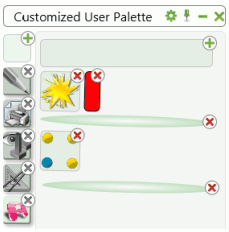


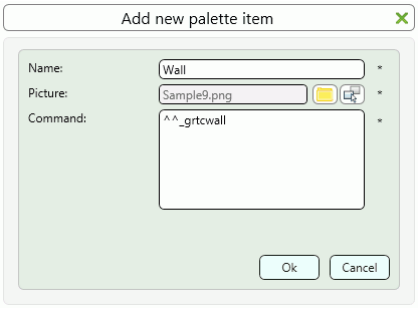
It is also possible to customize the organization of the groups defining the tool palette by clicking on the “+” symbol which appears on the top-right of the tool palette.

Users then have access to additional functions:

- Move a group or create a new group
- Insert a new icon with the **Command** option
- Add a separator with the **Separator** option
- Insert a row ender (separator) with the **Row ender** option







When adding a new icon with the “Command” option, users can combine multiple commands in one button.

The customized tool palette can be shared between different Advance Concrete users; the “GrPaletteData_User.xml” file containing the Advance Concrete 2014 tool palette user customization can be found at: C:\Users\USER\AppData\Roaming\Graitec\AdvanceConcrete\2014\Support\GrPaletteData_User.xml"

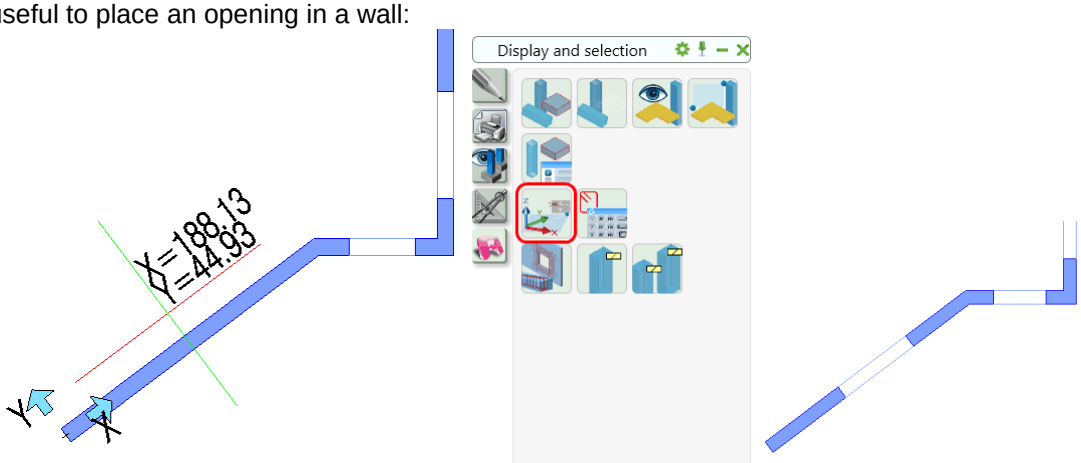
User interface 2: General GUI improvements

Multiuser Ribbon optimization:

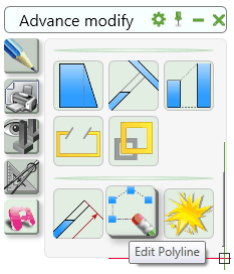
- Changed the arrangement of the multiuser icons to show the most used icons and commands on top. The most used multiuser commands are faster to access with less clicks.

Corrections of some command strings in the tool palette icons:

- The command for the "AutoUCS" (dynamic wedging) is now working within another command. The "AutoUCS" set a temporary local UCS to place elements exactly in non-orthogonal directions. It is very useful to place an opening in a wall:

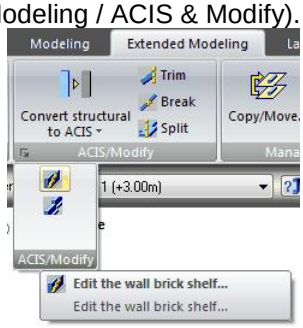


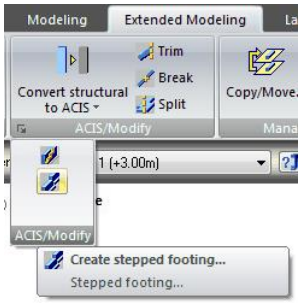
- The tool palette icon for PEDIT (edit a polyline) was not working in some installations. It was possible to create a polyline with the shortcut key "PL", only the icon in the tool palette was not working. The tool palette icon was corrected.



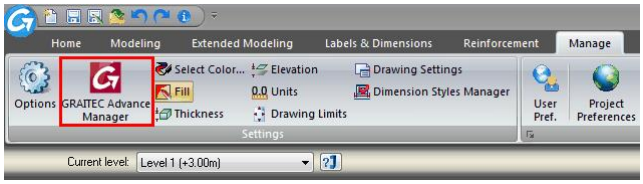
Several corrections in the GUI:

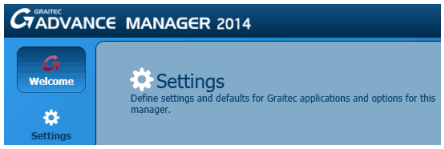
- Icons for the "Wall brick shelf" and "Stepped footing" commands were added to the Advance Ribbons (Extend Modeling / ACIS & Modify).



