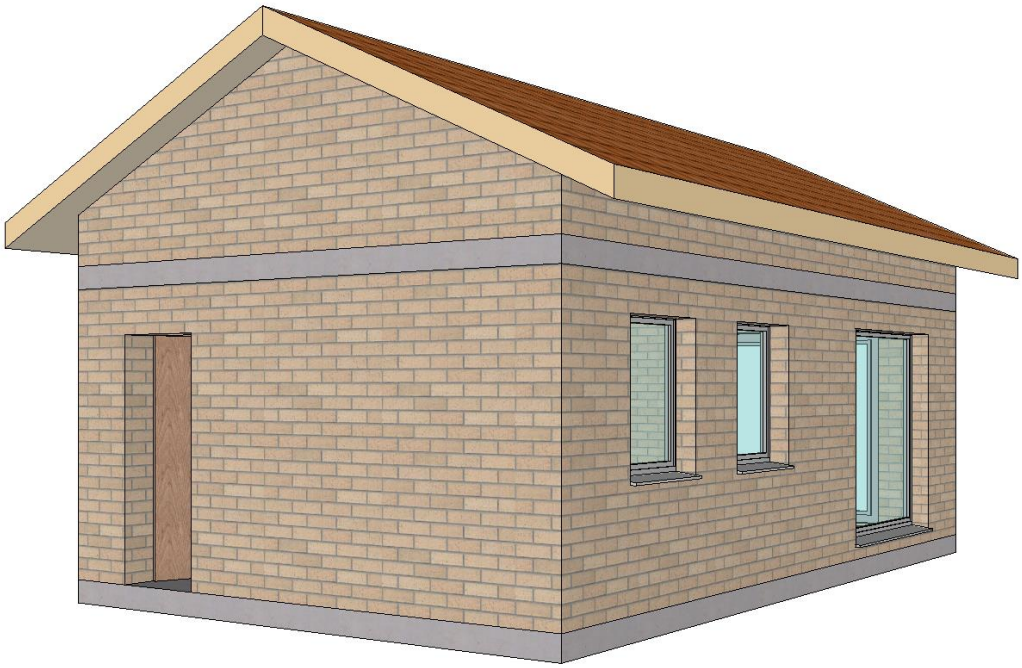
COURSE UNIT 1



Beginners

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INTRODUCTION

How to use this course unit

This course unit is not a manual but a combination of theory and workshops with which to learn the programme on a 1-to-1 basis. Every mouse-click and every entry is described in detail, providing you with a teaching resource that lets you learn the basics of the programme by yourself. Each chapter provides explanations, information, and a workshop to practise the functions. To enable the workshops to be completed smoothly, the explanations should be read through very carefully. The order of the chapters should not be changed because each workshop is based on the previous one. The programme DVD contains examples stored as an ELITECAD file, enabling problematic places to be reviewed on the finished project.

Conventions used in this course unit

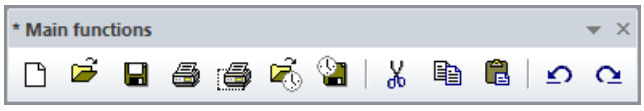
The start and end of a workshop are marked as follows:

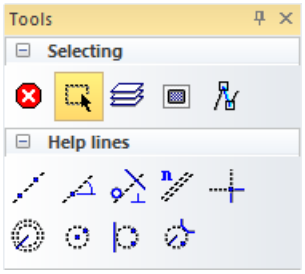
▼ ▼ ▼ ▼ WORKSHOP

WORKSHOP END

Functions are written in block capitals. The corresponding icon also appears for new functions.
FUNCTIONS (BLOCK CAPITALS)

Functions can be accessed directly using icons (buttons). The functions are grouped together in tool bars or under tool management.





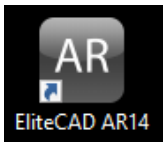
[Enter]
Function keys on the keyboard appear within square brackets.

Input values (bold)
Input values must be entered using the keyboard. When the text is entered in the input line, it must be confirmed with the [Enter] key.

Launch programme

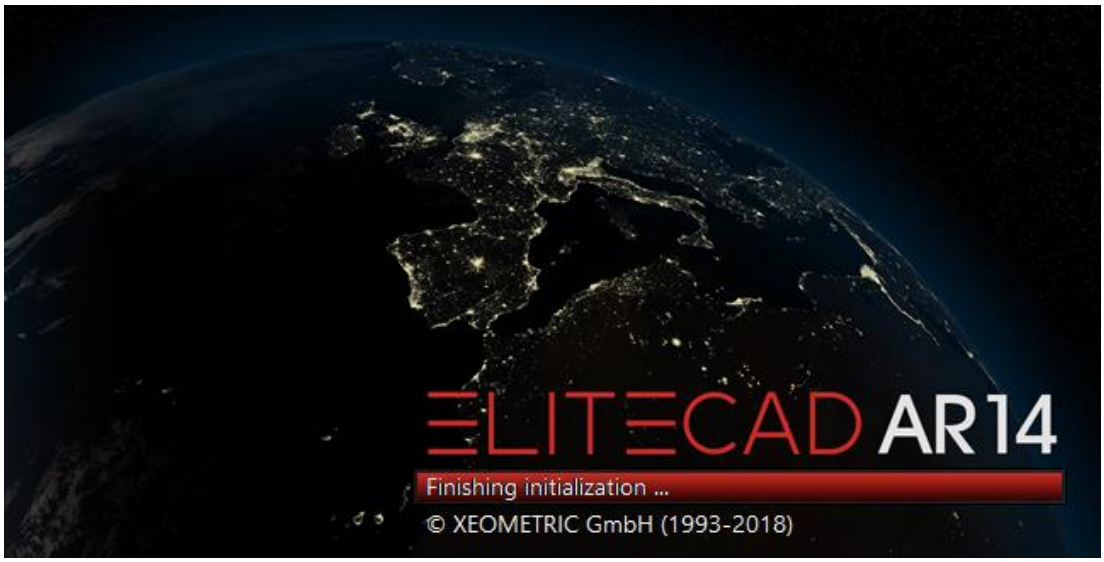
WORKSHOP

1. Launch the programme.
ELITECADAR14 icon is located on the Desktop.



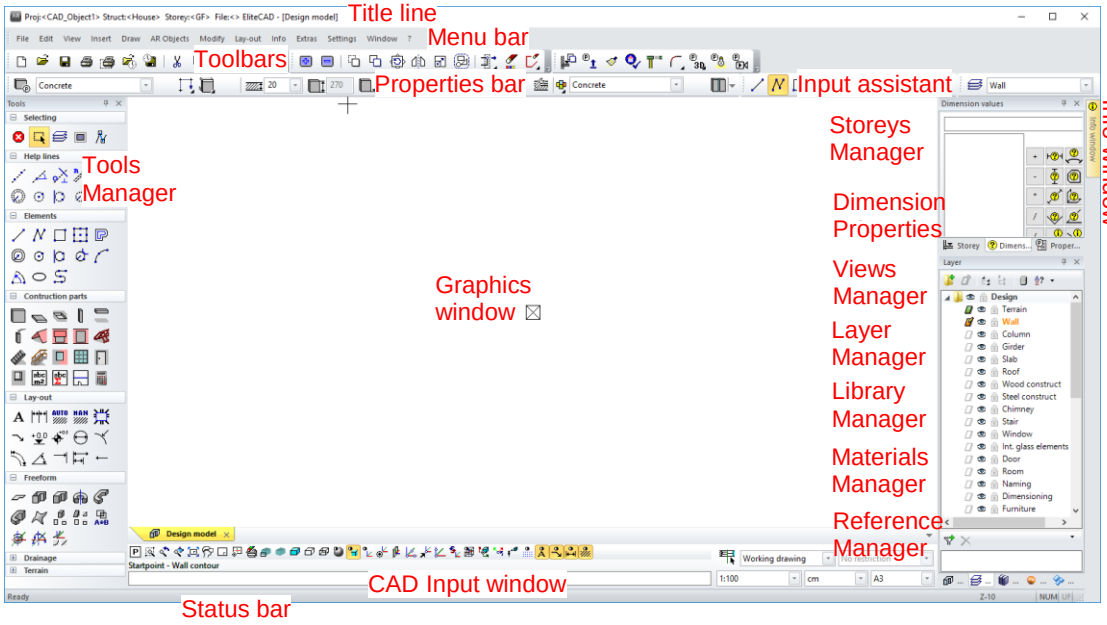
Double-click on the icon.

2. ELITECAD launches and initializes the different components.



WORKSHOP END

User interface

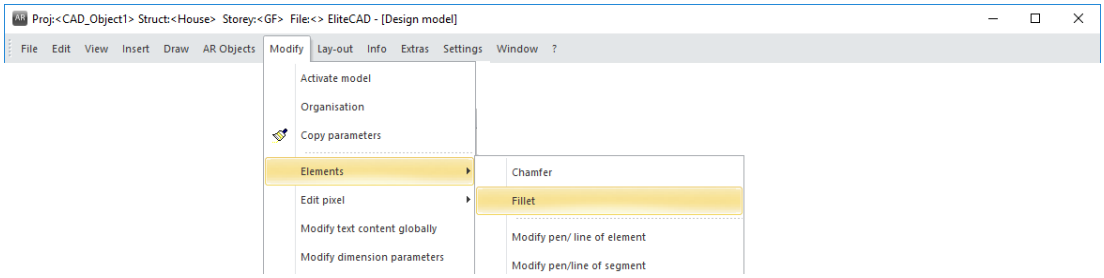


The appearance of the user interface can vary, depending on the installation and screen resolution.

Title line

The title line of the programme shows which project is loaded, in which structure and storey you are currently located, and which file is opened.

Menu bar



The menu bar with opened and extended "Modify" menu.

Toolbars

Toolbars offer rapid access to the most important commands. Many of the symbols or icons can also be found with the same meaning in the relevant menu entries.

Tool management

In tool management, you will find a number of different toolbars combined. These can be opened and closed to suit your requirements, enabling you to bring together a number of functions in a small space. The order in which the bars appear can be changed and you may also add your own new bars.

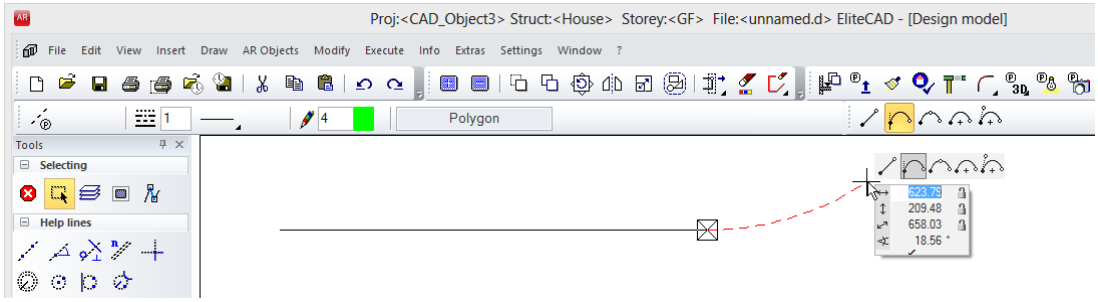
Properties bar

The properties bar displays the properties of the active part or for a manipulation to be performed. There are properties bars for manipulations, elements, hatch patterns, dimensions, text, 3D solids, and components. The example shows the properties bar of the wall.

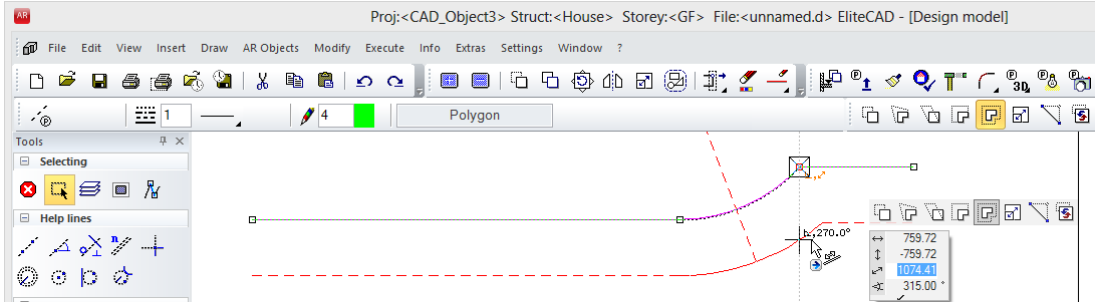
Input assistant

The input assistant consists of additional functions that vary according to the function selected. The functions for input assistant can also be displayed on the cursor using the [Tab] key.
Not every function has these extended functions. In principle these are the create functions and the manipulations on the handle.

Example of the polygon drawing function with the additional functions for arches:



Example of manipulation on the handle of a polygon:



CAD input window

The input window contains the image properties, the information line, the input line and the status.

Image properties

These commands are fixed. They control how the data is displayed on screen. Zoom factor, cut-out, imaging, etc.

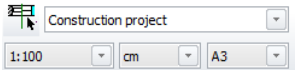
Information line

This line contains commands as to what you must enter or determine within a function.

Input line

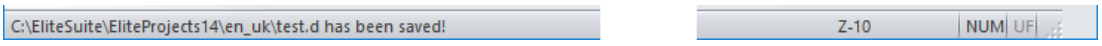
You use the input line to forward information to the program. This information could be texts, coordinates or, in event of prompts, confirmations.

Status



Here you can select representation mode, scale, units and the page format.

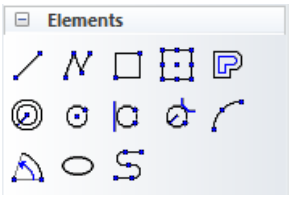
Status line



The left-hand area shows confirmations that e.g. the data was saved successfully. The current location of the work level is located to the far right. "Z" stands for axis, "-10" indicates the height on this axis. In the upper floor these coordinates would be e.g. "Z270", and in the basement "Z-260".

DRAWING LINES

The basic functions for drawing lines are the individual line, the polygon, and the triangle.

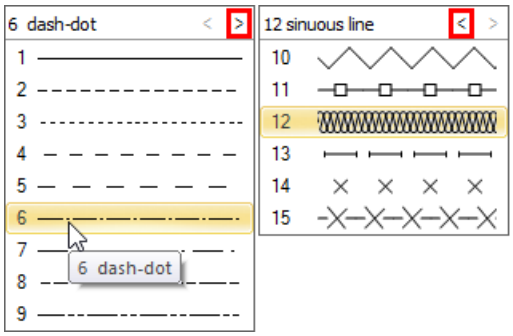


When you select one of these functions, the properties bar of the elements appears.

The line is composed of the line and pen type.

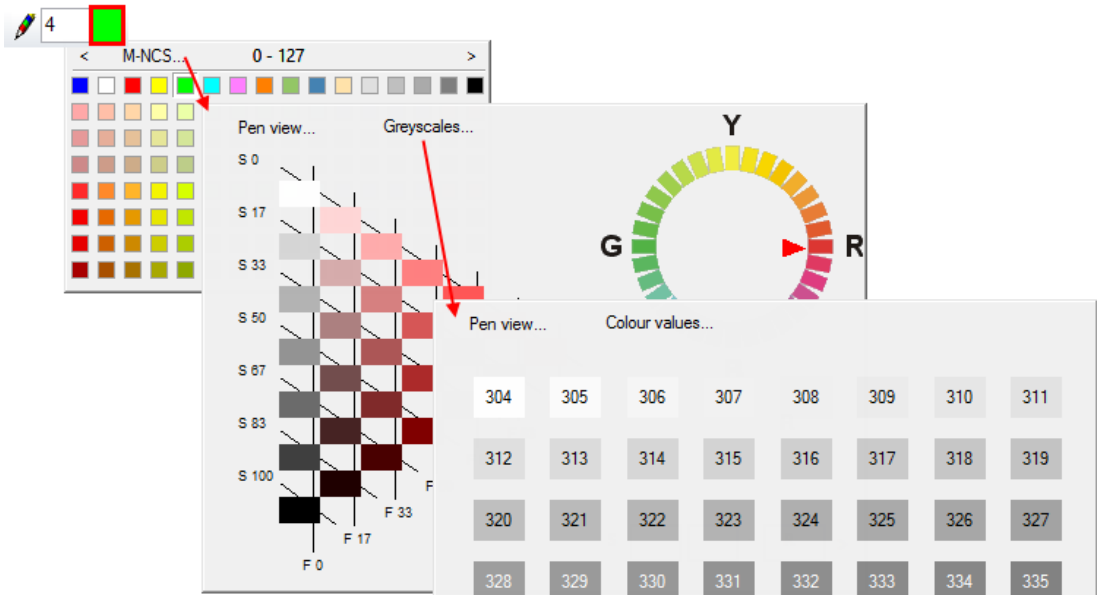
Line types

There are 9 "fixed" line types available. Other additional line types can also be defined.

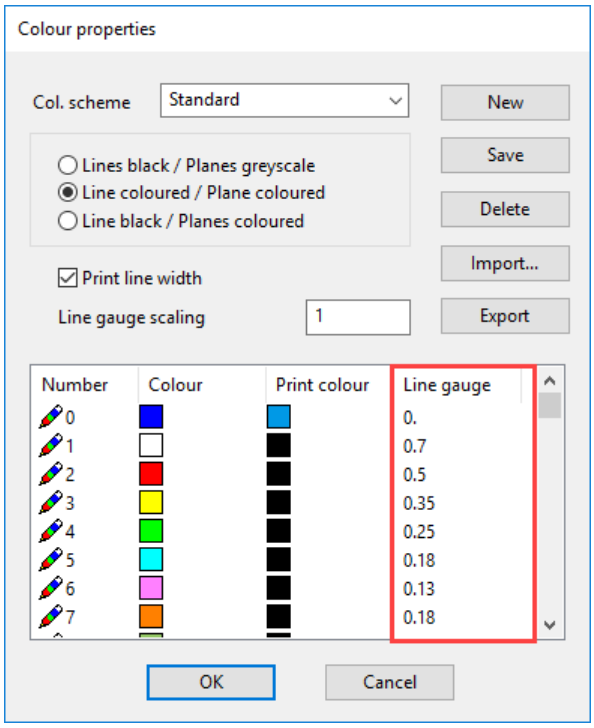


Pen types

You can choose from 1024 differently coloured pen types. The selection opens with a single click on the colour square. There are different colour squares sorted by pen number, colour values or grey values.



