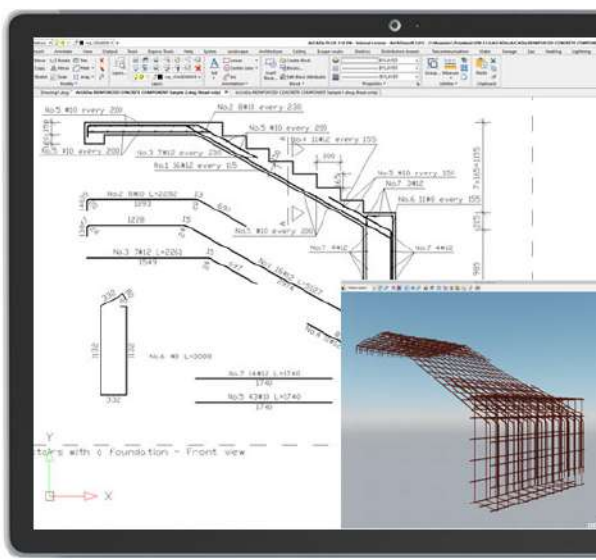


ArCADia REINFORCED CONCRETE COMPONENT

Object drawing, rapid creation of architectural documentation.



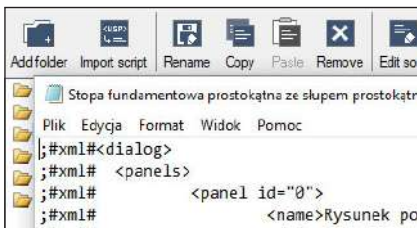
The module allows for object insertion of reinforced concrete elements that are parameterized in the Lisp script, as well as generating views and cross-sections automatically.

The reinforcement of the element can be modified, and the element itself can be additionally reinforced by inserting free-shape rebars. The reinforcement steel lists can be generated automatically. Besides using LISP scripts attached to the program, the user can also create or customize scripts of reinforced concrete components.

This module expands the capabilities of the ArCADia BIM program with advanced functions, which means that part of the building modelling options are available in the ArCADia BIM program:

ArCADia LT, ArCADia, ArCADia PLUS

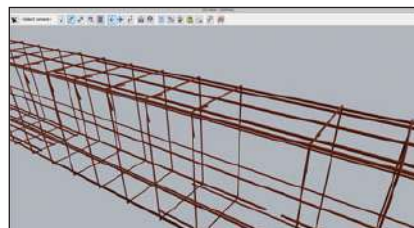
Advanced features of The ArCADia-REINFORCED CONCRETE COMPONENT module:



Built-in a ready-to-use reinforced concrete components library.

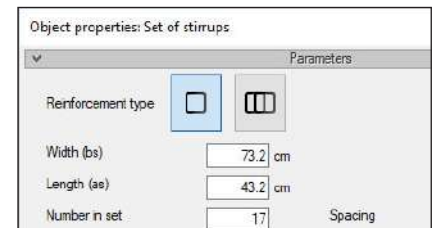
Possibility to define components easily by using views, cross-sections, steel lists, and details of bars.

Possibility to create reinforced concrete element scripts by writing the script in the Lisp source code language available in ArCADia system functions.



Real-time preview of a three-dimensional reinforced concrete component model in the 3D View.

Inserting views and cross-sections based on the generated three-dimensional model.



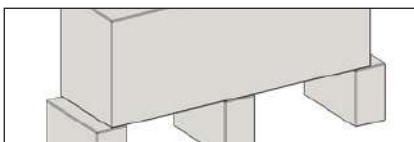
Possibility to add, edit and remove reinforcement.

Inserting any reinforcing bar on views and cross-sections.

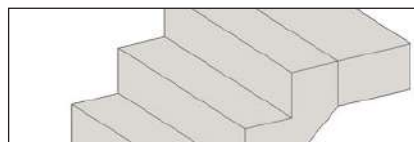
Automatic consideration of bending radius of reinforcing bars.

Automatic updating of the steel list data.

READY-TO-USE REINFORCED CONCRETE COMPONENTS AVAILABLE IN THE MODULE:



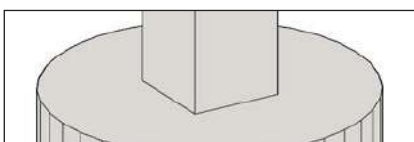
A single-span beam, a two-span beam, a multi-span beam, a binding joist.



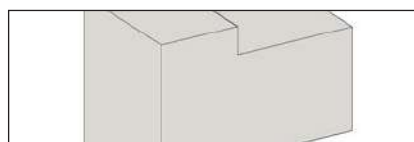
One-flight slab stairs, one-flight slab stairs with footing.