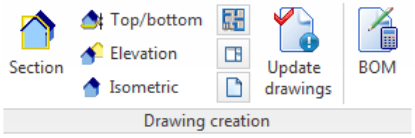


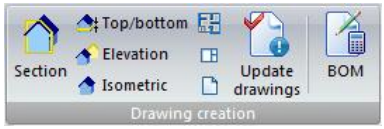
- Graitec Advance Manager (GAM) can be started directly from within Advance Concrete. For Advance Concrete the GAM is mainly used to setup the start parameters and for license management.



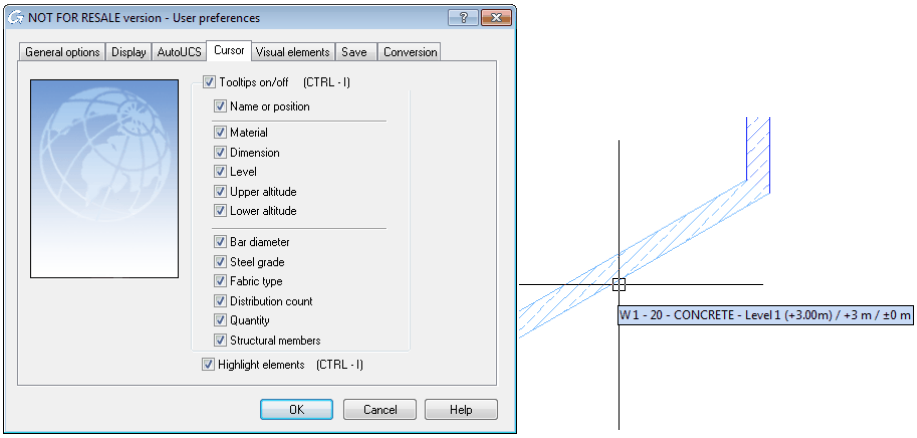


- Icon text for the drawing creation commands was not visible on some installations and has been corrected in Advance Concrete 2014.

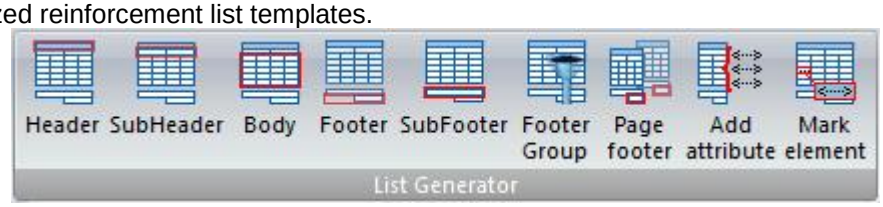




- "Highlight and tooltips" option correction. Toggle between the different highlight options with shortcut key "CTRL + I".



- List Generator does not load all the Advance Concrete ribbons anymore, only the tools for the list creation. The list generator tool provides all the necessary additional tools to create or to modify user customized reinforcement list templates.

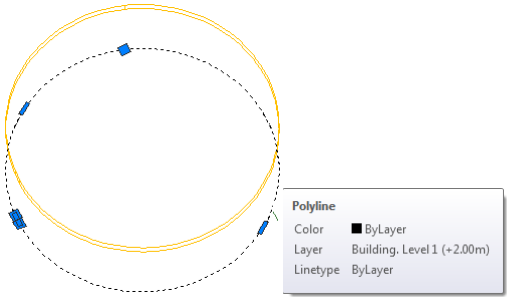


- Several small translation issues were fixed in all Advance Concrete modules.

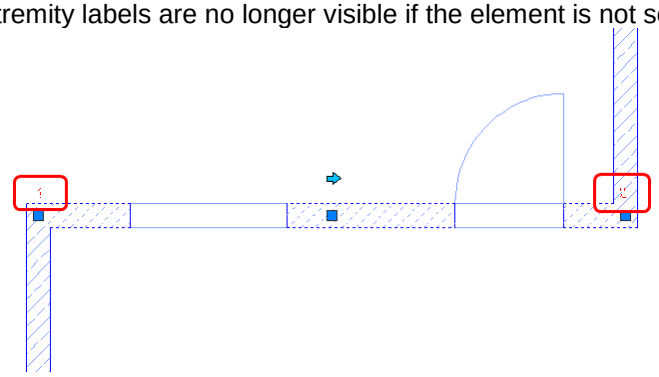
Modeling

Model 1: General

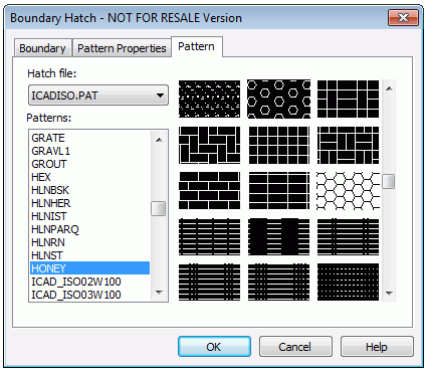
- Elements modification commands (e.g. "extend") can be used with Advance Concrete elements and CAD elements. An Advance Concrete wall can be extended to a CAD line.
- "Quick hide" and "Quick isolate" are correctly applied to a selection of elements.
- A Circle made from a polyline can be converted to a slab by detection correctly:

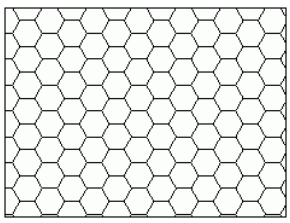


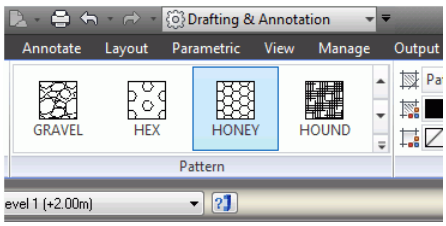
- Model element extremity labels are no longer visible if the element is not selected:

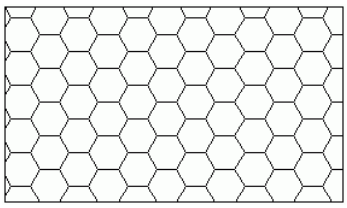


- Unify the hatches definition between AutoCAD and AdvanceCAD for some specific hatch types (e.g. "Honey") using the hatches with Advance Concrete elements:







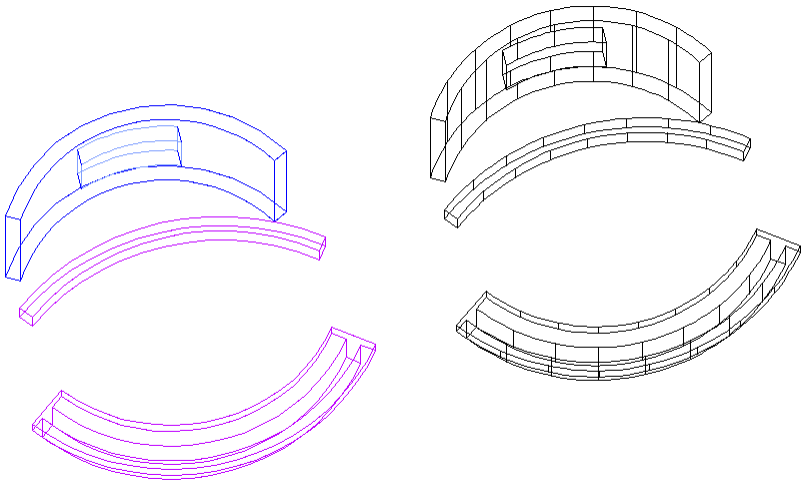


Several small improvements for the following functionalities and commands:

- Model Watch functionality: Model watch checks the model for modeling errors (e.g. a model object intersect a opening)
- UNDO / REDO commands
- Slab created with option "by detection"
- Elements representation using the orbit

Model 2: Curved elements:

- The "Trim" command was improved for curved elements.
- Curved elements are correctly converted to ACIS elements:



Model 3: Foundations, footings and piles

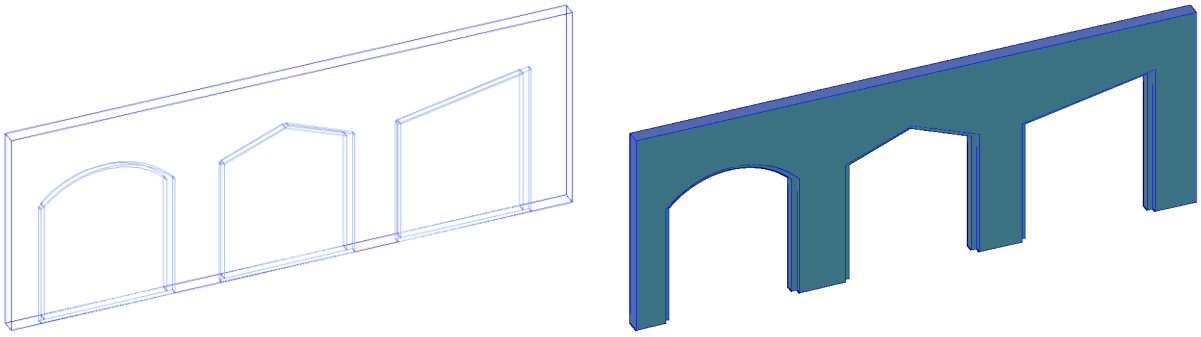
- A foundation placed under a hidden (not visible) slab is represented correctly; the footings are no longer in the hidden line representation.
- Shortcut to create a bedding for a continuous footing was corrected.
- Copy a pile does not change the pile hatch anymore. The pile hatch symbol is an indicator for the pile length (pile drill depth):