The line appears in the relevant colour on the screen. A pen thickness is assigned to every pen colour.
In the colour properties the screen colour, print colour and pen thickness per pen number can be adjusted. If you are not yet familiar with the pen numbers and the corresponding pen thickness, you open the screen by selecting SETTINGS > COLOUR PROPERTIES from the menu.

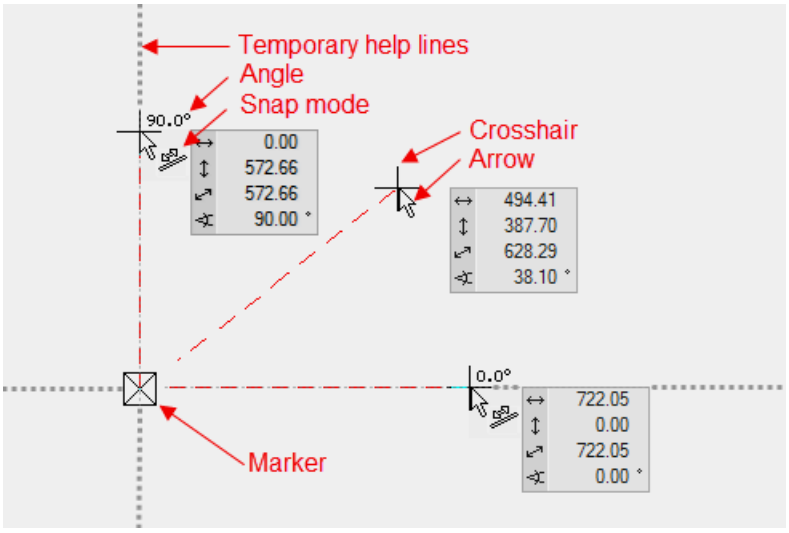


NOTE

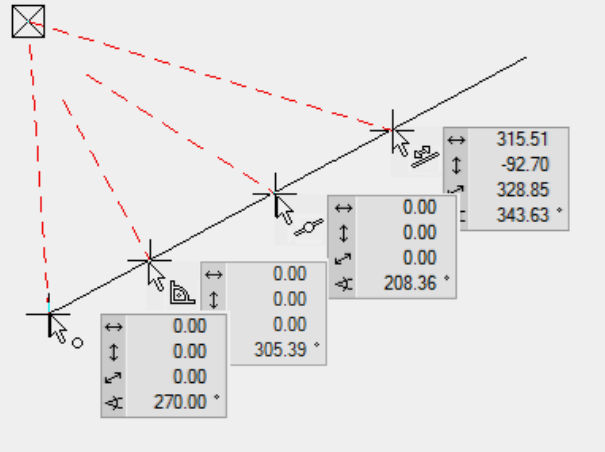
Pen 0 is only displayed on the screen; these lines do not appear on the printout.

Cursor

The cursor consists of the marker, the crosshair, the arrow and, if a point is entered, the value field. The marker always specifies the last position. As soon as the cursor is at right angles to the last position, temporary reference lines appear with a display of the angle. This means you can check whether you are drawing at right angles.


Temporary help lines
Angle
Snap mode
90.0°
0.00
572.66
572.66
90.00 °
Crosshair
Arrow
494.41
387.70
628.29
38.10 °
0.0°
722.05
0.00
722.05
0.00 °
Marker

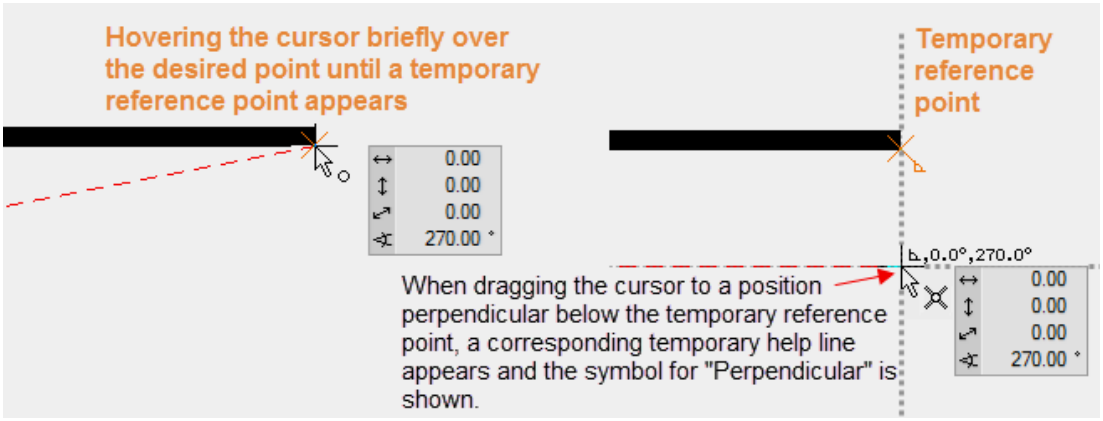
The cursor responds as soon as it is positioned near a capture point and indicates the type of capture point by means of a symbol.



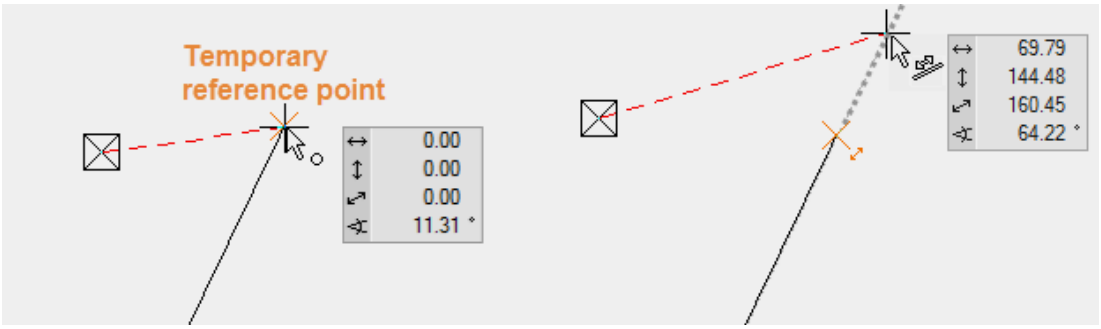
Temporary reference points and lines

When drawing, references to a geometry already created often need to be made.
You create a reference point by hovering the cursor briefly over the desired point; the programme displays the reference point as an orange cross.
Instead of hovering over the point you can press the [Shift] key.
The temporary reference points are deleted again after every click. The points can be deleted manually the same way they were created.

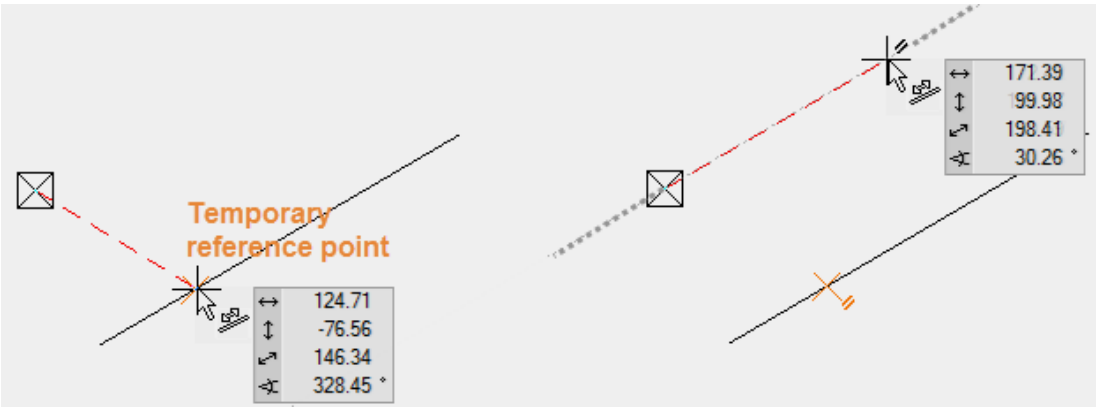
Drag the line until it is perpendicular below a wall corner



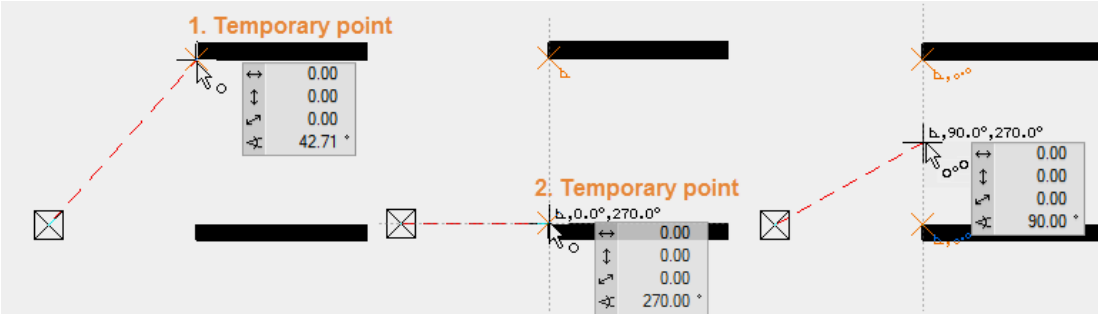
Drag line into the extension of an existing line



A new line must lie parallel to an existing line.



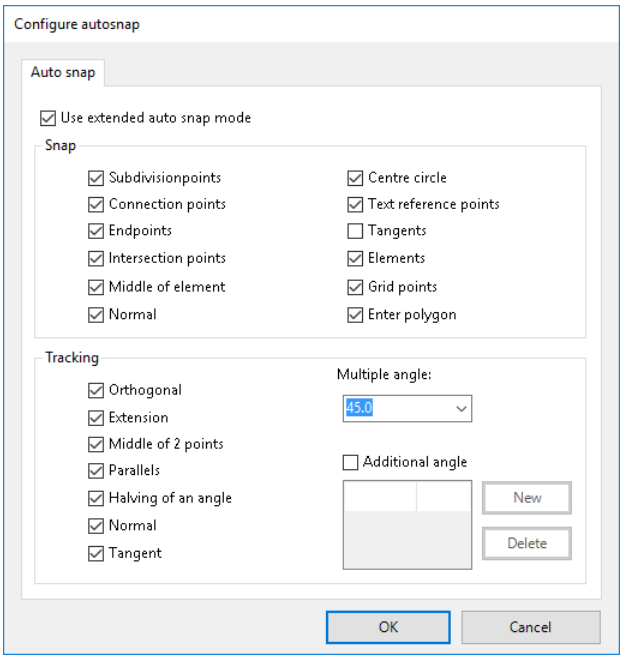
Draw a line in the middle of two points.



NOTE

If, when drawing, no temporary help lines or reference points appear, this means the functionality has been deactivated or changed in the configuration settings of the autosnap mode.

Configuration of autosnap mode:
Right-click > Configure autosnap

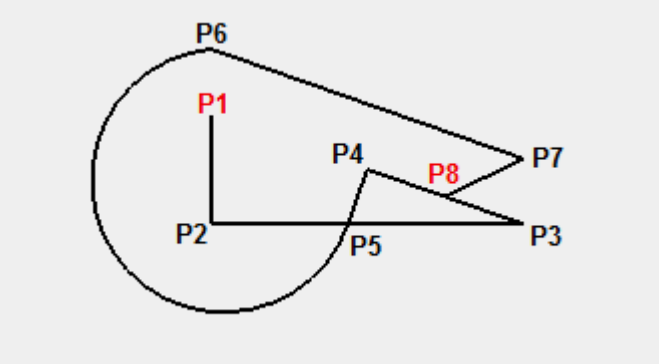


Drawing a polygon

A polygon consists of interrelated lines that can be selected together with a single click, including subsequently. When drawing, ensure that you only ever draw interrelated lines in a polygon.

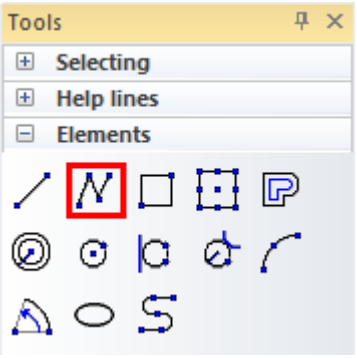
▼▼▼▼ WORKSHOP

Draw the following polygon:



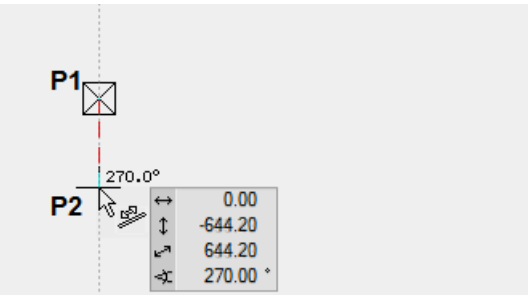
1. Start with the DRAW function.

This function is found under Tool Administration.



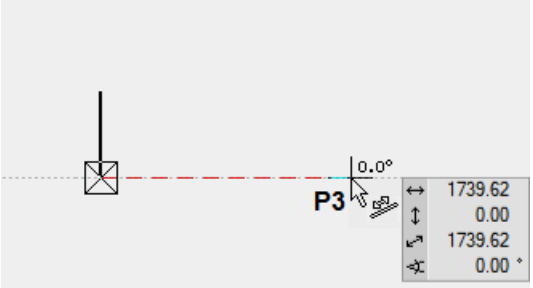
2. Start with the perpendicular line. Move the cursor into the upper left of the screen and left-click on the start point **P1**.

3. Move your cursor down (no need to keep **either** mouse button pressed). As soon as you move the cursor vertically to below the starting point, a temporary help line and the angle will appear.

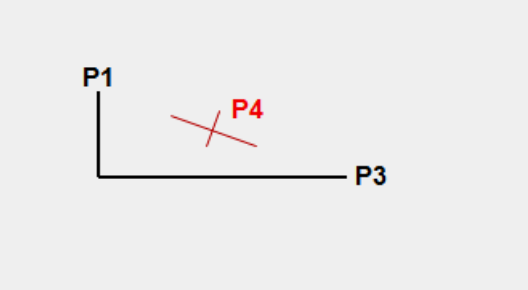


Once you are at roughly the correct distance, left-click on the location **P2** to confirm it.

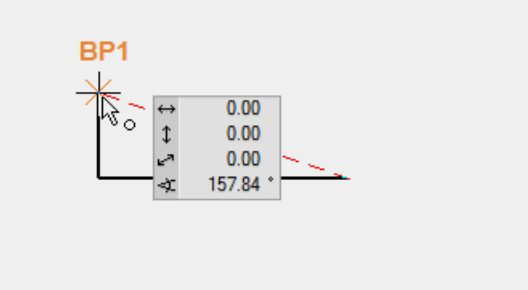
4. The next element is horizontal. Move your cursor to the right. Once again, the temporary help line and the angle tell you whether you are orthogonal. When you have reached the correct distance, confirm the location **P3** by left clicking.

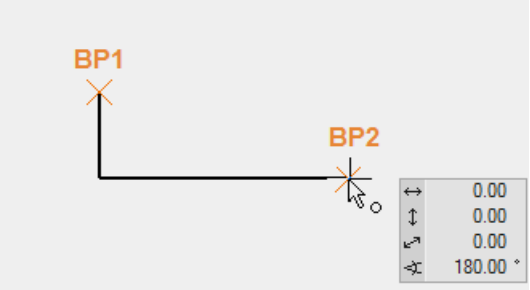


5. The next point, P4, is located in the middle of the two points P1 and P3. You cannot snap this point directly. Instead, you require help points known as temporary reference points.

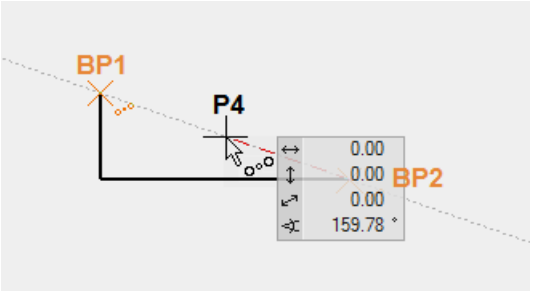


Set the two reference points **BP1** and **BP2** positioning your cursor briefly over points P1 and P3 until an orange cross appears.

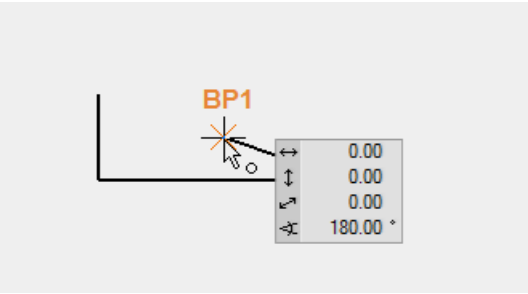


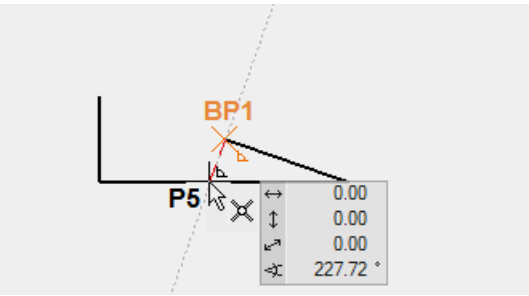


The middle point can be caught between two temporary reference points.
Move the cursor towards the centre until the catch symbol appears, indicating the centre of 2 points. **P4**

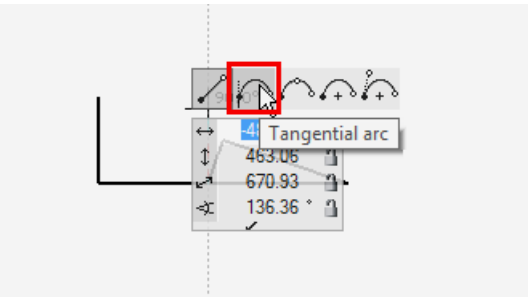


6. The next element is perpendicular to the slanting line and ends on the base line. This time you need to add a temporary reference point **BP1** to the starting point. Move the cursor to the intersection point of the temporary help line and the base line. The symbol for perpendicular and for intersection point **P5** appears on the cursor.