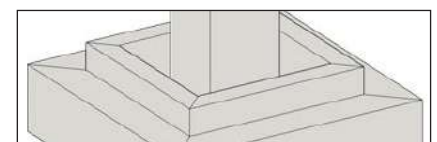
A slab retaining wall.



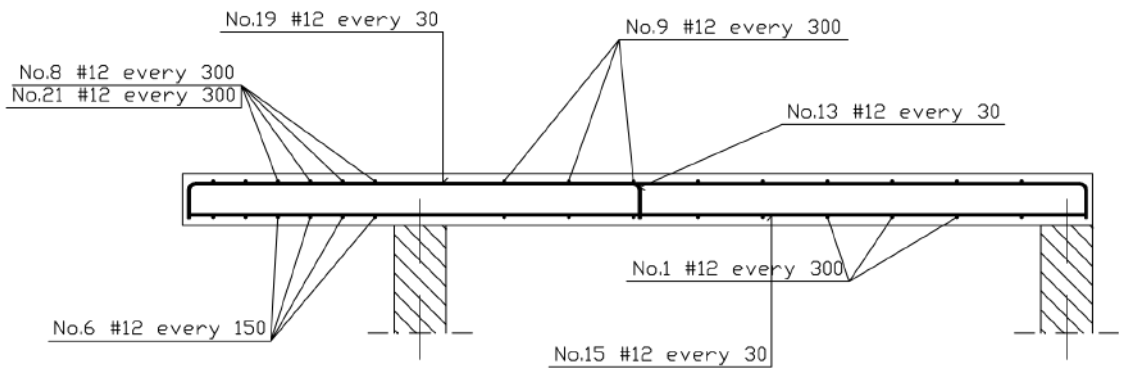
A bell spot footing, a round spot footing with a round column, a round spot footing with a rectangular column, a rectangular spot footing with a round column, a rectangular spot footing with a rectangular column, a sloped spot footing with a rectangular column, a stepped spot footing (with 1 or 2 steps) with a rectangular column.



Rectangular corbel - horizontal stirrups, a rectangular corbel - vertical stirrups, an undercut corbel - one side of the column, an undercut bracket - on both sides of the column.

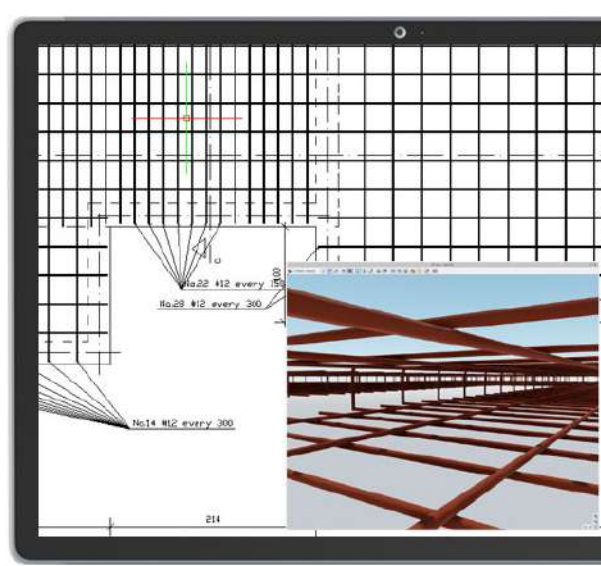


A rectangular strip footing with a wall, a sloped strip footing with a wall, a strip footing with a foundation wall, a strip footing with a foundation wall.



ArCADia REINFORCED CONCRETE SLAB

Maximum support in detailed structural drawings of reinforced concrete slabs.



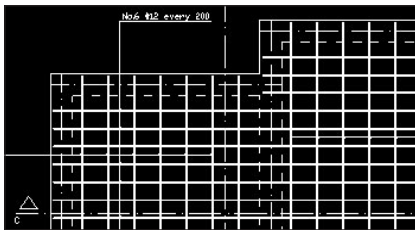
This module is intended for construction engineers to provide maximum support to the user in developing detailed structural drawings of reinforced concrete slabs in a CAD program.

The module creates a spatial model of the slab's reinforcement, allowing further editing and the automatic creation of new slab cross-sections. Based on the data entered by the user, in the form of views of the slab's top and bottom reinforcement plates and the element's cross-sections.