GRAITEC Pile Table

Type	Dimension	Number	Cut height vs. mark (m)	Piledepth vs. mark (m)	Anchor-length (m)	Minimum Pilelength (m)
	30	6	0.50	-5.00	0.30	5.80
	30	4	0.50	-6.00	0.30	6.80
	30	5	0.50	-7.00	0.30	7.80
	30	2	0.50	-8.00	0.30	8.80
	30	2	0.50	-9.00	0.30	9.80
	30	2	0.50	-10.00	0.30	10.80
	30	2	0.50	-11.00	0.30	11.80
	Total	23				

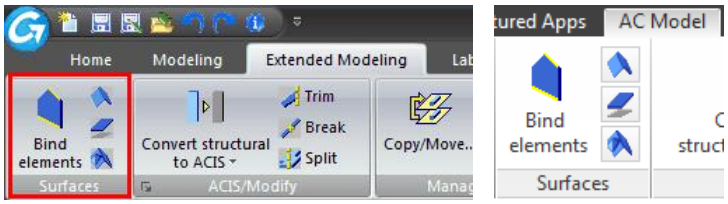
Model 4: Openings

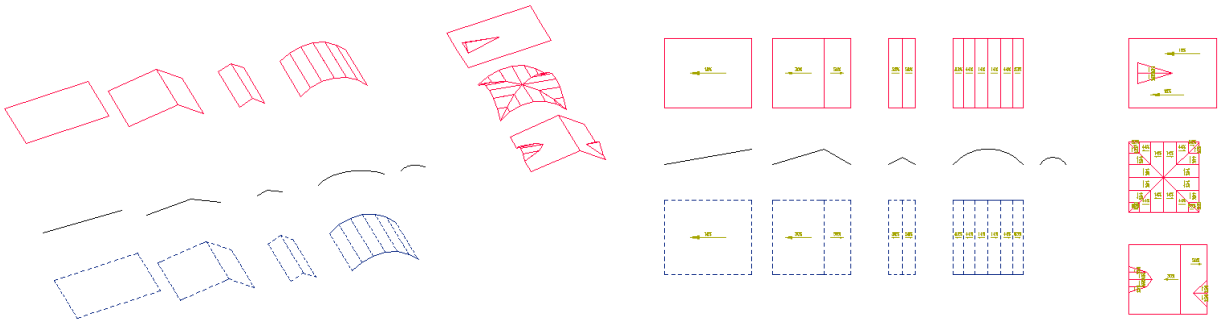
- Some doors had a wrong representation while using the orbit. This issue was corrected.
- Standard openings no longer change the color if there is an intersection / overlapping with a window.
- 3D representation of some specific door types was corrected:



Model 5: Reference surfaces (Roof / Ramp)

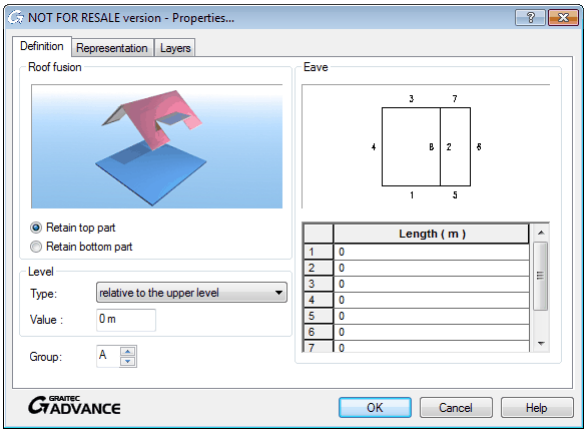
Roofs and Ramps are reference surfaces created from lines, polylines or CAD surfaces. Model elements can be bound to these references. Advance Concrete 2014 provides several improvements related to the reference surfaces. The commands to use the reference surfaces are on the "Extended Modeling" ribbon (AdvanceCAD) or the "AC Model" (AutoCAD) ribbon.



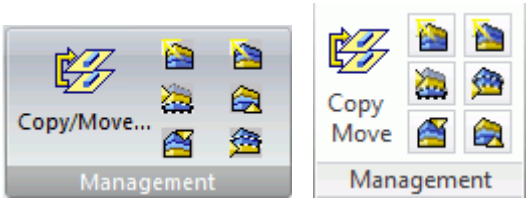


- Beams are correctly bound to a roof surface. There was a representation issue in former versions of Advance Concrete.
- Merged roof reference surfaces can be moved. There was an issue with a special roof surface combination.