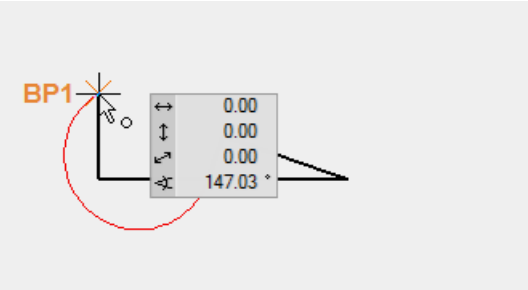


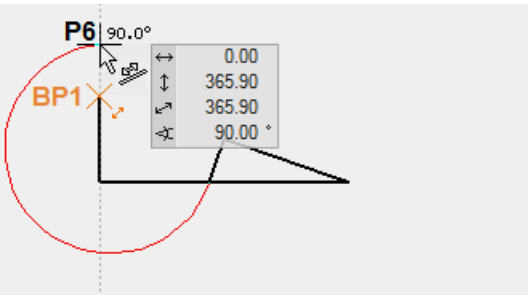


7. The next element is a curve. In the input assistant, additional drawing functions such as tangential arc, curve through 3 points, etc. are available.
For the input assistant to appear above the value field, the [Tab] key must be pressed.
Select the function TANGENTIAL ARC.

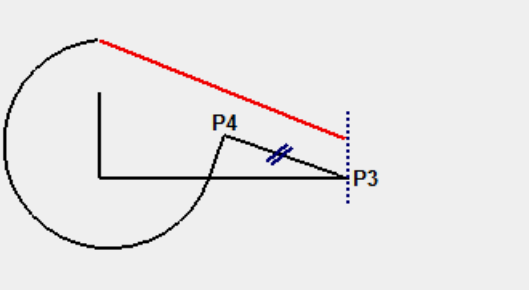


Set the temporary reference point **BP1** and the end point of the circle vertically above it. **P6**

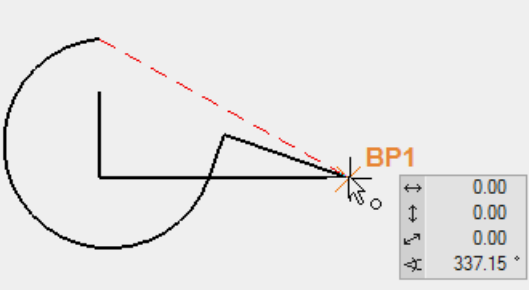


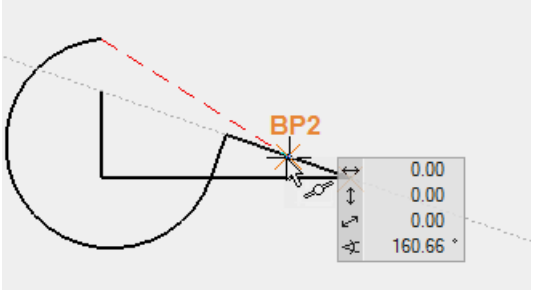


8. The next element is parallel to the existing slanted line and ends vertically above P3.

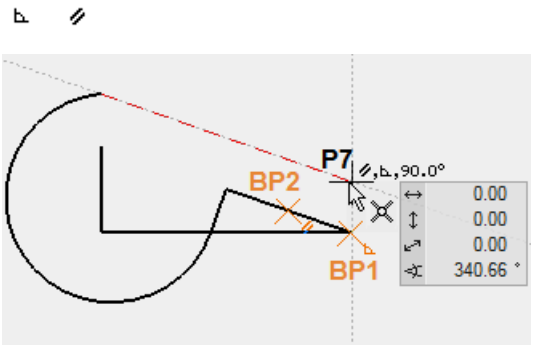


The one reference point **BP1** is located on P3, the other **BP2** somewhere on the slanted element.

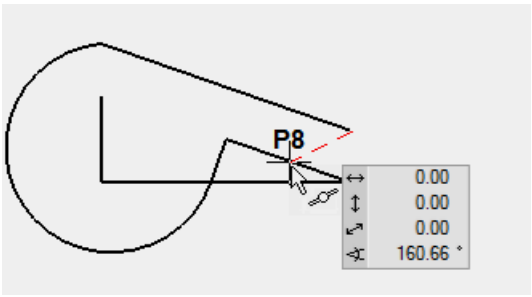




Set **P7** parallel to BP2 and vertical to BP1. The symbols for perpendicular and parallel should appear on the cursor.



9. The last element ends in the middle of the slanted line. You can set this point directly without reference points. When doing so, make sure that the symbol for centre of element appears on the cursor. **P8**

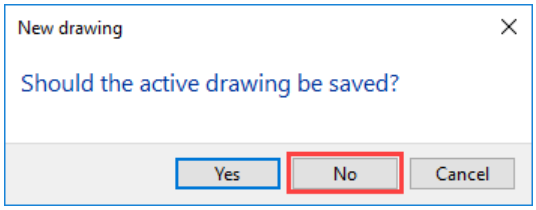


10. To finish the polygon, click again on **P8**.

TIP

To finish a polygon, close it by clicking on the start point, double-clicking on the final point or by cancelling the function > [Esc] key or another function.

11. To remove the lines from the screen, open a new file.



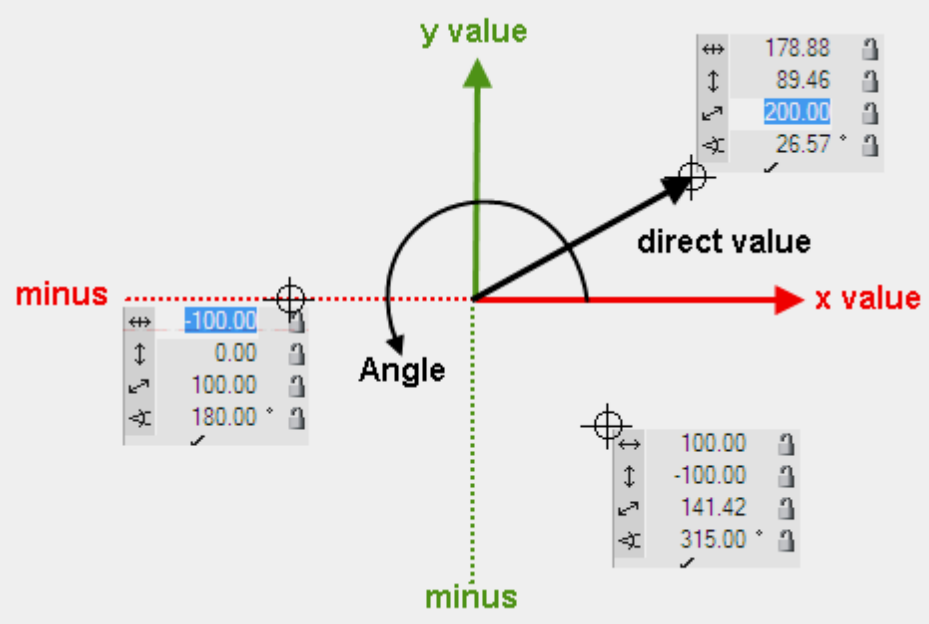
WORKSHOP END

POLYGON VIA ENTRY OF COORDINATES

Very often it is not possible to catch a point, rather a certain line length is predefined. These lines can of course be constructed with help lines. It is much easier and more efficient to enter a polygon using coordinates.

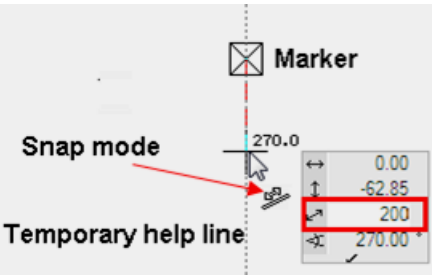
Values field

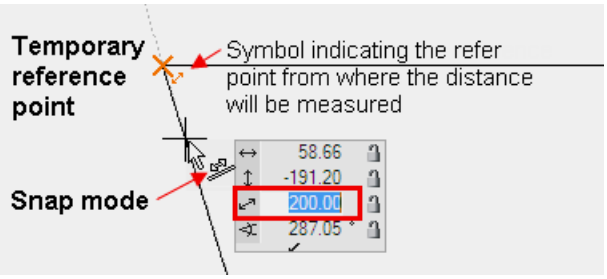
Lengths can be entered directly in the values field. To move to the values field, press the [Tab] key. In the values field the x value (horizontal), the y value (vertical), the direct value or the angle can be entered.



Value on element or help line

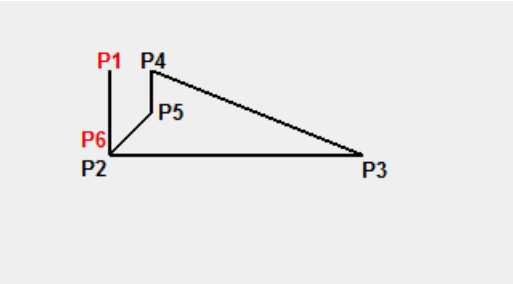
If, when a value is entered, the cursor is on an element or a help line that passes through the marker or a temporary reference point, the entry switches to the direct value and you need only enter the distance, without worrying about the angle or the minus range.





WORKSHOP

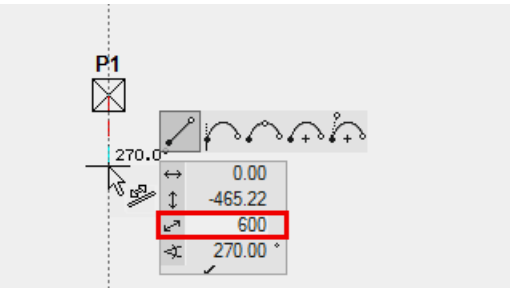
This sequence of lines must be created by entering coordinates.



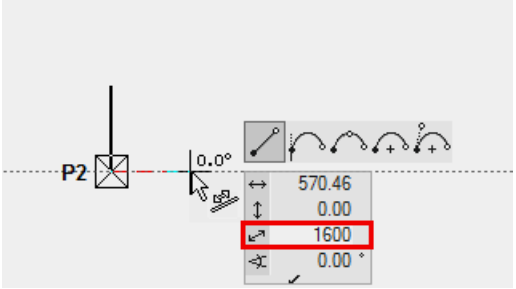
1. Start with the DRAW function.

2. Move the cursor on any random point and left-click on **P1**.

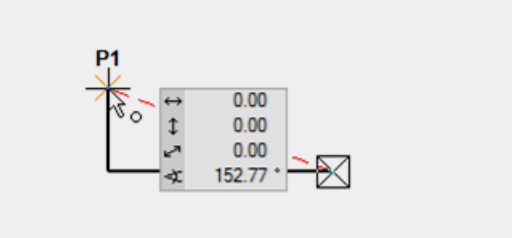
3. Move your cursor below P1 until the temporary help line 270° appears, press the [Tab] key to access the values from the value field, enter **600** as direct measurement and confirm with [**Enter**] > **P2**. Provided the cursor is located on a temporary help line, the direct mass will be transferred to the help line in the direction of the cursor.

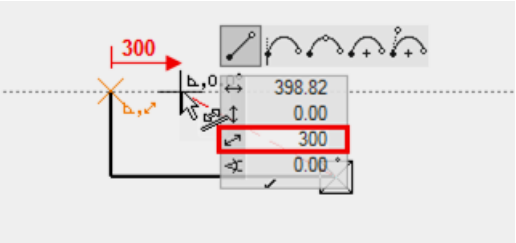


4. To create the next point you proceed in exactly the same way except that you move the cursor onto the temporary 0° help line. For the direct dimension you enter **1600** > **P3.**

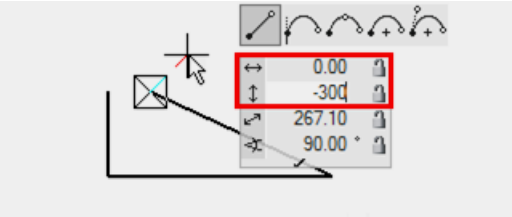


5. Entry of coordinates also works from a temporary reference point. Set a reference point on P1, then move the cursor to the right until the 0° help line appears, press the [Tab] key, enter **300** as direct measurement and confirm with the [**Enter**] key > **P4**.

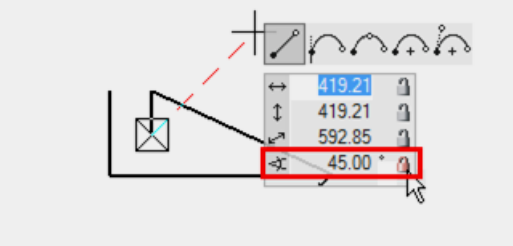


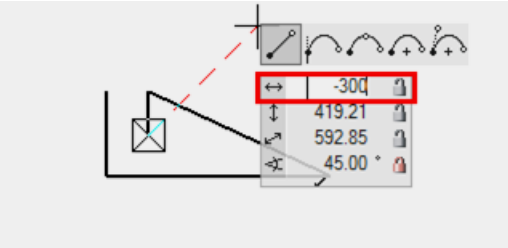


6. Instead of using the temporary help lines, the location of the new point can be determined by entering an x and a y value. Ensure that the cursor is not positioned over a temporary help line, press the [Tab] key and enter **0** as x value and **-300** as y value > **P5**.

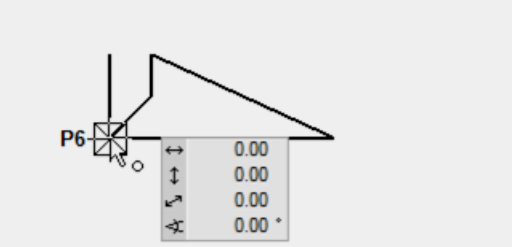


7. Enter the angle **45** ° into the value field and lock it by clicking on the padlock. The colour of the padlock changes to red. The cursor is now fixed on the 45° ray. Also set the x value to **-300** and confirm > **P6**.





8. Finish the polygon by clicking again on **P6**.



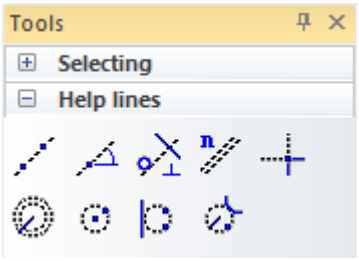
9. To remove the lines from the screen, open a new file.

WORKSHOP END

HELP LINES

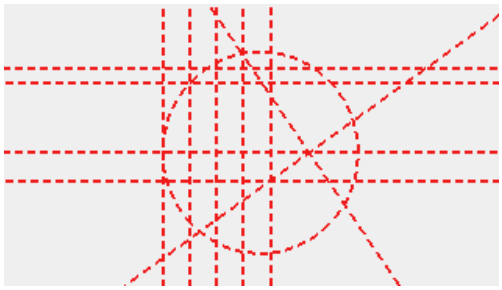
The help lines in ELITECAD are a tool to create an auxiliary drawing with help lines with the help of which you can later draw a geometry.
The help lines remain with the temporary help lines that you have already learned, until you delete them.
The help lines are divided into straights and circles and are created using the following two toolbars:

Straights/circles



WORKSHOP

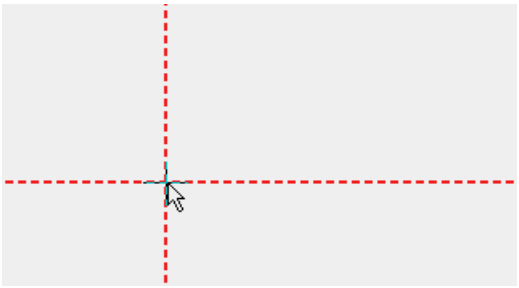
Create the following auxiliary structure with the help lines.



1. For one horizontal and one vertical help line as starting point use the function STRAIGHT WITH PRESET ANGLE THROUGH POINT.

You can enter multiple angles, separated by a comma.

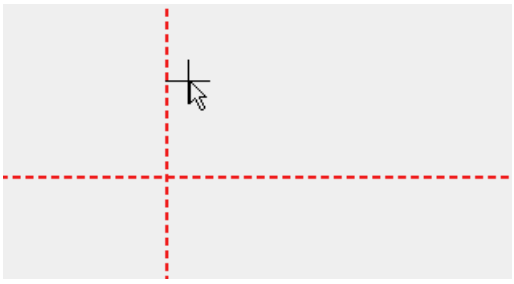
Click in the centre of the working area.

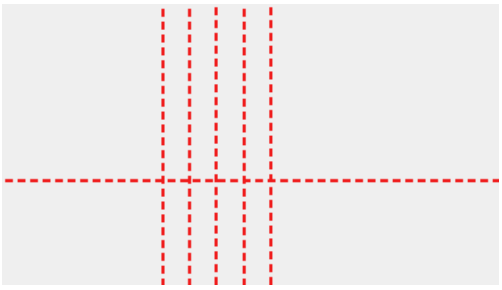


2. The vertical help lines have 4 times the gap of 200 cm. Select the function PARALLEL STRAIGHTS.

Set distance **200** and **4** copies.

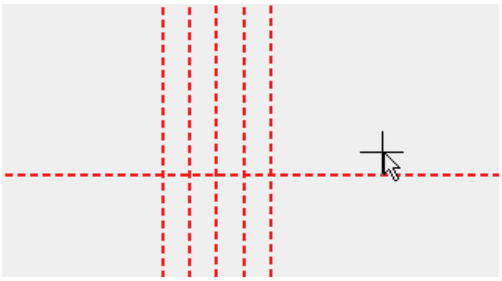
Click NEXT to the line to which the help lines are to be created. Depending on whether the vertical or the horizontal help line is closer when you click, the lines will be created accordingly.



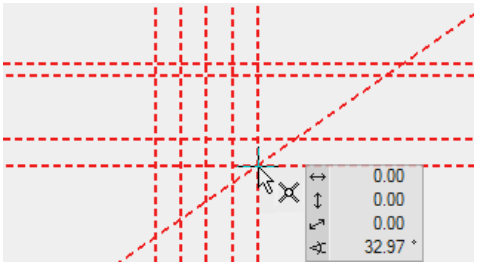


3. The horizontal help lines have different gaps. They can be created one after the other or all gaps can be created together at once, separated by a comma. Do not forget to reset the number to 1.

Click above the horizontal help line, which can lie quite a bit outside, so that a vertical help line is not suddenly closer when you click.