This module expands the capabilities of the ArCADia BIM program with advanced functions, which means that part of the building modelling options are available in the ArCADia BIM program:

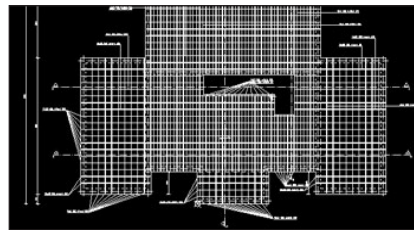
ArCADia LT, ArCADia, ArCADia PLUS

Advanced features of The ArCADia-REINFORCED CONCRETE SLAB module:



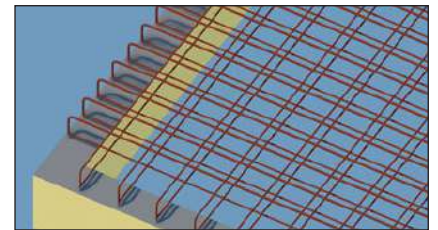
GEOMETRY:

- Ability to design multiple slabs within one document.
- Ability to transfer the ceilings including their support conditions from the building's model in the ArCADia-ARCHITECTURE program.
- Ability to build the geometry and reinforcement plate of the slab in two main views defined separately for the top and bottom reinforcement plates.
- Free panning and adding of new slab cross-sections as well as setting the depth of field of cross-section reinforcement.
- Ability to freely shape the slab's contours and openings as well as adding supports in the form of: walls, columns and binding joists.



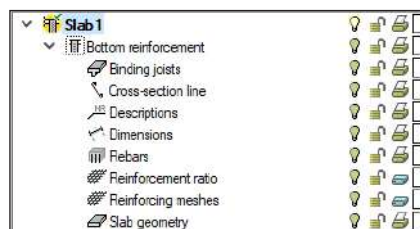
REINFORCEMENT:

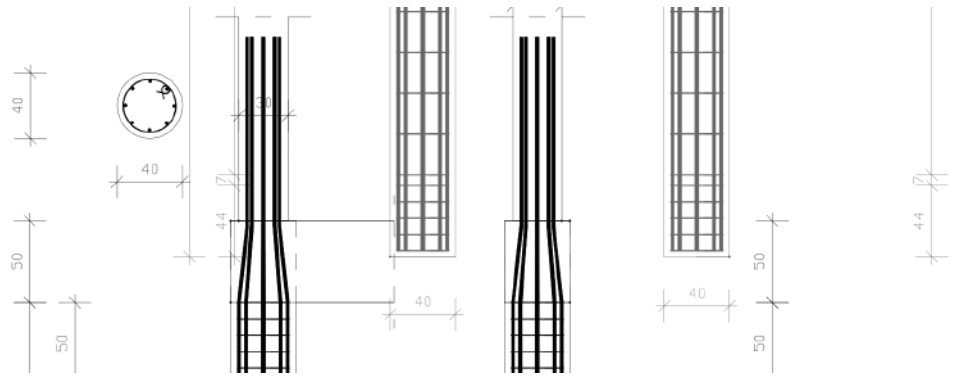
- Automatic inclusion of rectangular reinforcement grids for any given shape of the slab or its fragment while maintaining a uniform or altering grid reinforcement in both directions as well as the maintenance of the vertical cover (top and bottom) and side cover for all grid bars.
- Automatic inclusion of rectangular reinforcement grids for the user-defined area inside the rectangular or any other shape slab.
- The ability to copy defined grids between the bottom and top surface of the slab.
- Ability to bend the bars from the top grid to the bottom grid.
- Ability to introduce regular densities of the reinforcement in both directions in the selected area of the given grid and to make a copy.
- Ability to introduce a cut-out of any shape in the predetermined grid.
- Ability to modify the grid's contours and separating it into individual bars.
- Ability to add single bars to the grid in the main or secondary direction
- Ability to copy grid bars
- Ability to modify the length of single grid bars
- Ability to move the entire distribution of the bars in the grid
- Automatic removal of the distribution of excess grid bars based entirely on the slab's support area (walls and binding joists).
- Ability to establish vertical punch fittings in the areas of direct slab support on columns.



OTHER:

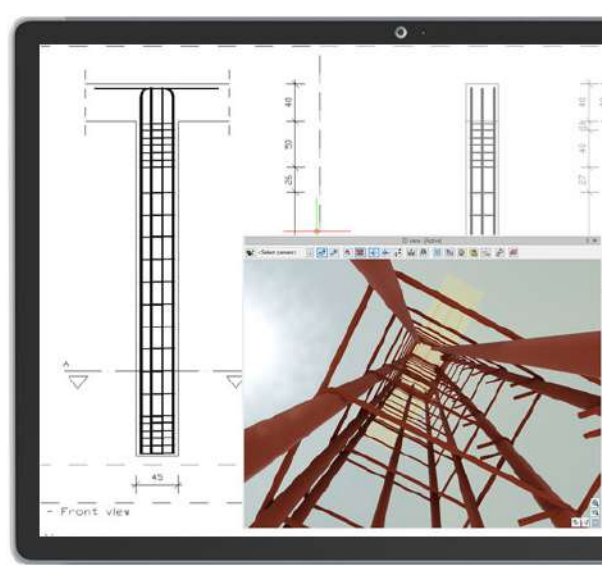
- Automatic inclusion in the list of reinforcement steel of the regular distribution of the top grid's support tables.
- Automatic inclusion in the list of reinforcement steel of the regular distribution of the top grid's support tables.
- Dimensioning of the reinforcement in millimetres or centimetres with the ability to set the accuracy.
- Automatic inclusion of the necessary radiuses of reinforcement bar bending.
- Ability to create reinforcement bars of any shape.
- Ability to modify the diameters and properties of reinforcement bars.
- Automatic removal of reinforcement bars, including their dimensioning and description
- Ability to insert an aggregated numbering of the slab's reinforcement bars and their descriptions for bars with a regular increase in the bar's length.
- Free insertion of reinforcement descriptions to element views and cross-sections.
- Automatic continuous numbering of all bars within one document or for one slab.
- Ability to freely shape the dimensioning of the slab's geometry.
- Automatic creation and modification of the list of reinforcement steel based on the created reinforcement model (list for a single slab or list for the entire drawing).
- Preview of the designed slab reinforcement model in a 3D view.