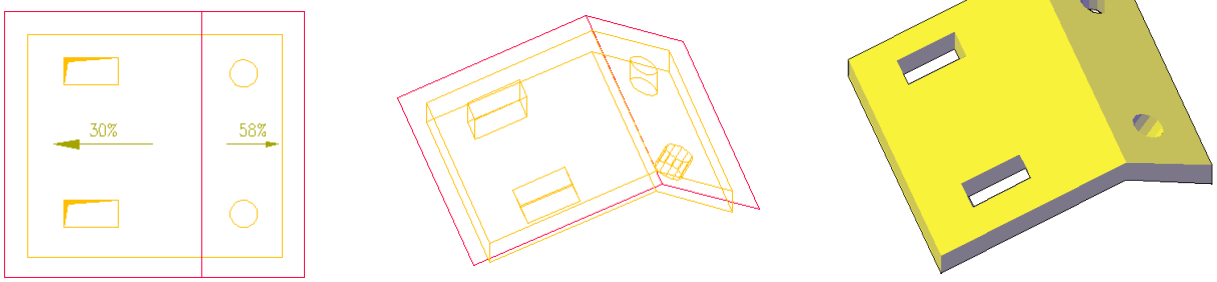
- All modifications made in the roof surface properties are correctly applied to the reference surface:



- A roof surface can be copied to another level by using the command level management tools "recopy above" and "recopy below":



- Slabs bound to a roof reference surface can be modified (e.g. command "move").
- Slab openings follow the slab modifications if the slab is bound to a roof reference surface:



Reinforcement

Rebar 1: Bars

3D Viewer:

- Curved bars are displayed as curved bars in the 3D viewer. There was an issue that curved bars were displayed as straight bars in the 3D viewer in previous versions:

Break bar:

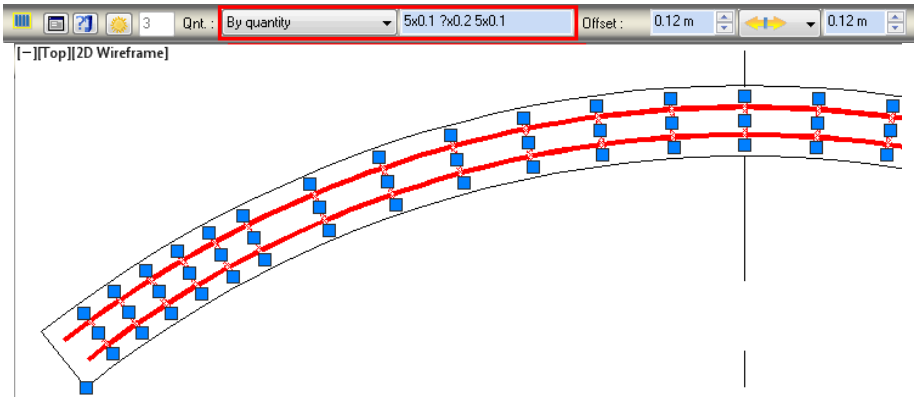
- Changing the splice method does not make all bars disappear from the drawing.

Clash detection:

- The Smartbar was not visible in a specific case. This issue was corrected.

Distributions:

- Distribution dimension: Unit settings defined in the symbol are correctly applied if the symbol is used to label the distribution dimension.
- Cut distribution: The bars in a cut distribution are in alphabetical order if letters are used as bar marks
- Bars are no longer displayed outside of the formwork if the distribution type "by quantity" is used (Advance Concrete on AdvanceCAD).
- Linear distribution on an arc: There was an issue with modifications if the distribution type is set to "by quantity". This issue was corrected:



Edit a polygonal bar (delete / add segments): ENTER or SPACE key will end the command.

Evaluation of the attribute <RepartElementQuantity> was incorrect if this attribute was used to label a distribution dimension. This issue was corrected. The attribute shows the correct value.

Small correction for the "Break bar" command in combination with the CAD command "copy". Some bars were placed incorrectly after copy. This issue was corrected.

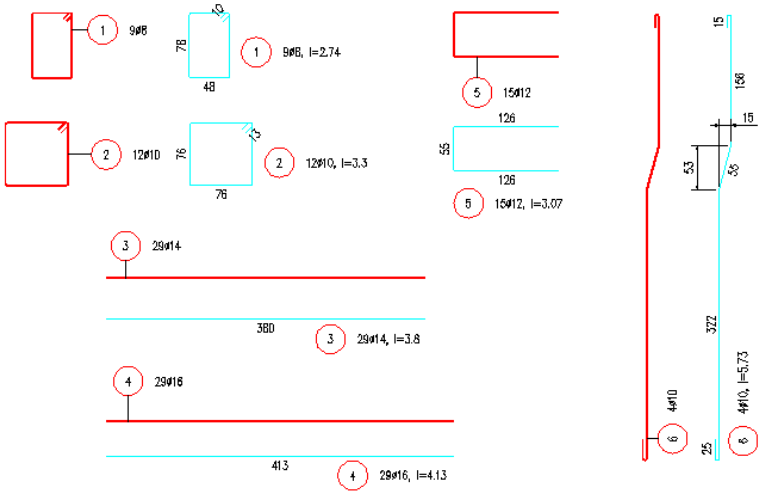
Rebar 2: Bending Details

Bending detail text orientation for straight bars:

- The segment length text was always displayed at the bottom of the bar and did not depend on the straight bar drawing direction.

Bending detail:

- Text position always outside of the bending detail by default.