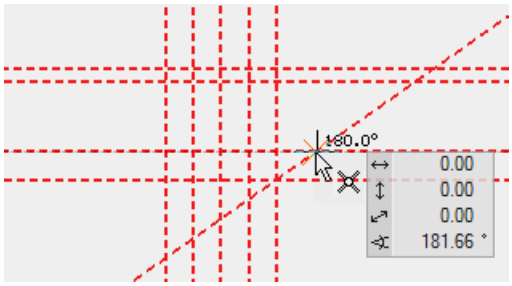
4. The next help line has an angle of 35°. Access the function STRAIGHT WITH PRESET ANGLE THROUGH A POINT and set the angle.



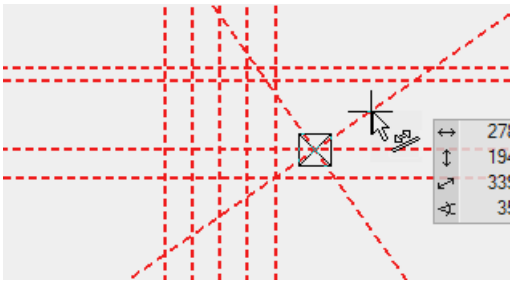
5. The next help line is perpendicular to the 35° slanting help line just created. Access the function TANGENT NORMAL ON LINE.

First, determine through which point the help line is to pass and then to which line it should be perpendicular.

Through which point?

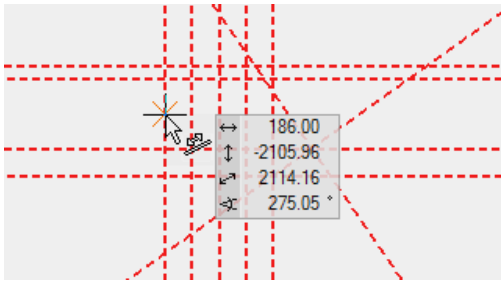


Perpendicular to which line?

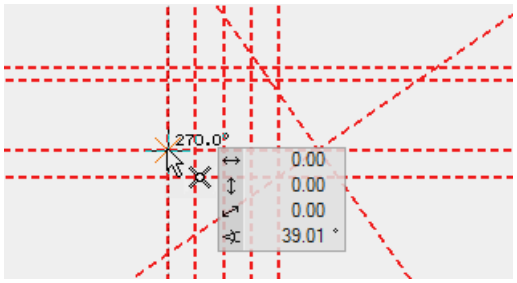


6. The final help line is a help circle. The circle must be at a tangent to a straight and pass through two additional points. Start the function CIRCLE BY 3 POINTS OR TANGENTS.

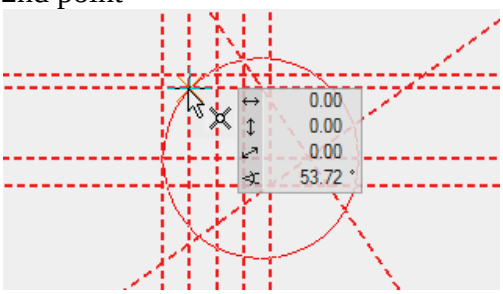
Tangential to the first vertical help line



1st point

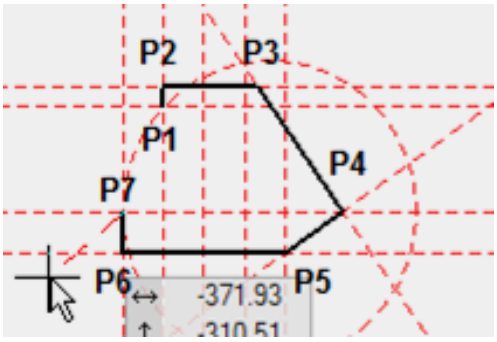


2nd point

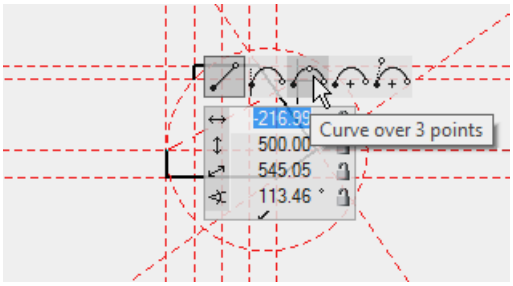


7. In the help geometry draw a polygon. The intersection points of the auxiliary construction can now be captured easily.
DRAW function

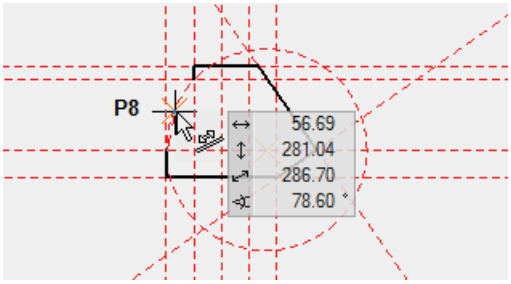
Start at point P1 and draw until point P7.



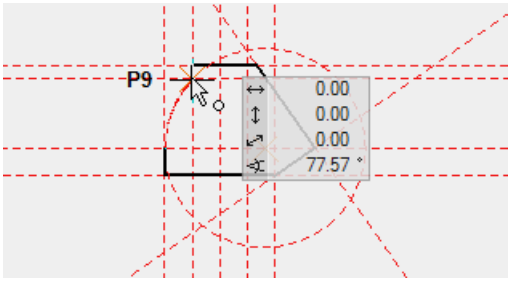
The curve is next: Use the [Tab] key to show the input assistant and select the function CURVE OVER 3 POINTS.



Set P8 on the help line

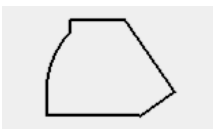


P9 on the end point



An external wall, a ceiling or a structure could now be created from this polygon.

8. To delete all help lines, select the function DELETE ALL HELP GEOMETRY.



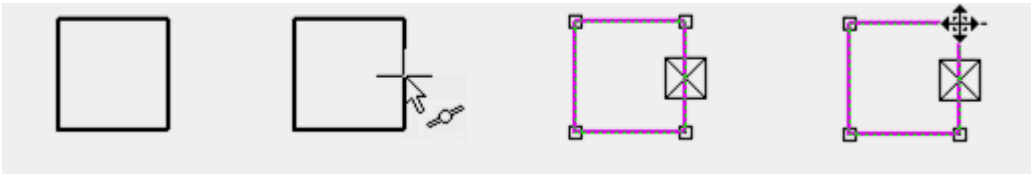
9. To remove the lines from the screen, open a new file.

WORKSHOP END

Manipulate Polygon

A created polygon can be modified. The 1st click on the polygon selects it and the corners receive handles.

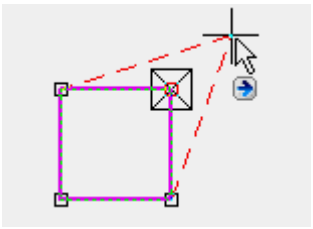
1st click 2nd click

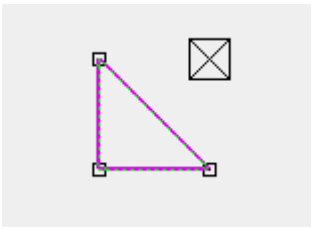


The second click decides which corner or which edge is modified. So that you can tell that the cursor is over a changeable element, it changes its appearance to a quadruple arrow.
Other manipulation functions appear depending on whether a line, a curve, a corner or an end point was clicked. The function last selected is immediately active.
The available manipulation options appear in the *Input assistant* tool bar or on the cursor with the [Tab] key.

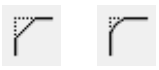
Manipulation options on a corner

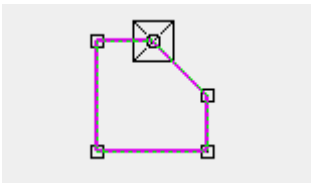
Stretch point Delete point

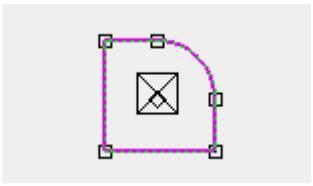




Chamfer Fillet

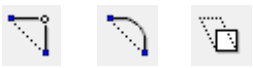


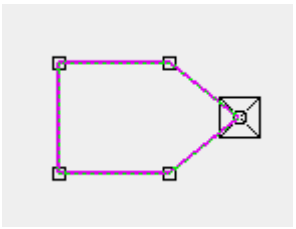


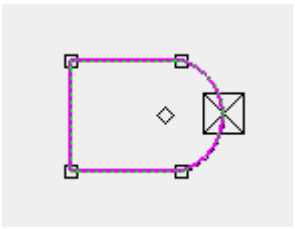


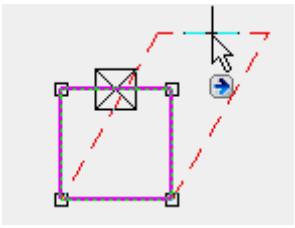
Manipulation options on an edge

Insert point Round edge Stretch element



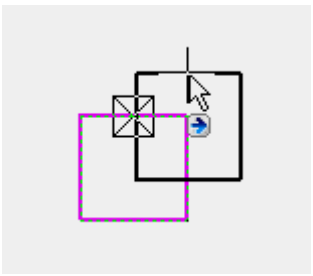


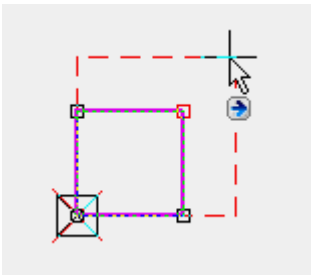




Manipulation options for a corner or edge

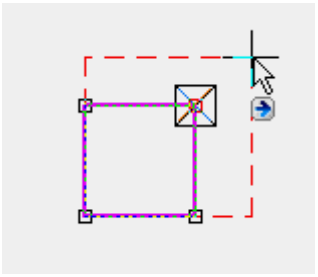
Move selection Scale element

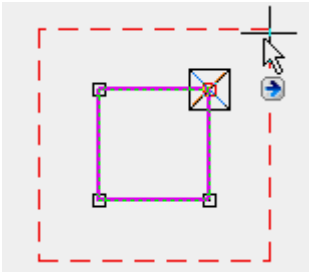




By pressing the [Ctrl] key at the same time, the selection can be copied when moved. When scaling, a reference point must be set as the starting point for scaling.

Move elements parallel Move all edges parallel



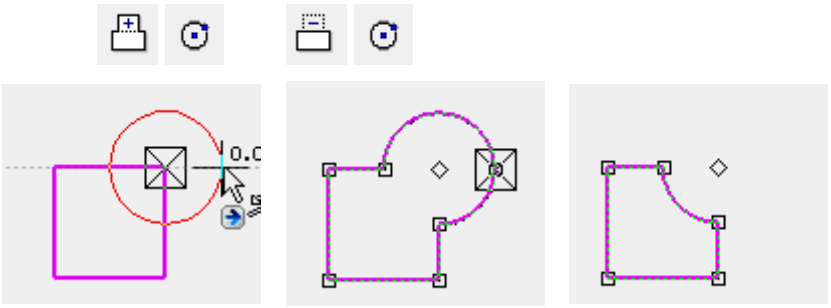


Change polygon

A distinction is made between whether a closed or an open polygon is to be modified. After you select the change function, the drawing functions with which the change can be drawn appear in the input assistant.

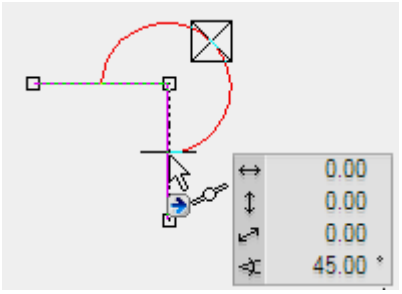
Expand/reduce closed polygon by one circle:
First select the *Expand or reduce polygon* function followed by the drawing function *Circle*.

Drawing function Extend circle polygonReduce polygon



Open polygon:

For the open polygon, the extension polygon must be started on the geometry and ended by double-clicking on the geometry. An exception is when you start on an end point. If the polygon cannot be closed properly, the change is not carried out.



Selection of element part

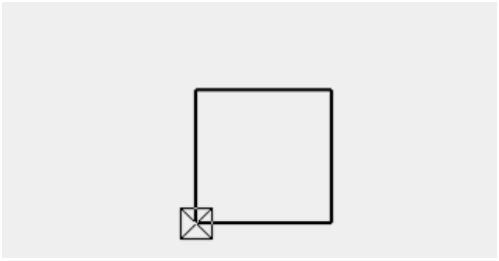
For certain manipulations such as move selection or extend elements/move in parallel, it makes sense to perform the manipulation not on the entire polygon but only on certain elements.
To enable individual elements to be selected, the selection mode must be switched to "Selection element part".

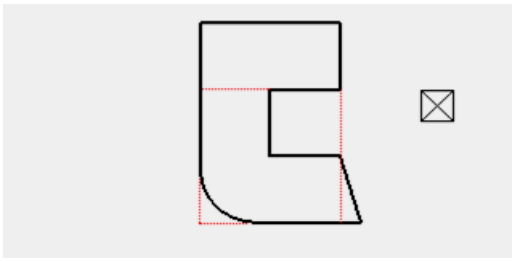
Alternatively, press the [Alt] key.

Multiple selection [Shift] key

WORKSHOP

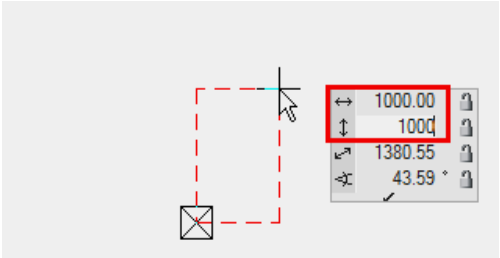
Edit a rectangle until you receive the following result:

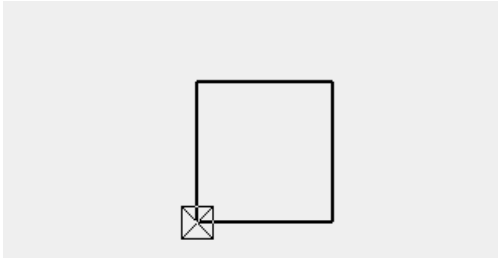




1. Begin with entry of the rectangle. Function RECTANGLE

Set the first point of the rectangle at any point on the screen. For the second point, press the [Tab] key and enter in the value field the x value **1000** and the y value **1000** and confirm your entry.

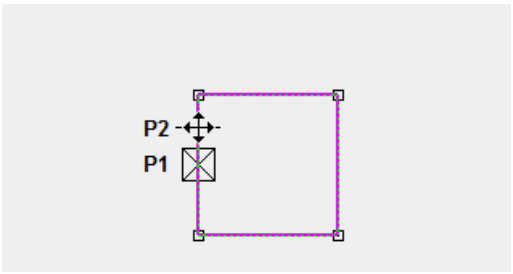


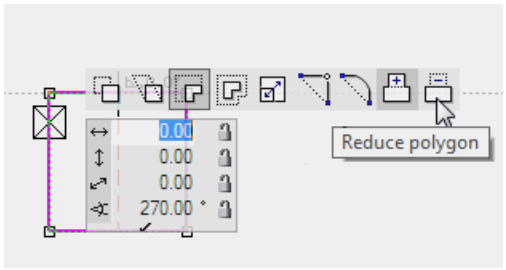


End the drawing function by pressing [Esc] or CANCEL.

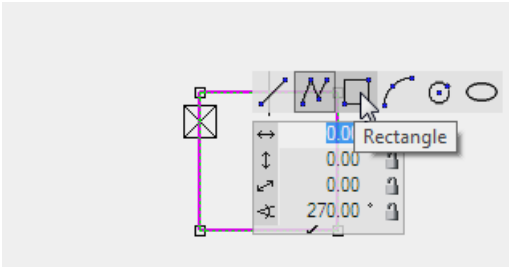
2. The first manipulation function is the extension of a polygon.

Select the rectangle **P1**. Move the cursor to an element of the polygon until the quadruple arrow appears. With one click **P2** you activate the current manipulation function in the input assistant. To display the selection of the function, press the [Tab] key. Select the function REDUCE POLYGON.

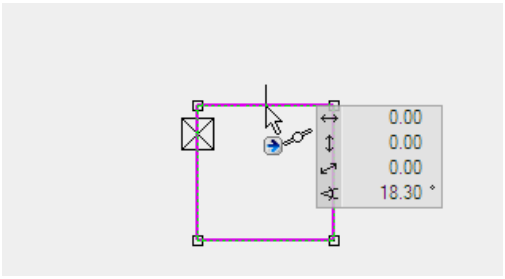


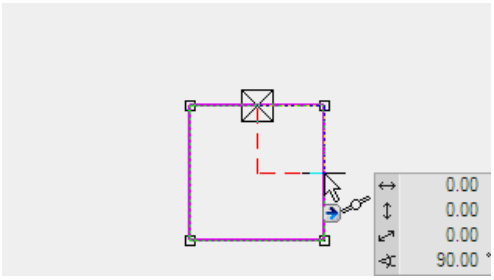


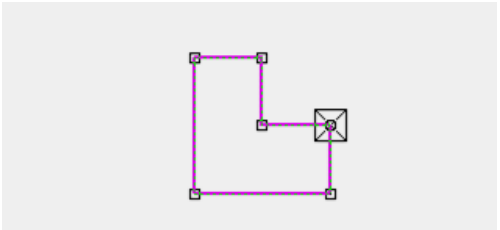
RECTANGLE drawing function



Start point lies on the middle of the element End point lies on the middle of the element

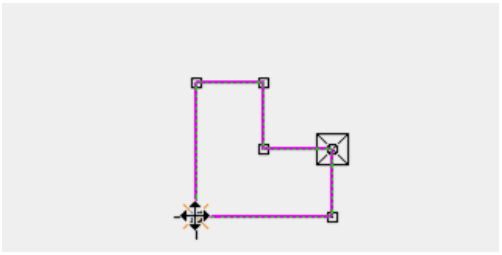




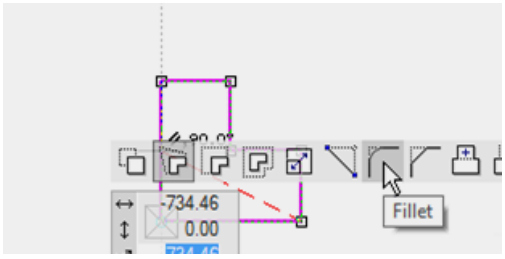


3. Another manipulation option is the filleting or chamfering of a corner. In the example the lower left corner is to be filleted.