ArCADia REINFORCED CONCRETE COLUMN

Support during the development of reinforced concrete column drawings in CAD applications.



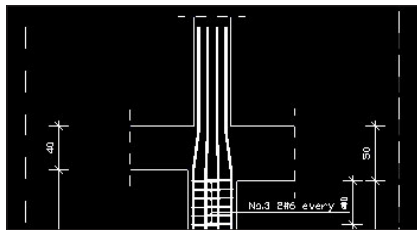
This module is intended for structure designers to maximally support the user during the development of reinforced concrete column drawings in CAD applications.

You can enter the reinforcement data manually and also capture these data directly from calculation applications: EuroZelbet module of ArCADia-RAMA software, and Reinforced concrete column PN-EN of Constructor system. You have the option of coping and inserting ready made columns from the current or past projects.

This module expands the capabilities of the ArCADia BIM program with advanced functions, which means that part of the building modelling options are available in the ArCADia BIM program:

ArCADia LT, ArCADia, ArCADia PLUS

Advanced features of The ArCADia-REINFORCED CONCRETE COLUMN module:



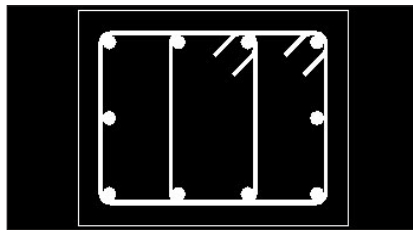
GEOMETRY:

Ability to design multiple columns as part of a single document and copy models between documents.

Ability of constructing the geometry and reinforcement of the element on two or four basic side views and any number of column cross-sections.

Available cross-sections: rectangular, circular, angular, T-shaped, channel, zeta and I-beam with automatic support for rectangular and round columns.

Possibility of expanding the geometry of the column with the column of the upper level and the joining transom in the upper node or at its height.



REINFORCEMENT:

Creation of longitudinal reinforcement with the possibility of its automatic bending into the transoms or inserting it into the upper level column.

Automatic creation of rectangular section column transversal reinforcement in form of two- and four-legged stirrups, distributed in the areas defined by the user.

Automatic creation of column typical transversal reinforcement for other shapes of section.

Change of four-legged stirrup direction within the column section.

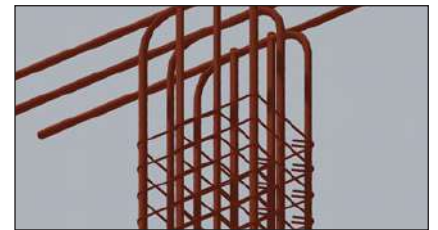
Required bend radii of rebars are automatically taken into consideration.

The anchoring lengths of longitudinal rebars are automatically taken into consideration when they are bent into the transoms and inserted into the upper level column, in case of rectangular and round columns.

The cover of longitudinal and transversal reinforcement being distributed within the reinforced element is automatically taken into account.

The ability to design rebars of any shape.

The rebar shape and properties are editable.



OTHER:

The reinforcement dimensioning is available in mm or cm units, with adjustable accuracy.

Automatic extraction of rebars along with their dimensions and descriptions (rebar details).

The rebar descriptions may be placed in any location within the Views and Sections of elements.

Automated and continuous numbering of each rebar within a single file.

The geometry of the column may be freely modified.

Automatic creation and modification of the reinforcement steel list on the basis of the created reinforcement model (The list for a single element or for the whole drawing).

Automatic generation of a reinforced column model on the basis of calculation carried out in the EuroZelbet module of R3D3 3D-RAMA 3D or the R2D2 Rama 2D application and in the Reinforced concrete column PN-EN module of Constructor Application.

3D view of the generated model of the column reinforcement.