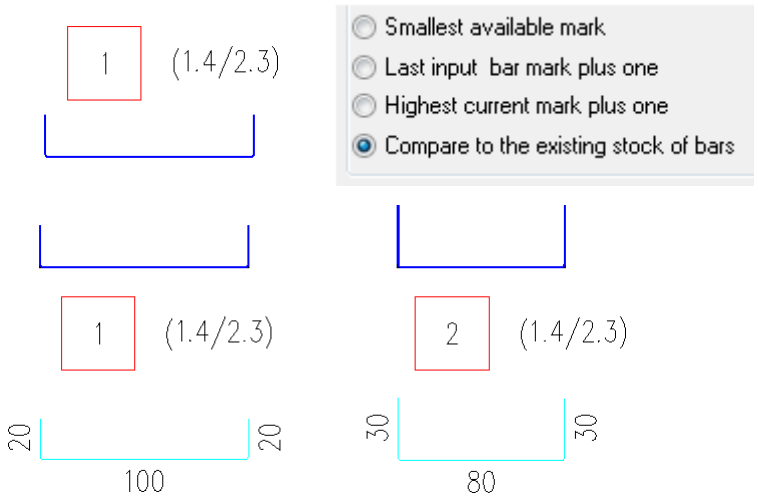


Rebar 3: Fabrics / meshes

Bent mesh distribution by bar mark (option on the command line) works in Advance Concrete 2014.

Bent mesh numbering:

- Renumbering bent meshes recognize/compare the real bent shape and not the unfold mesh length. Bent meshes with different shapes (but the same unfold length) get a different bar mark. In older Advance Concrete versions the renumbering tool just compared the unfold bent mesh length to assign the bar mark to the bent mesh:



Mesh outline with circular opening:

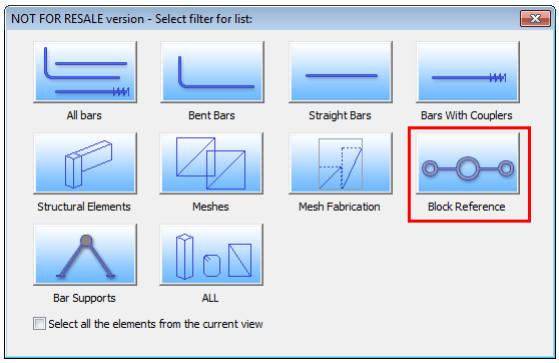
- The concrete cover for the opening is applied on the correct side.
- Several issues for the "Mesh outline" command were corrected, for instance, improved automatic detection and mesh outline on rebar drawings created from ACIS elements.
- The "Find definition" command is available for linear bent mesh distributions.

Rebar 4: Reinforcement lists

List modification - Bending detail segment text: Double clicking on the bending detail in the list activates the snap points to move the segment texts.

A list requires an update if the length of a cut distribution is changed (because of the length change the quantities of the bars and the bar length change too).

List creation filter dialog box: The "block reference" filter can evaluate blocks and block attributes in Advance Concrete lists:



US installation: Depending on the kind of list creation the shape illustrations may not be shown. This issue was corrected and the shape illustrations are always visible independent from the list creation method.

Rebar 5: Performance improvements

"3D copy reinforcement": Amazing performance improvement from approximately 3 minutes to around 15 seconds! Copy already created reinforcement in a rebar drawing from one element to another. With the current performance improvement this tool is very powerful and can speed up the reinforcement drawing creation dramatically.

Improved renumbering performance for meshes with a mesh cut.

Performance improvement for updating and activating reinforcement drawings.

Drawings

Draw 1: External drawing technology

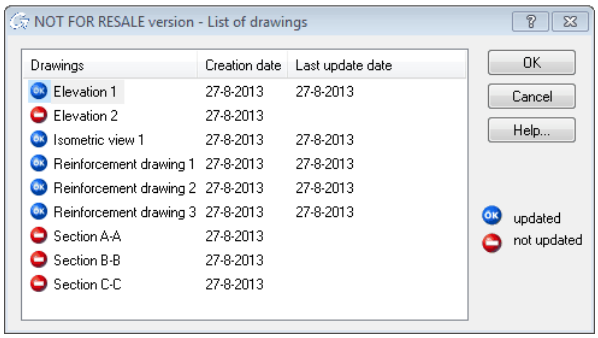
Optimizations / Performance improvements for the external drawing handling:

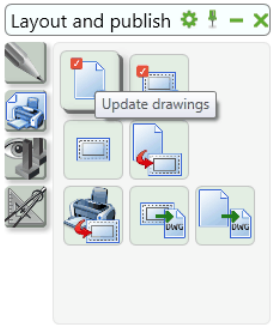
- Project settings load and data update optimized
- New drawing creation and existing drawing load optimized
- Project structure (Project Browser) automatically refresh after loading a drawing or updating a drawing

Advance Concrete Project Setting file (ACPRJ) is correctly transferred to all external drawings.

A specific case with missing reservations in a plan view drawing was corrected.

Batch update no longer changes the content of an isometric view (entire building instead of one floor):





Changes in the unit precision settings are correctly transferred to the projects external drawings.

Isometric views are zoomed properly after first activation or update.