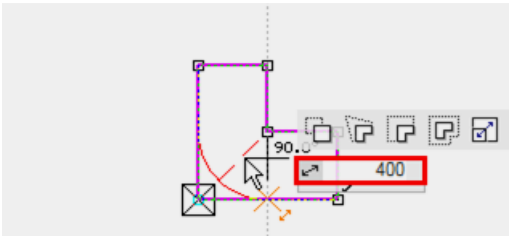
Click in the corner



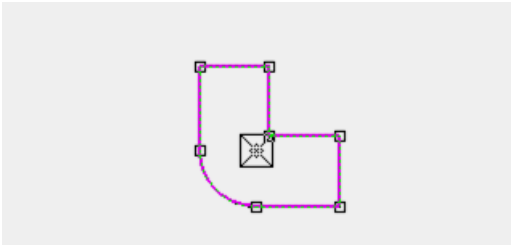
[Tab] key, FILLET



Enter radius 400

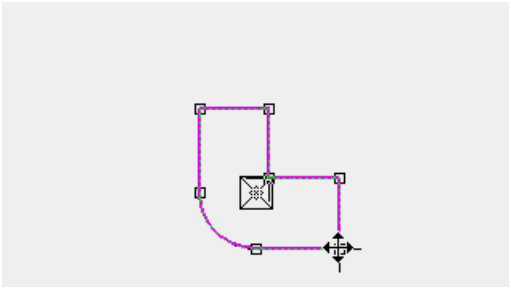


Confirm

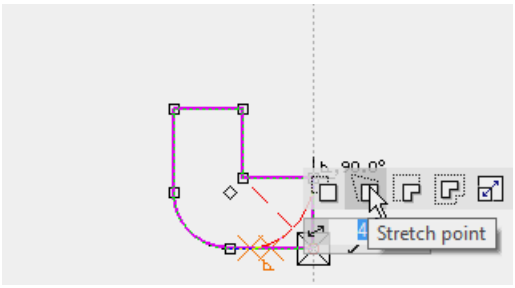


4. The next manipulation is stretching a point. The right lower point is to be moved 150 cm to the right.

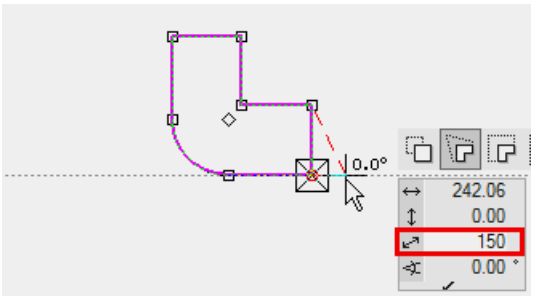
Click in the corner

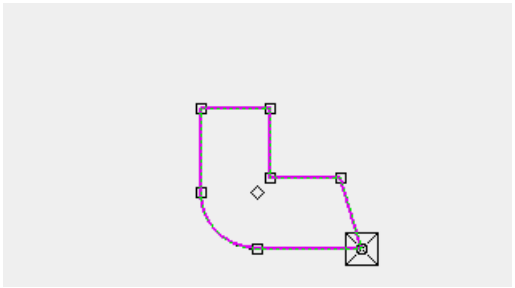


[Tab] key, STRETCH POINT



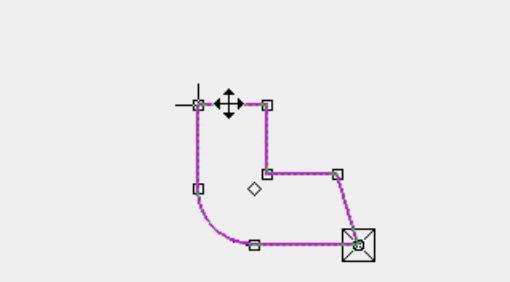
Distance to element, **150**



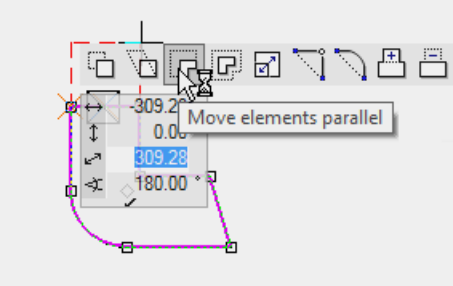


5. The upper edge must be stretched upwards by 500 cm.

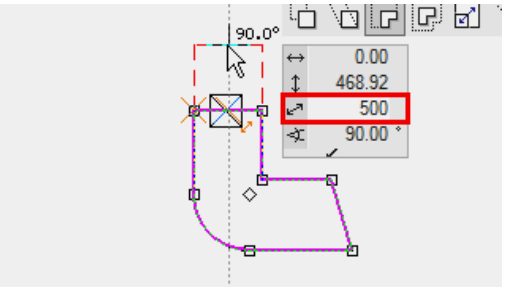
Click on the edge

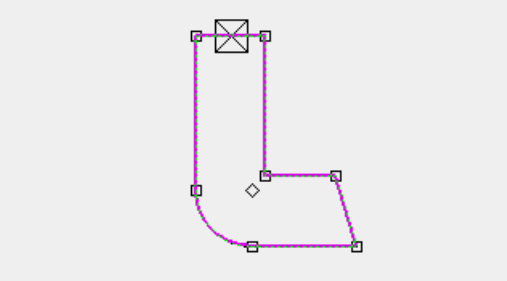


[Tab] key, MOVE ELEMENTS PARALLEL



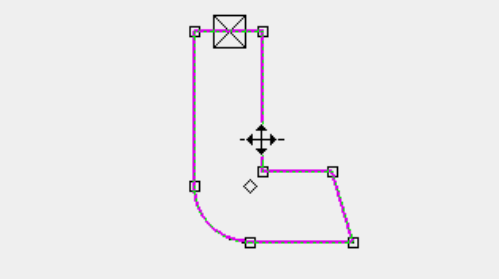
Move cursor to the perpendicular help line and enter the direct value **500** in the value field.



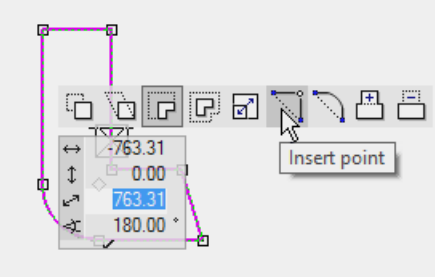


6. The INSERT POINT function splits an element and enters a point that can be set at the desired position straight away.

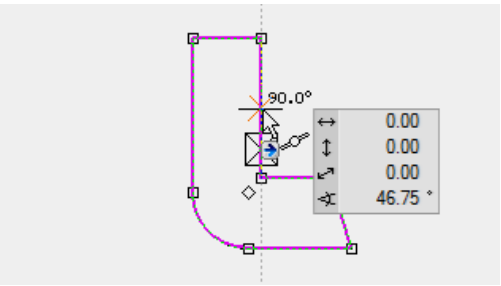
Click on the element



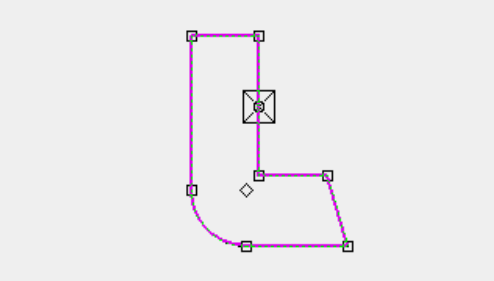
Function INSERT POINT



Set point to middle of element



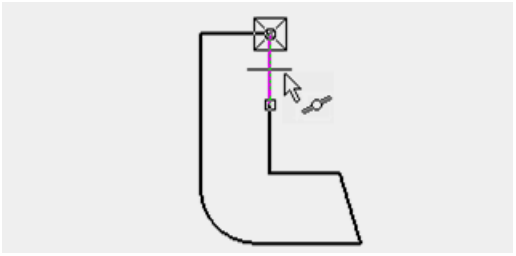
New point with handle



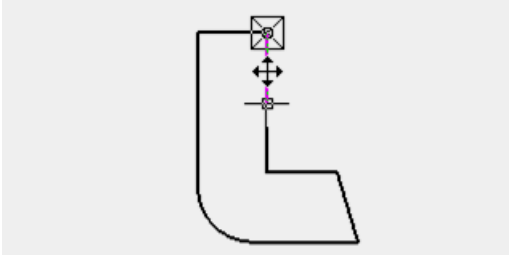
7. Until now the manipulations were performed on the entire polygon; now however only one element can be selected. Before the element is selected, you must switch to the selection mode element part.

Remove existing selection with the [Esc] key or by left-clicking into an empty space.

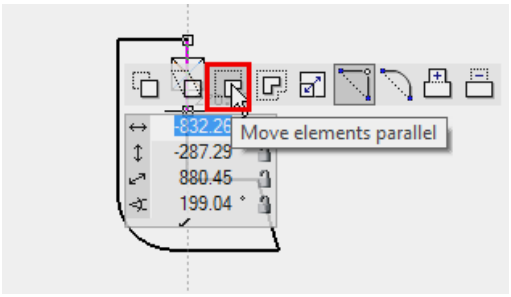
Mark element



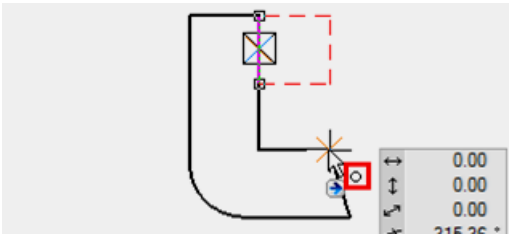
Click for manipulation mode

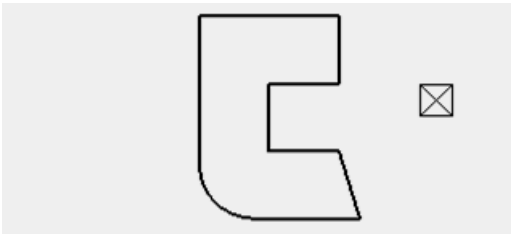


Function MOVE ELEMENTS PARALLEL

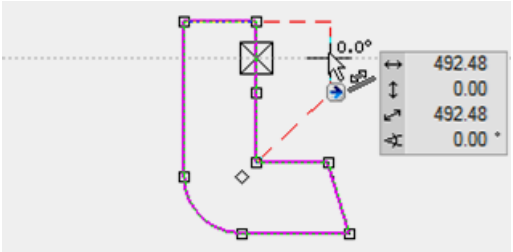


Move the element out and move the cursor to the lower point until the catch symbol point on the cursor appears. You can then be sure that the element is located perpendicular above the point.

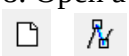




The same manipulation, but across the entire polygon, has the following result:



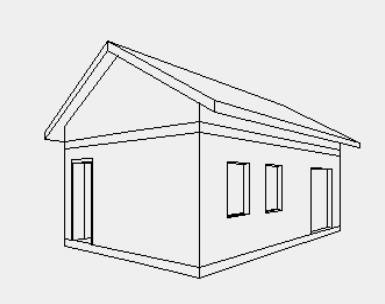
8. Open a new file and deactivate the selection mode element part.



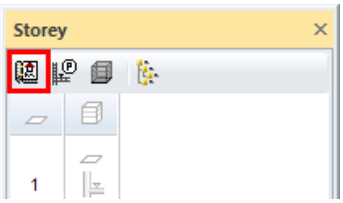
WORKSHOP END

Open project

Before you can begin drawing a building, a new project must be opened.
In this case this is a simple building consisting of one structure with two storeys – ground floor and top floor.



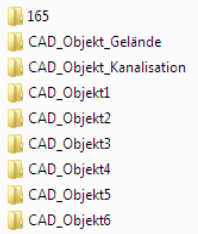
Project settings



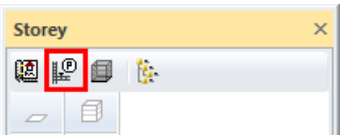
The project settings and project administration are set via the function PROJECT to be found in Storeys Manager. Here you can open a new project or select an existing one.

TIP

In Windows Explorer a folder with the project name is automatically generated in the project path.



Structure settings

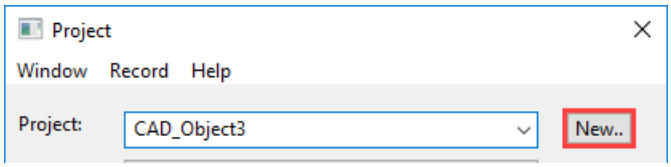


The individual structures and their storeys are managed under structure settings. A section through the building is defined with the relevant dimensions of the ceilings, floors and room heights.

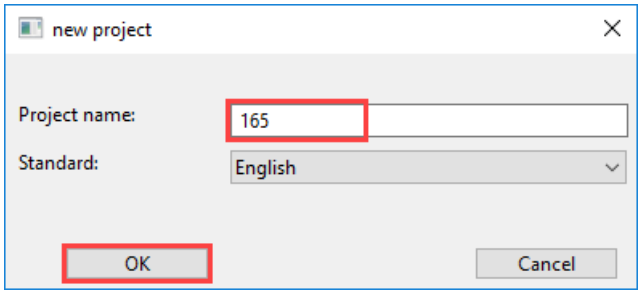
WORKSHOP

You begin by opening a project.
Open a new file > FILE NEW

1. Open project mask and click on "New".



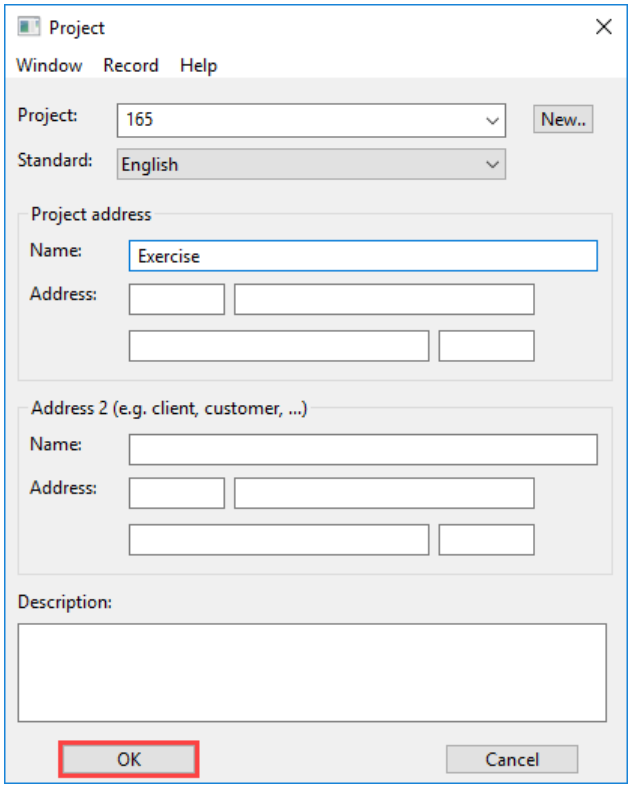
2. Assign a project name.



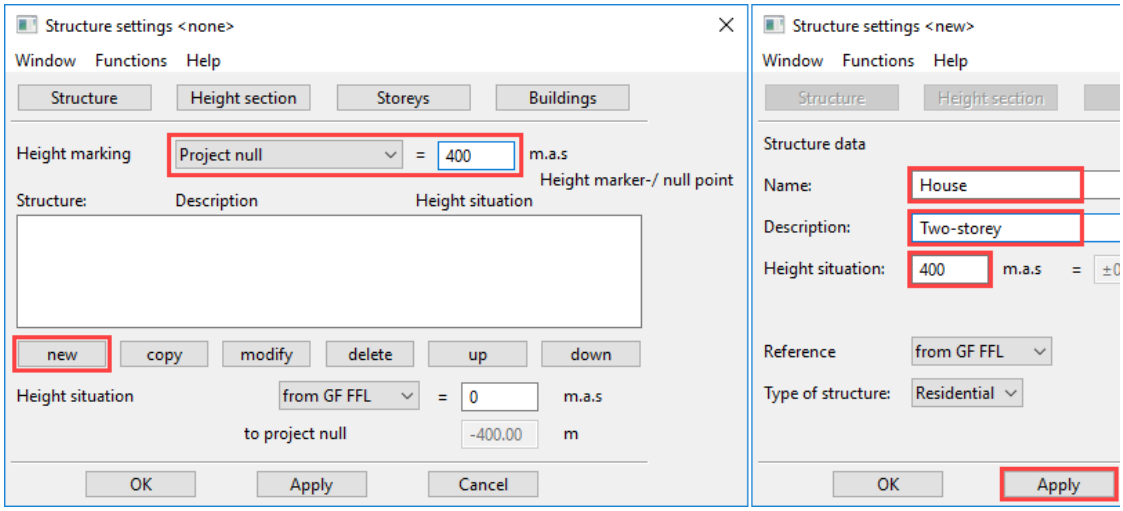
TIP

Important: **Do not enter any spaces or special characters for the project name.** In Explorer, a folder with this name is generated to which you can save all the CAD data of your project.

3. You can add optional data (name, address, description) into the remaining fields of the project mask.



4. As soon as the project mask is closed the structure settings open automatically.



Determine the type of height marking: **Project null** and its height: **400**.
Click on NEW.
Enter the name, the description and the height of the structure.
Caution: Spaces within the structure name are not allowed.

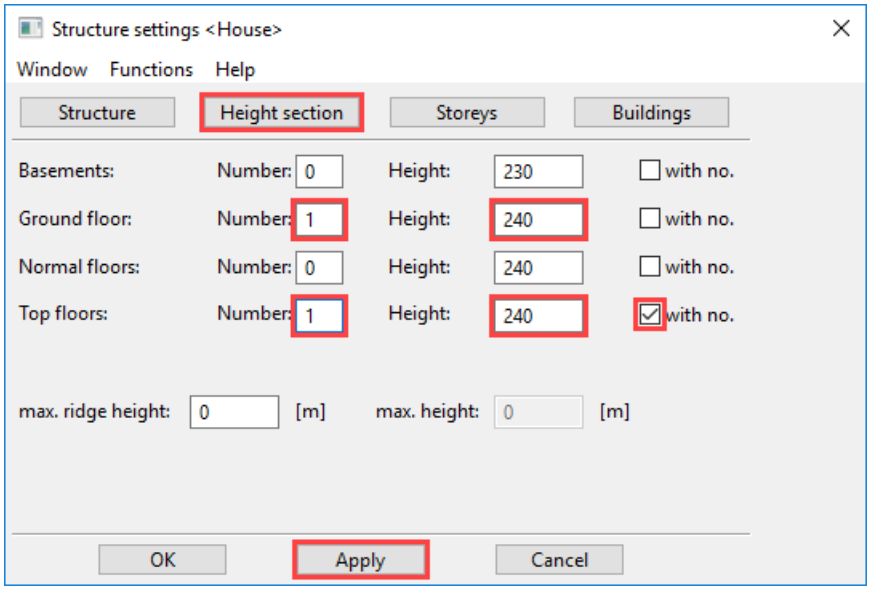
5. Press APPLY to save the structure data.

TIP

In addition to the usual OK button, there is an additional APPLY command on the screen which saves your entries but does not close the screen.

The OK button also saves the entries but closes the screen. In this case the screen can be accessed again under "File > Structure Settings".

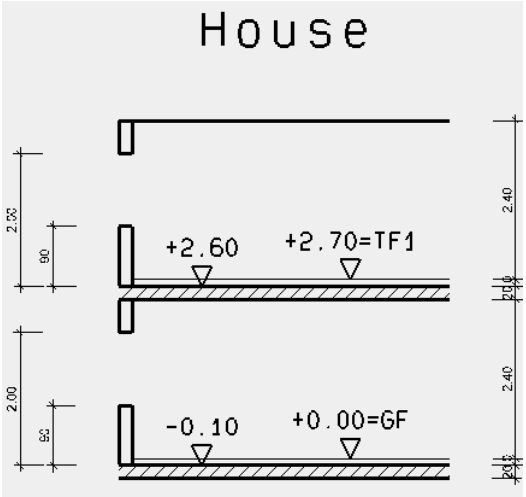
After setting, the screen switches from structure to height section.
The number of storeys and the relevant storey heights are defined here.
The heights refer to the **clear** room height.



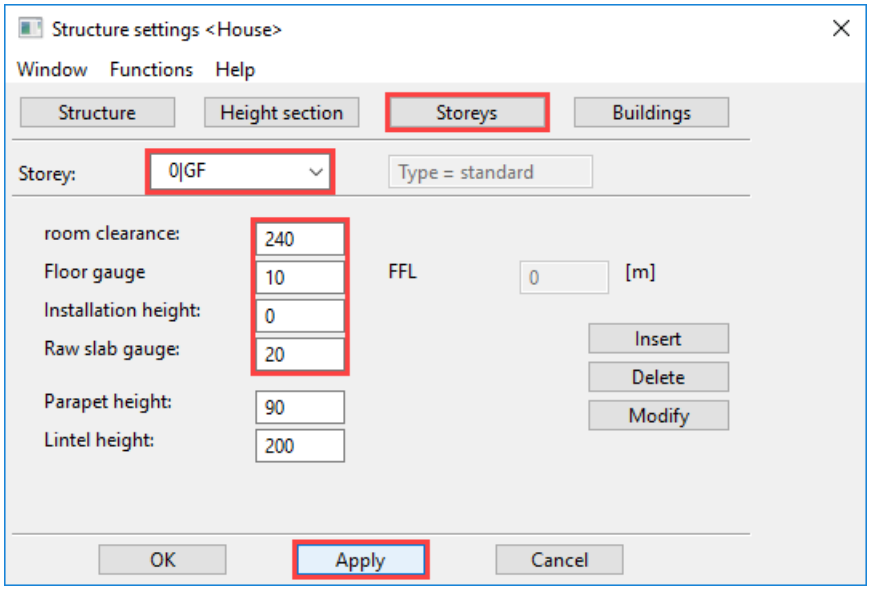
TIP

The "with no." option should be activated if the quantity of the relevant storey type is only one and the option exists that in the course of the project for other storeys of this type to be added to the height section.

6. As soon as you confirm the number of storeys with the APPLY button, the graphical height section appears on the right-hand side of the screen. Here it is very easy to check the values entered. Every change on the screen confirmed with SET is immediately displayed.



7. Select the STOREYS tab.
Here you can make settings for each individual storey. To do so you must select the relevant storey in the "Storey" field, make the settings and then press APPLY before switching to the next storey.
Add the values shown to the ground floor:



TIP

The information is used as a basis for creating building elements such as walls, ceilings, windows, stairs, etc. The height information must be defined in such a way that they apply for the majority of the structure. Individual components can still exist at other heights.

8. The rest of the information on the Structure tab is additional information about the construction but has no effect on subsequent entries in 3D.
Before you leave the screen with APPLY and OK, the height section must be checked again.

WORKSHOP END

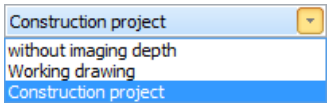
PRE-SETTINGS

Before you start drawing, you should check the settings in the status window.

WORKSHOP

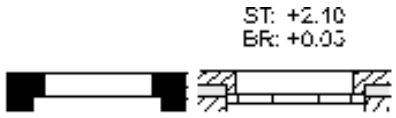
Representation mode

Set the representation mode on the construction project.



TIP

Walls, doors, windows, etc. can be displayed in different representation modes. A representation mode controls the level of detail of the different components.



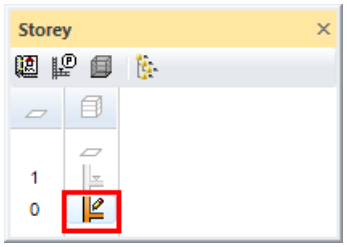
Construction project | Working drawing

MST, unit, page format

Set the MST, the unit and the page format to the following settings:

Storey

Select the storey in which you wish to start drawing.
To do so, open Storeys Manager and left-click on the ground floor. The icon turns orange to indicate that it is active.



Open Storeys Manager:
Menu VIEW > WINDOW > STOREYS or [Ctrl]+[2]

WORKSHOP END

HELP LINES

Draw help lines to define the help lines of the building.
For the function PARALLEL HELP LINES a vertical and horizontal help line is always paced through the origin of the working plane, provided no other elements on the working plane are visible.

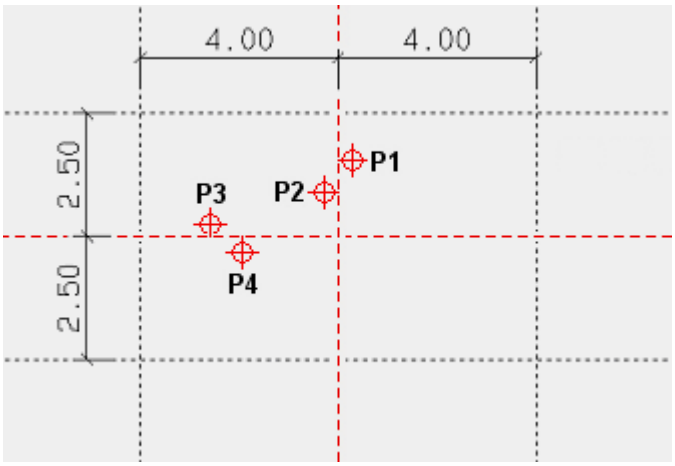
WORKSHOP

1. Create vertical help lines with a gap of 400 cm.

2. Supplement properties bar with the distance **400** and the repetitions **1**.

3. Enter the points **P1** and **P2** to generate the vertical parallels.

4. Enter the distance **250** for the horizontal help lines into the properties bar and set the points **P3** and **P4**.



WORKSHOP END

WORK COPY

The current stage of work is saved to a temporary directory. A work copy is stored under the name "woco". A certain number of work copies can be made whereby the oldest one in each case is removed and the new one becomes "woco_0".
A work copy is **not** to be used to save the final version of a project!

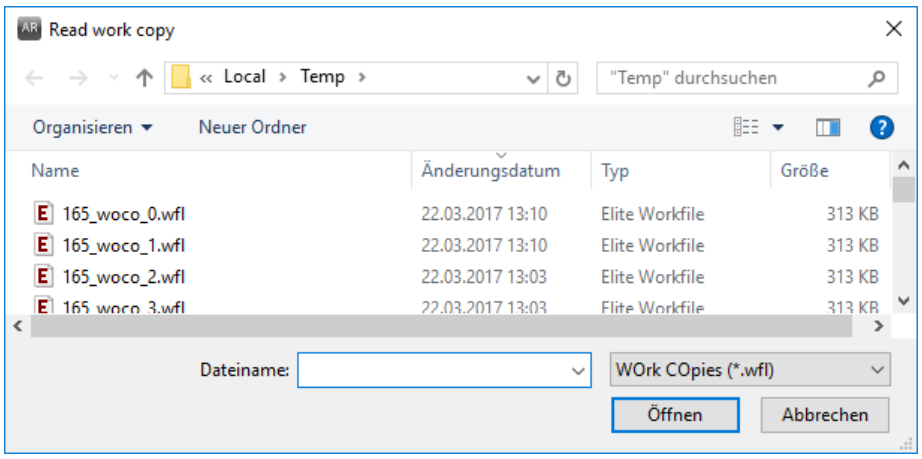
Save work copy

or with the key combination [Ctrl]+[W]

Load work copy

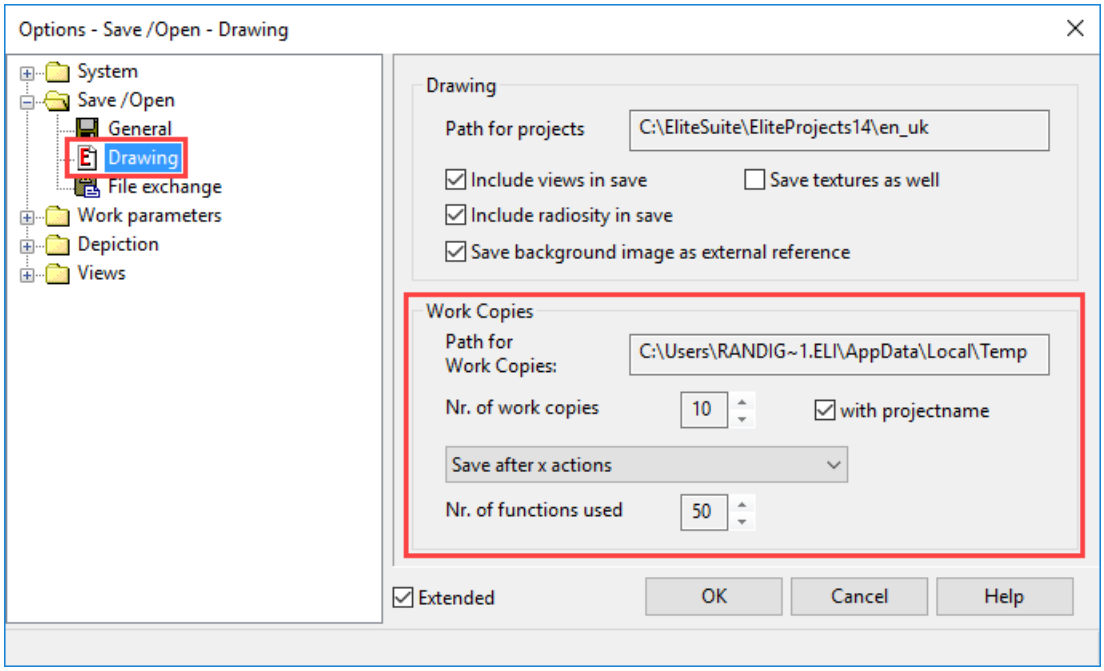
Opens the last work copy (woco_0).

To load the penultimate work copy or even older ones, select the function LOAD WORK COPY in the FILE menu.
Menu FILE > LOAD WORK COPY



Select the desired **woco** and click OPEN to import it into the CAD.

All of the settings in connection with work copies can be found in the options.
Menu Settings > OPTIONS

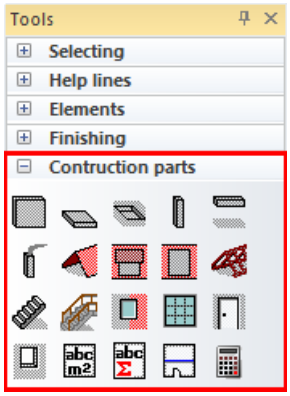


If the "with project name" option is enabled, the work copies are stored per project.

SLAB

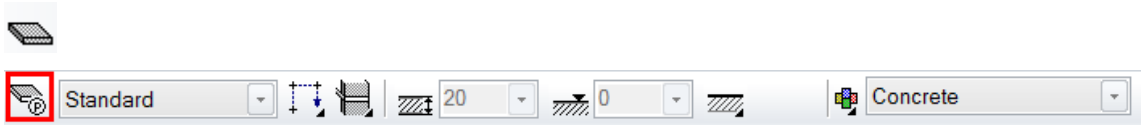
On the help lines construction, generate the slab.

The create functions for the architectural objects (wall, slab, roof, window, door, etc.) are stored in Tools management under the construction parts.

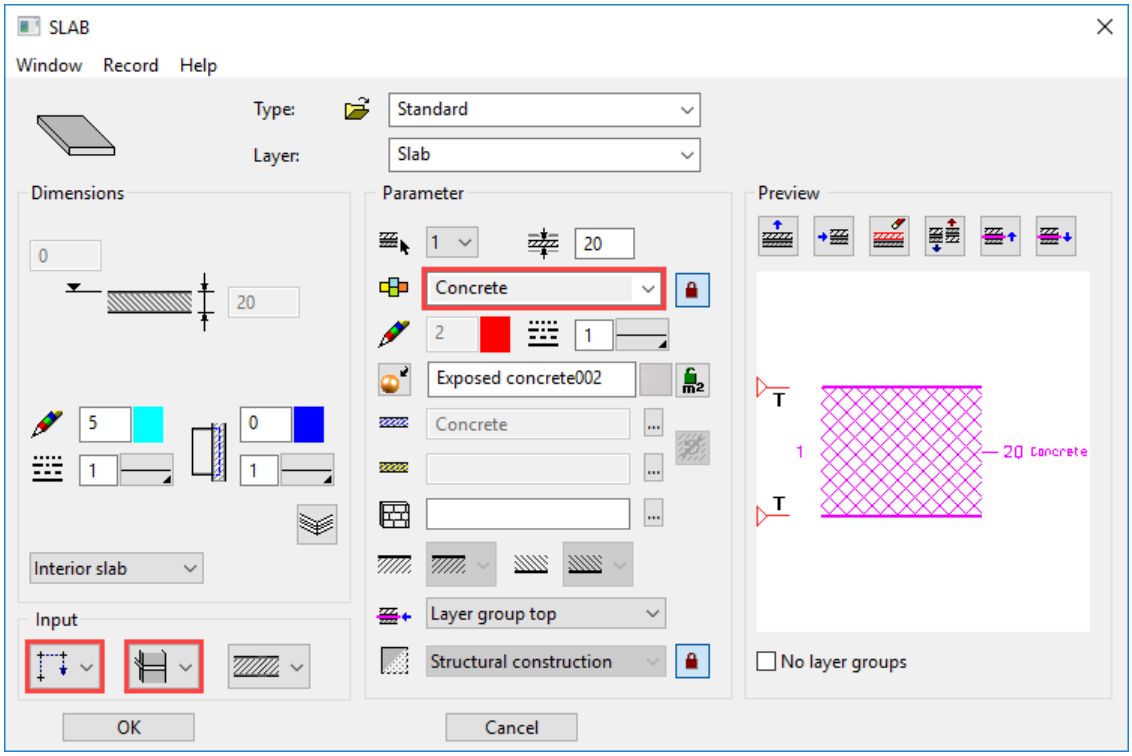


WORKSHOP

1. Select the function CREATE SLAB and open the parameter mask of the component in the properties bar.



2. The component can be set in detail in the parameter screen.
Make the required settings.



THEORY

Entry mode
A contour was already drawn:

DEFINE SLAB WITH EXISTING CONTOUR

There is no contour for the slab yet:

DRAW CONTOUR MANUALLY

Since you have not yet drawn **any** perimeter line for the slab, you need to select the option DRAW CONTOUR MANUALLY.

THEORY

Height reference
The height reference determines which height values from the structure settings are used and whether the walls respond to the slab.

STOREY BASE AS IN VERT. SECTION

Normal storey floor (including basement floor). If a change is made to the height section (e.g. change room height) these floors are corrected.

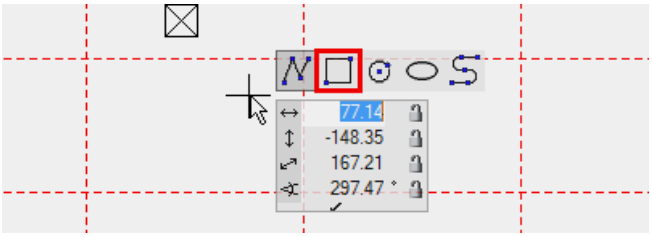
LEVEL FLOOR FOR SHIFTED STOREYS

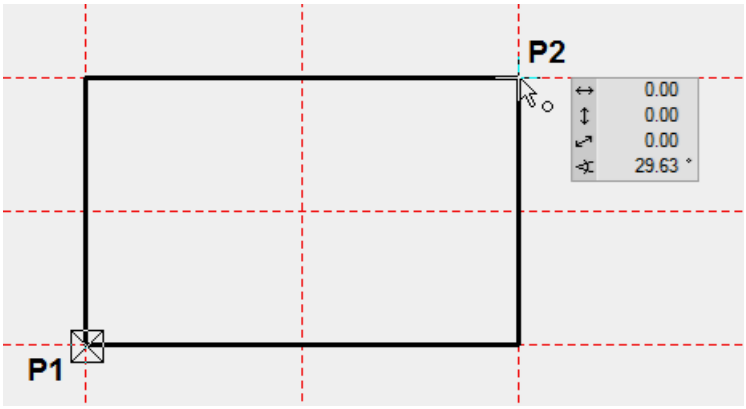
Is used for all floors that are not storey height or which have a different gauge to the storey floor and should have a reference to the walls.

FREE SLAB

The walls have no reference to this slab. Is used in the Surroundings or for special slabs.