The "Add cross symbol where snap lines intersect" option works with external drawing projects.

Plan view: Display of door opening symbols was corrected.

Project setting changes are correctly transferred to the projects external drawings by refreshing the Project Browser structure.

Several improvements for plan view with the impact representation of the level above.

Several improvements with the behavior of grouped drawings.

Draw 2: General

Several small improvements related to elements representation, visibility, invalidation of drawings and stability:

- Corrected behavior performing an update on older Advance Concrete drawings
- Improved the placement of local sections for curved model elements
- Line type and line color are correctly updated in top / bottom views
- Reinforcement drawings recognize ACIS element blocks and show the calculated result of these blocks.

Draw 3: Symbols and labels

Changes in the unit precision settings are correctly transferred to the projects external drawings.

The "Match properties" command does not hide the snap lines if the properties of a normal symbol with disabled snap line are matched to a rake symbol.

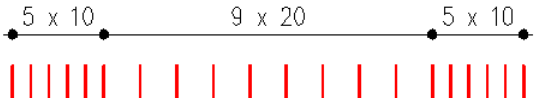
Rebar symbol creation using the "multiple" (M) option places the symbols in better position.

Specific issue with missing bar marks in symbols. This issue was corrected.

Draw 4: Dimensions

General dimension improvements:

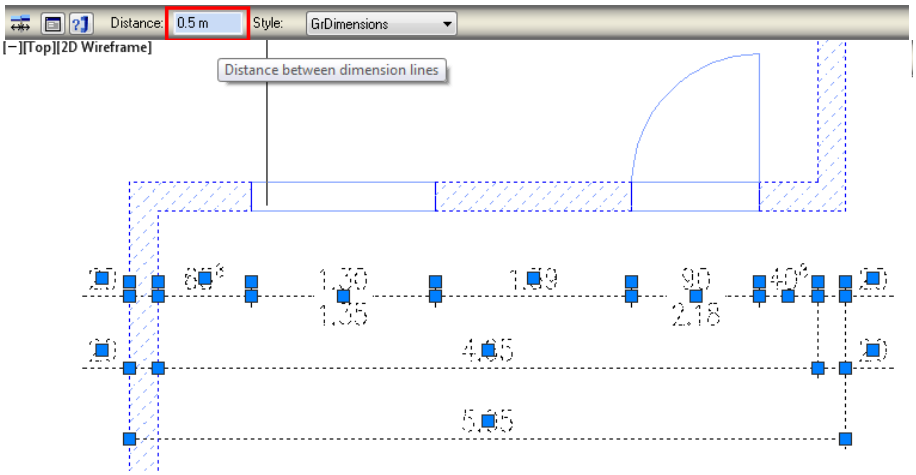
- Arrow head "dot, filled" can be used for the distribution dimension line:



- Grouped dimension lines create a dimension block. There was a specific issue in the German installation.
- Issue with flipped arrows in the distribution dimension line was corrected.
- The "Restore visibility" command immediately shows the hidden dimensions without using the "Regen" command.

Associative dimension:

- Text orientation after changing the UCS was corrected.
- Changing the distance between dimension lines no longer moves the associative dimension:



Level dimension:

- The "Match properties" command transfers the properties of level dimension correctly.
- Copied level dimension shows the correct values according to the new position.
- Representation correction for the level dimension in standard representation for the German installation.
- Small correction for the text representation in the US installation.
- The <Altitude> attribute is correctly evaluated in level dimensions with symbol representation.
- The <SignedAltitude> attribute is correctly evaluated in level dimensions with imperial units.

Layouts

Adding a drawing to a layout using the "Add" button from the layout properties dialog works as expected.

Fabric symbols no longer change the scale /size after reloading a XREF (external drawing technology).

Modifications in the drawing name (rename) are correctly transferred to the layout after an update.

Project data are correctly updated in the layout title block.

Stability issue with enabling / disabling the "display viewport frame" option was corrected.

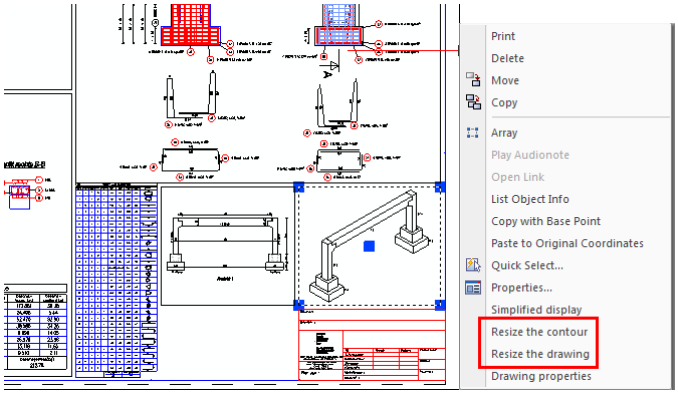
Several update / reload issues for layouts created in a project with external drawings were corrected.

The scale in the Smartbar always displays the correct scale of the selected viewport.

Zoom extends displays the whole layout in the correct way.

The viewport size fit to the drawing scale (no huge viewport frames anymore).