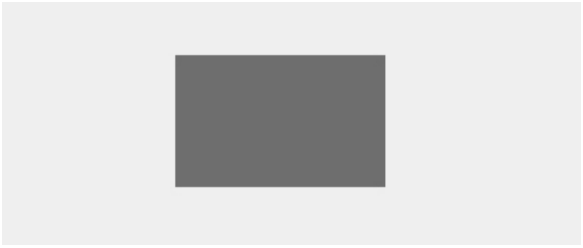
3. In the input assistant ([Tab] key) select the drawing function rectangle and drag the rectangle over the points **P1** and **P2**.





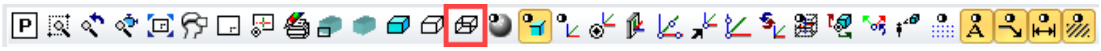
4. End the function with **[Esc]**.

5. To check if a slab was actually created, you can switch to the solid view.



The solid view shows you the volume of the slab in the set 3D colour (14) or texture (exposed concrete002).

Return to the wire model.



Use the key combination [Ctrl]+[D] to switch from the wire model to the solid model and back.

WORKSHOP END

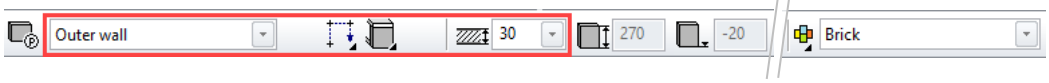
WALLS

The next steps teach you how to draw walls.

WORKSHOP

1. Select the CREATE WALL function.
The properties bar is displayed.

2. Select the parameter type "outer wall" and check the remaining values.



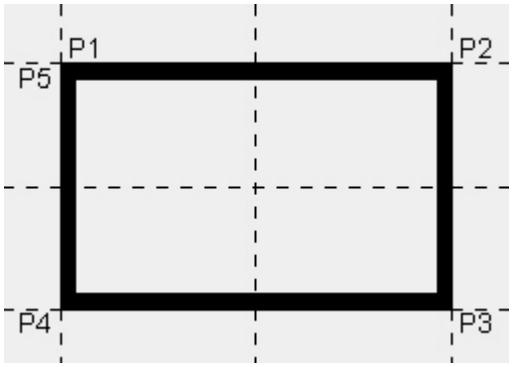
THEORY

Height reference

Wall - underside slab to ceiling

This option is used for walls that are either not located on a slab or only partially located on one slab, such as the outer wall by which the load-bearing layer is located on the slab and which is passed through by the outer façade layers.

3. Enter the points **P1** - **P5**. The drawing function Polygon is automatically selected in the input assistant. Of course, you can use the drawing function "Rectangle", exactly as for the slab. As soon as the contour is closed, the system prompts you for the direction.



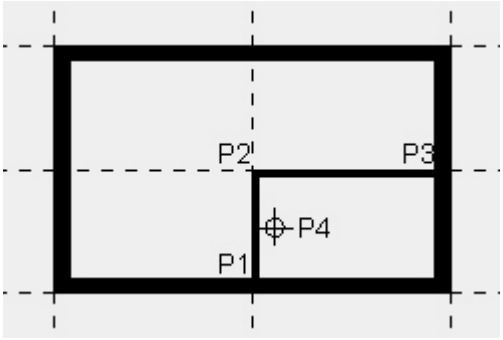
4. Move the cursor into the interior of the structure and left-click. The wall is drawn within the contour.

TIP

The wall axis determines from where the wall is calculated. If you change the wall thickness, the axis remains and the gauge is then taken from this axis again.
In order that the exterior dimensions of a building do not change when the wall thickness is changed, the wall axis must be located on the outer edge.

5. For the interior walls, select the parameter "Inner wall". Check the values.

6. Enter the points **P1 - P3**. To finish wall entry, click again on the same point (P3). The easiest thing to do is to enter a **0** [**Enter**] using the keyboard. Zero stands for the coordinates: x0, y0.



7. Determine the direction by moving the cursor into the smaller room **P4** and left-clicking.
The wall is created.

8. Exit the wall function **[Esc]**.

9. The help lines are no longer required.
Function DELETE ALL HELP GEOMETRY.

10. Save a work copy.

WORKSHOP END

ROTATING, ZOOMING AND MOVING AN IMAGE

Moving an image

Click and hold the [Ctrl] key and centre mouse button simultaneously and move the mouse, or hold down the [Ctrl] key and use the arrow keys on the keyboard [←→↑↓] to determine the moving direction.

Rotate image to 3D

Keep only the centre mouse button depressed and move the mouse.

Starting position - image

Select this function to switch from a rotated image back to the starting position. The starting position means normal view to work plane and page format centred on the screen. The key combination [Ctrl]+[Space] bar] makes a rotated work plane flat again.

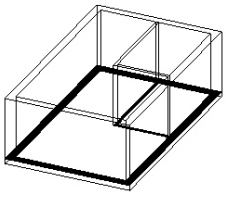
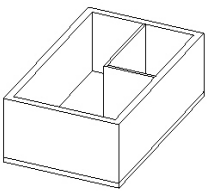
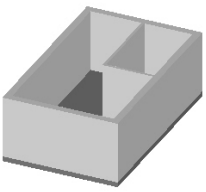
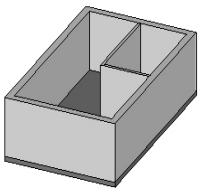
TIP

Should you wish to retain the current work plane and merely zoom into the format, you can do so using the function ZOOM ON FORMAT

Zooming an image

Simultaneously press the [Shift] key and centre mouse button and move the mouse up to enlarge the image and down to make it smaller.
If the centre mouse button is a scroll wheel, this can also be used to zoom.
The zoom function applies to the current cursor position.

Image displays

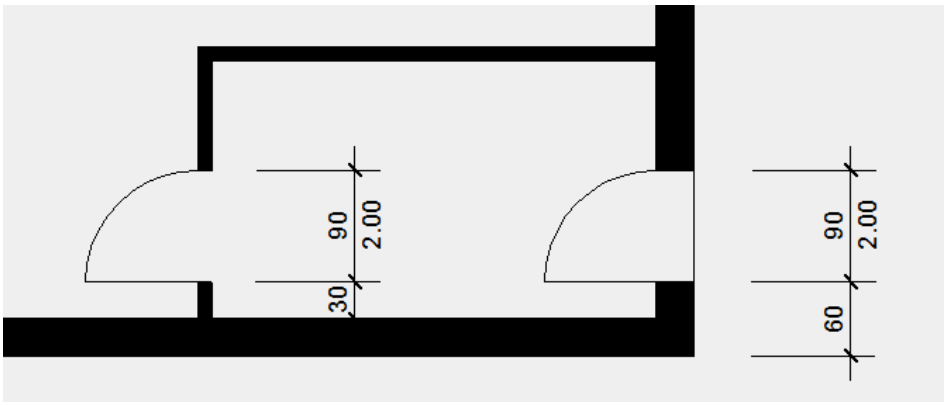
Wire model	Pixel hidden line	Solid model	Edges on
[Ctrl]+[D]		[Ctrl]+[D]	[Ctrl]+[K]
			

Doors

This workshop teaches you how to set doors.

WORKSHOP

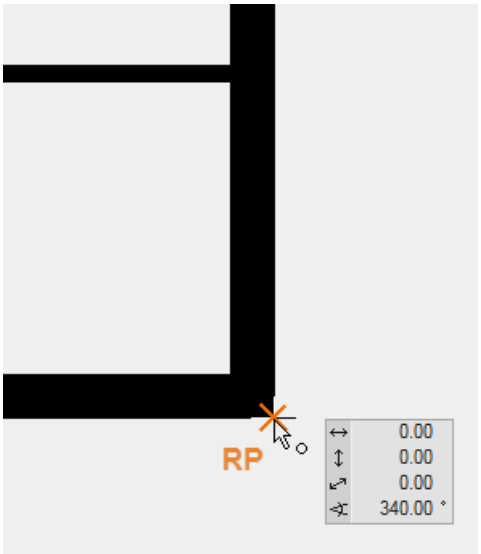
Entrance doors and internal doors are all 90 cm wide and 200 cm high.



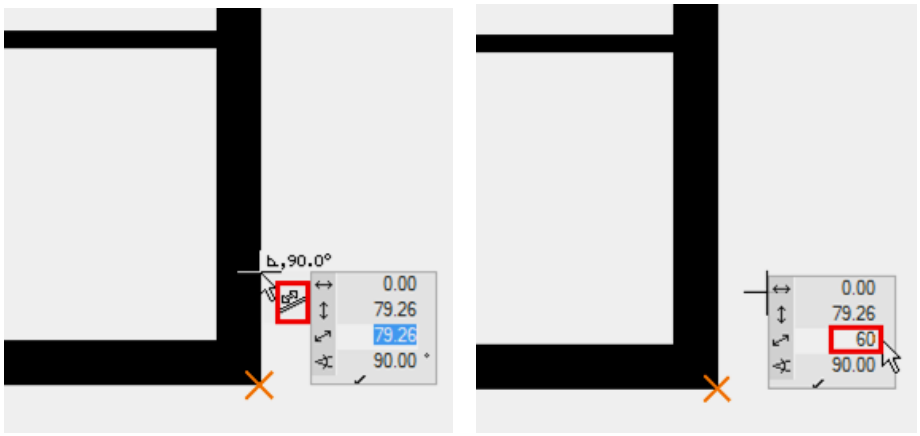
1. Select the CREATE DOORS function.
The properties bar is displayed.

2. Select the parameter type "Standard" and check the values.

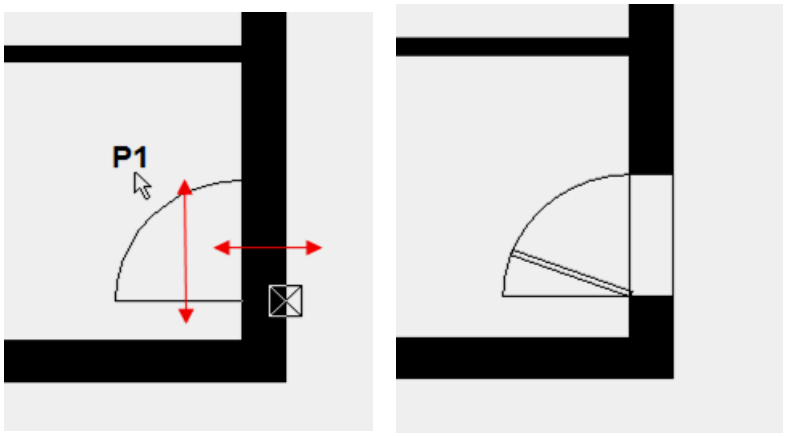
3. The doors are at a distance of 60 cm to the corner. Set a temporary reference point **RP** in the corner.
Move the cursor to the corner and wait briefly. Do not click any of the mouse buttons.
The symbol of the reference point, an orange cross, appears.



4. Now move the cursor to the outer wall into which the doors are to be placed. The capture symbol "To element" must be displayed. Now press the [Tab] key. You are now in the values field in the direct value.
Enter **60** cm and confirm.

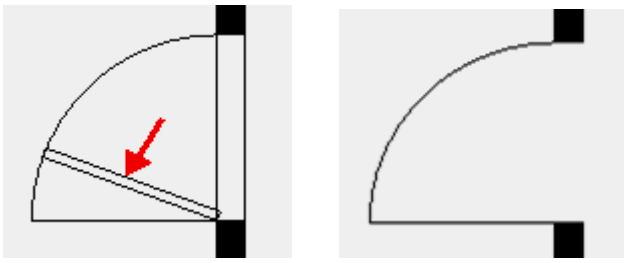


5. Now move the cursor. Depending on the location, the doors open outwards or inwards and are shown either left- or right-hinged. If the preview corresponds to the position and opening type, confirm with [**Enter**].



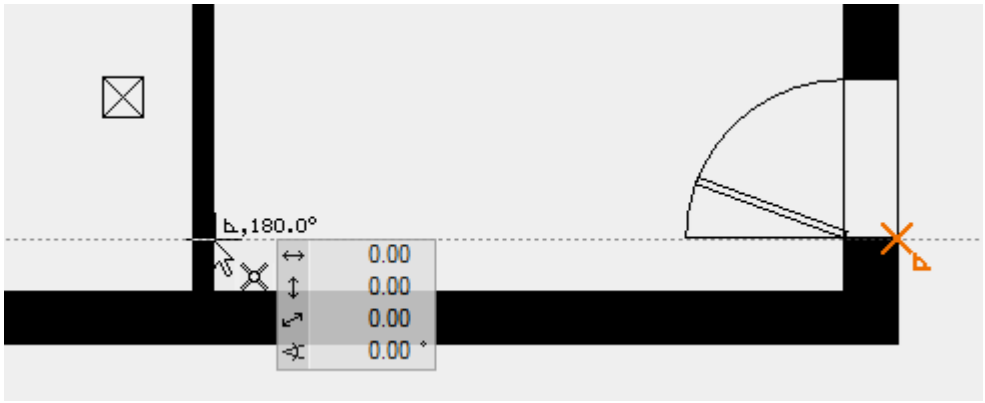
TIP

The door leaf is shown open at 70° and is only visible in 3D. In the 2D floor plan it is switched off. In the detail settings for the door leaf, this value can also be changed.

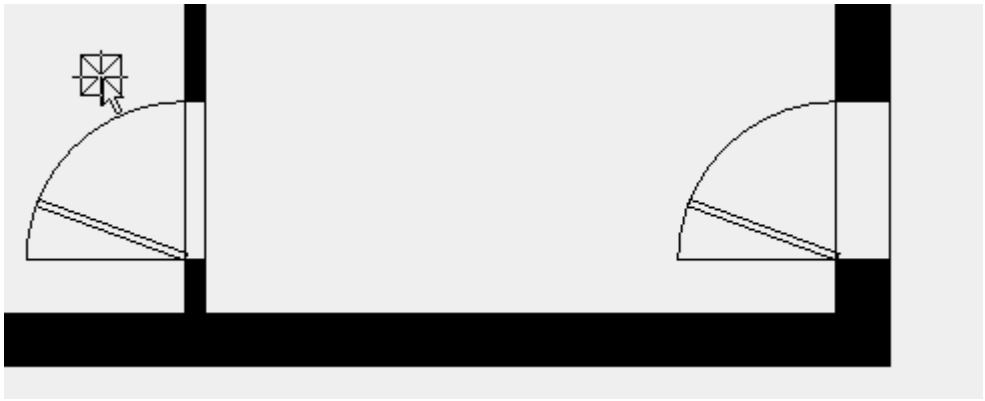


3D Display 2D Display

6. Now set the second door. Set a temporary reference point in the reveal of the doors just set. You can now capture the section point of the inner wall with the temporary reference point.



7. Position the doors with the correct opening type.



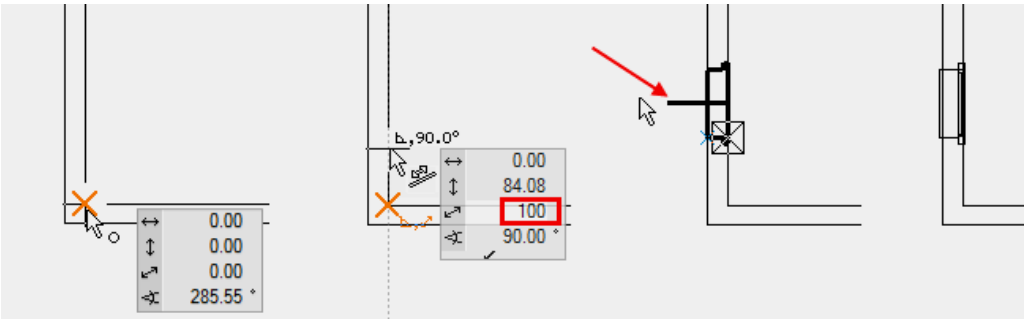
8. Cancel the function [**Esc**].

WORKSHOP END

WINDOWS

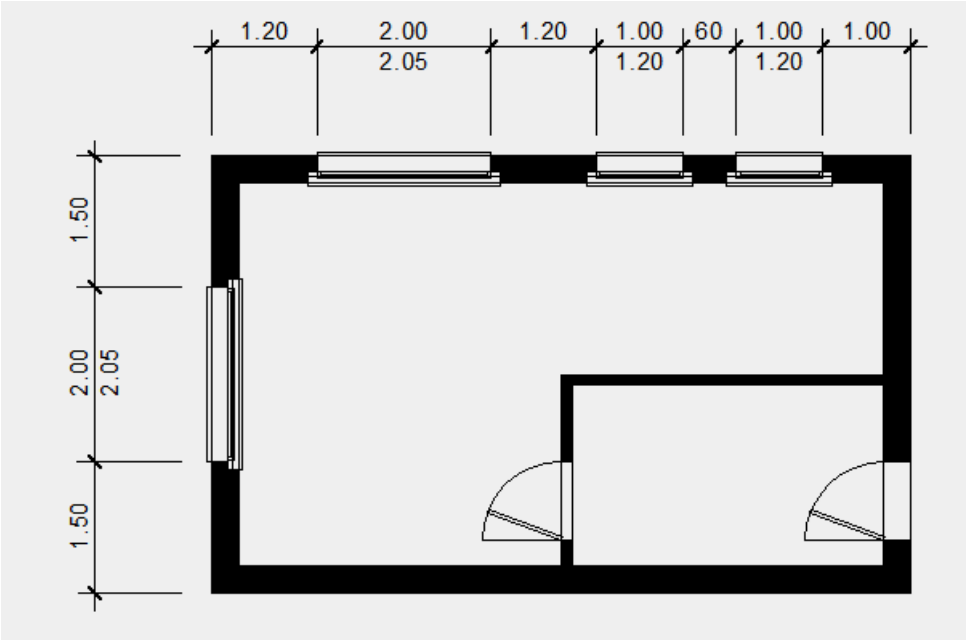
Process for setting a window
1. Set reference point
2. Specify the direction using the cursor, enter the distance
3. Specify the type of placement

Important: During placement, the outer side of the window is marked with a line. Move the cursor outside the building to set the window.