Viewport context menu: The "Resize the drawing" and "Resize the contour" commands work well in Advance Concrete 2014:

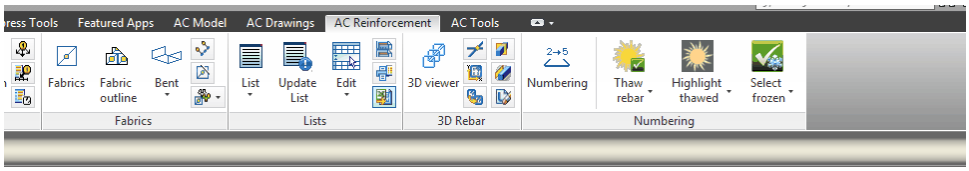


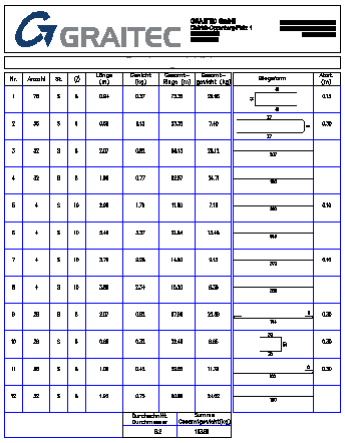
Exchange

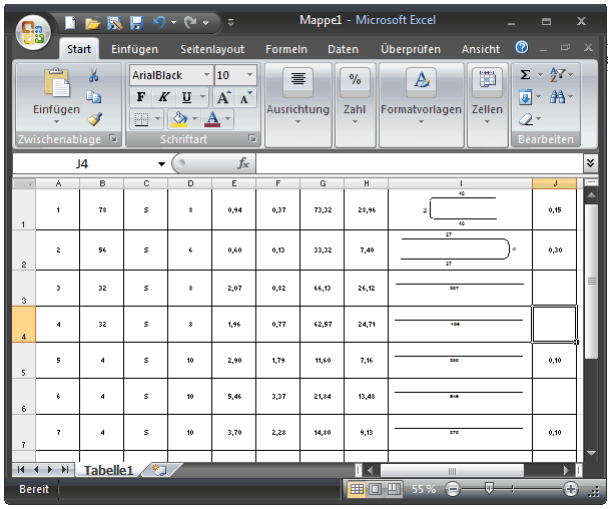
Exchange 1: General

Export a reinforcement list to Excel:

- The bending detail dimensions are exported correctly.
- Bending detail with mm-exponent are displayed in the exported Excel file:







3D PDF and DWF Export:

- Improved PDF export for Advance Concrete drawings on AutoCAD
- Stability issue with the 3D PDF creation on Advance CAD was corrected.
- Reinforcement bar properties are correctly exported to 3D DWF files.
- DWF export from Advance Concrete on AutoCAD or on Advance CAD creates the same exported result.

Exchange 2: IFC / GTCx

Export from Advance Concrete: Wall justification is correctly stored in the GTCx file.

GTCx files with steel members exported from Revit: The steel elements are imported to Advance Concrete.

Import and export the IFC object IDs.

Several corrections with incorrect import /export behavior using IFC and GTCx in some cases, especially with curved elements

Warning message IFC files created with boundary representation (Cartesian points) are not imported in Advance Concrete.

Exchange 3: Export to DWG

Layer management improvements for the export of external drawings. The exported entities are placed on the correct layers. Also the layer standard used for the DWG export is correct applied.

Layouts with simplified viewports are correctly exported to DWG.

Level dimension with symbol representation are exported correctly to DWG.

Exchange 4: ARCHE

Correction for the representation of elements after a synchronization with a GTCx files exported from ARCHE Beam.

Correction for the import of a T-Beam exported from ARCHE Beam.

Export from Advance Concrete to ARCHE Building Structure: Some material characteristics updated.

Import a GTCx file from ARCHE Beam: In some cases some of the reinforcement elements were not correctly imported to Advance Concrete. This issue was corrected.

Prefab elements exported from ARCHE Beam are correctly imported in Advance Concrete.

Reinforcement list on a drawing imported from ARCHE Beam fit into the layout frame. There was an issue with large lists which overlap the layout frame or the layout title block.

Small general improvements for some issues with missing elements or wrong reinforcement parameters importing files created with ARCHE Beam.

Stability issue with the synchronization report creation fixed

Miscellaneous

Misc. 1: AutoCAD 2014 compliancy

Advance Concrete 2014 is compliant with AutoCAD® 2010-2014 (i.e., the latest 2014 release of AutoCAD®).

Advance Concrete users will benefit from the enhancements of AutoCAD 2014 for higher productivity and any other AutoCAD 2014 related improvements.

Misc. 2: Localization

Several improvements for the Czech Advance Concrete installation:

- Updated list templates
- Updated symbols and labels
- New layout representation styles
- New plot styles
- Updated default text styles
- Updated weight estimation template and BOM template

Localization UK:

- Updated bar tag symbols

Updated BOM templates (Bill of material) to create a BOM from the model elements.

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