WORKSHOP

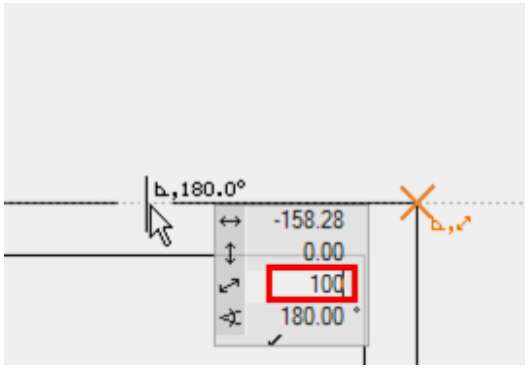
Enhance the floor plan with windows.

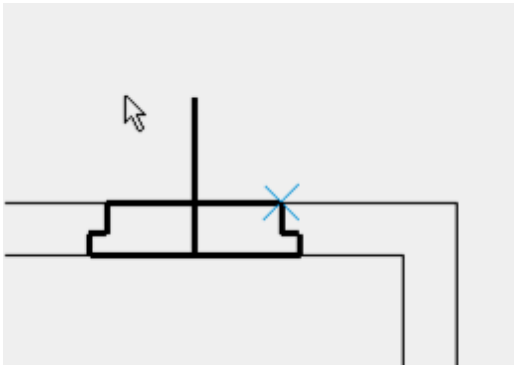


1. Select the function CREATE WINDOW.
The properties bar is displayed.

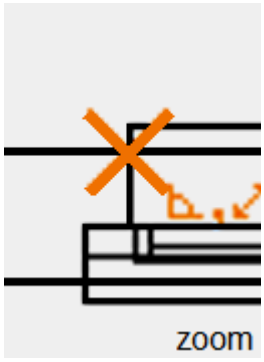
2. Select the type "Standard stop" and set the values correctly.

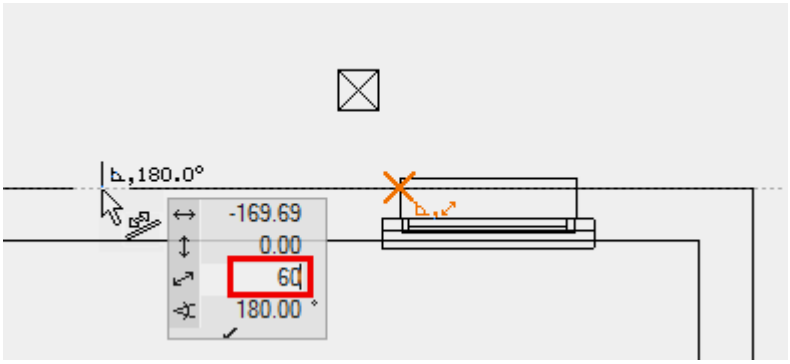
3. Set a temporary reference point in the upper right outer corner, move the cursor onto the outer wall and enter the gap **100** into the value field. Next, position the window.



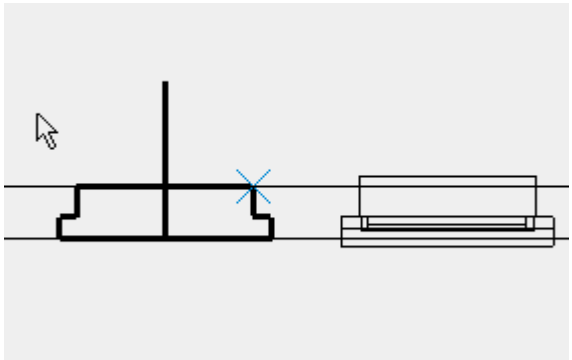


4. For the second window set the reference point onto the reveal of the first window. Zoom in sufficiently so that you can be sure that you have not hit the corner of the window sill. The distance between the two windows is **60** cm.

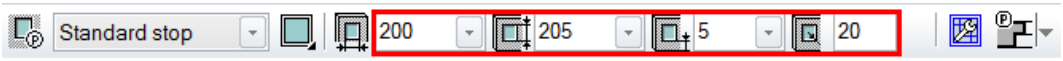




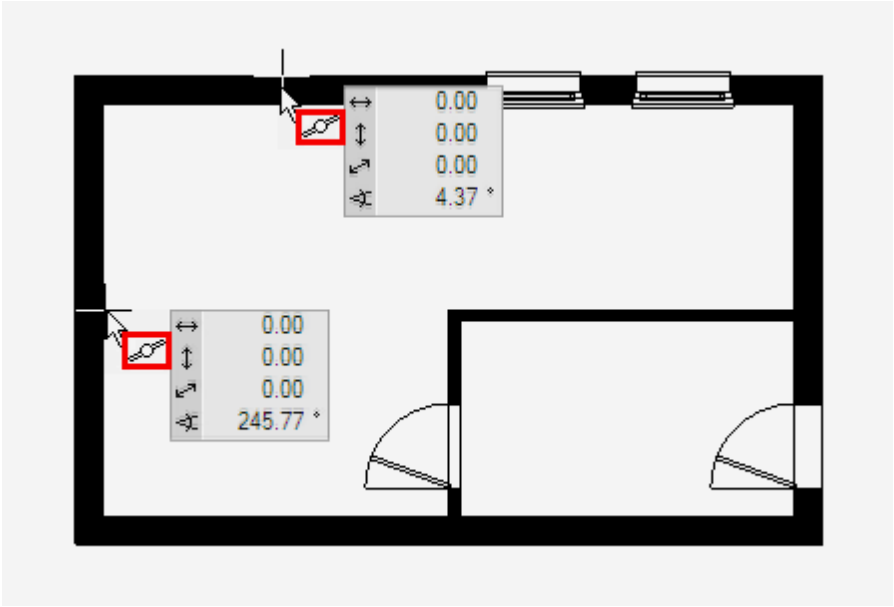
Positioning windows

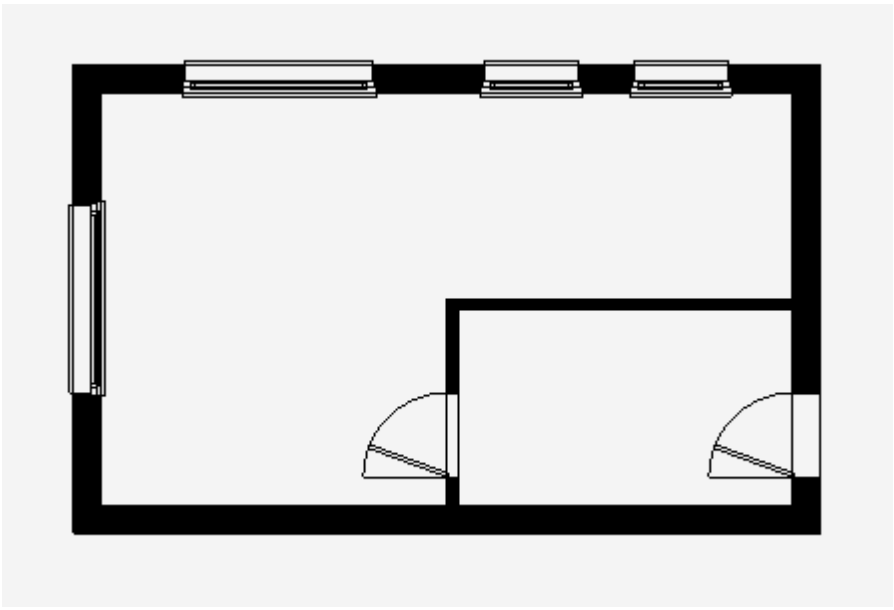


5. Enter the values for the two large windows in the properties bar.



The two windows are both in the middle of the wall section. Move the cursor along the wall until the capture symbol *Middle of element* appears and centre the window.





6. Cancel the function with [**Esc**].

WORKSHOP END

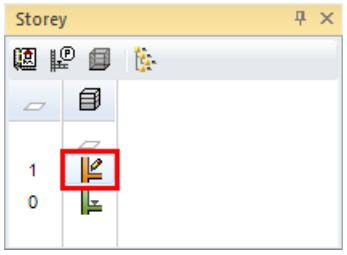
CHANGE OF STOREY

You have now successfully drawn the ground floor.
The same elements on the ground floor can be transferred to the top floor. Use the function COPY INTO ACTIVE STOREY to copy the selected objects of other storeys to the current storey.

WORKSHOP

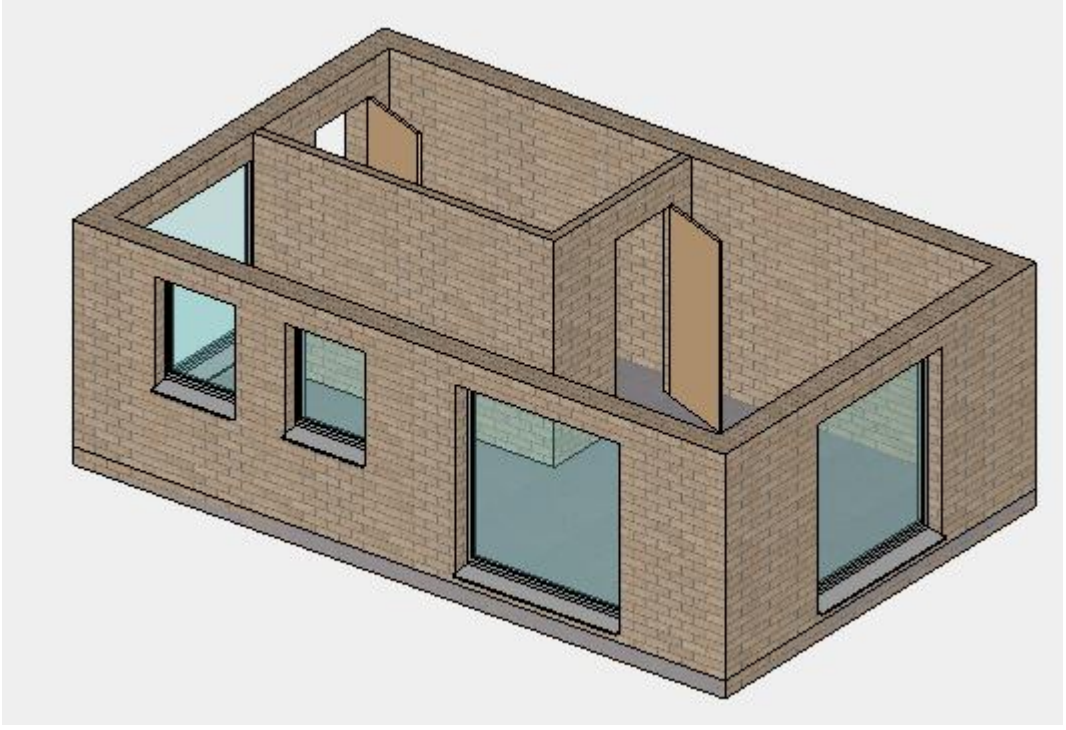
1. Select the top floor as current storey in Storeys Manager.

Click on TF1 > TF1 turns orange.

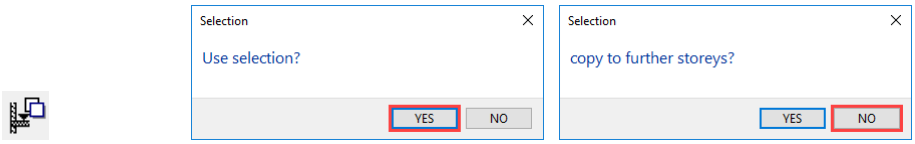


2. Using the centre mouse button, rotate the model somewhat to the side so that you can see it in 3D.

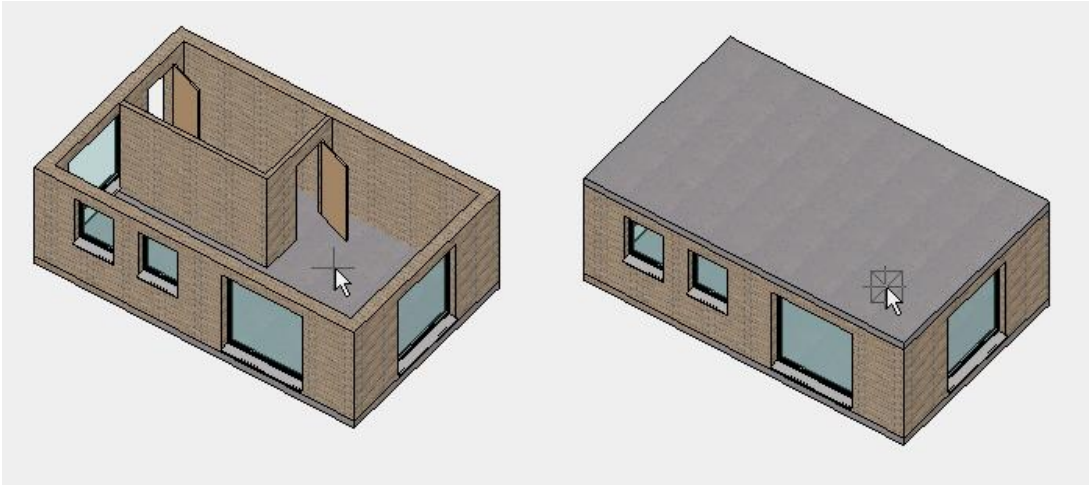
3. Switch from the wire model to the solid design model.



4. Select the function COPY INTO ACTIVE STOREY.



5. Select the floor with your mouse. The result is displayed immediately.

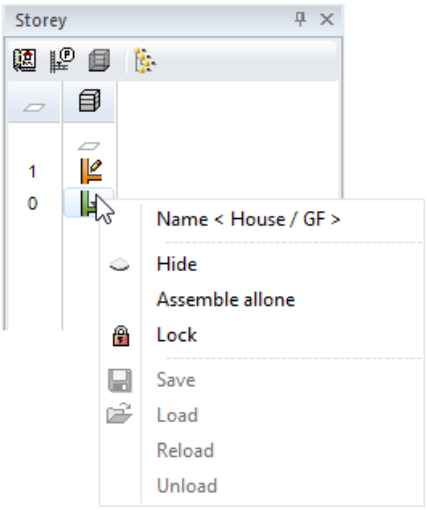


6. Back to the starting point and into the wire model
+ or [Ctrl]+[D] and [Ctrl]+[Space]

WORKSHOP END

Storeys Manager

Right-click on a storey to display the context menu.
In this menu, you can manage the visibility of the individual storeys. You then only ever have the data on the screen that you actually need.



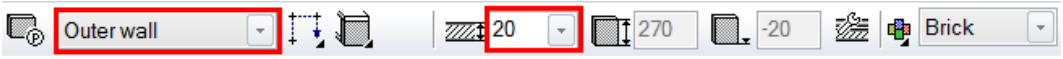
TOP FLOOR

WORKSHOP

Create the jamb wall in the top floor.

1. Function CREATE WALL

2. Adjust properties bar: Type "Outer wall", thickness 20 cm

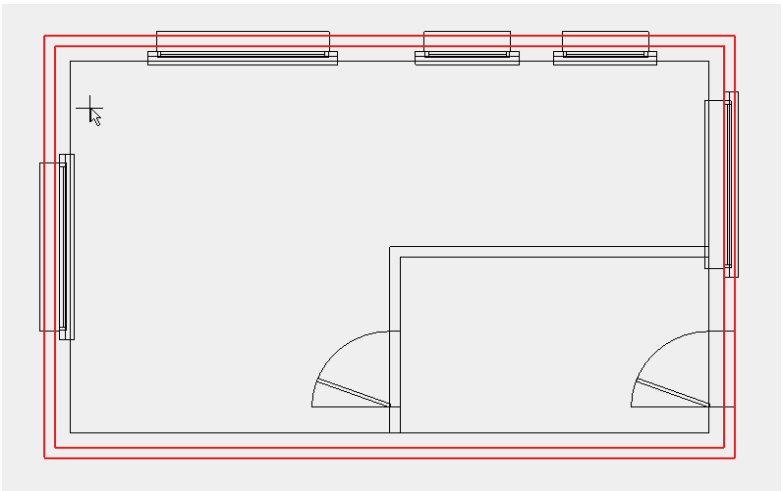


TIP

Use the height reference WALL - UNDERSIDE SLAB TO CEILING. for the uppermost wall as well. The roof takes on the role of ceiling and the wall is automatically guided below the roof.

3. To enable the wall to be set more easily, you can temporarily switch off the hatch.

4. Draw the wall by clicking on the points of the outer edge of the building. The wall faces inwards.



5. Show the hatch again.

6. Cancel the function with [**Esc**].

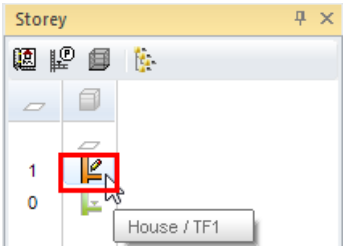
WORKSHOP END

Roof

▼▼▼▼ WORKSHOP

The house shall have a gabled roof. To construct a gabled roof you require an outline, the location of the ridge and a height marker.

1. When you double-click on the top floor, it is created by itself.

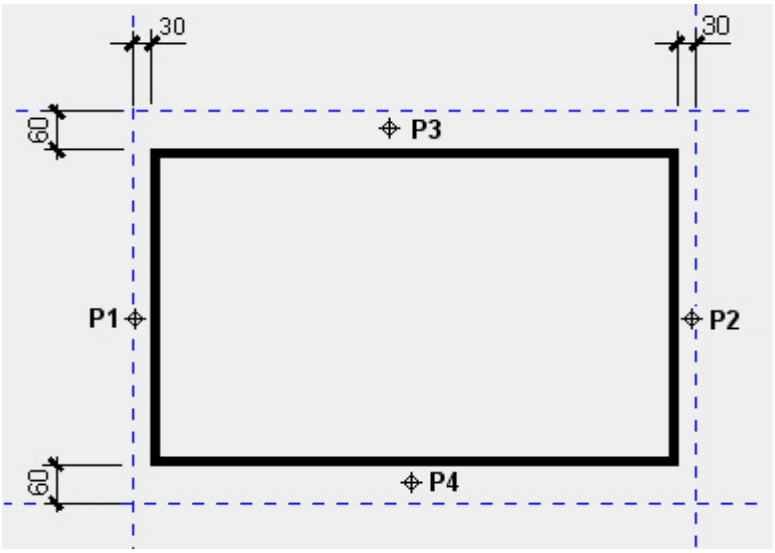


1. Select the function PARALLEL STRAIGHTS, enter the distance in the properties bar and position the help lines.

P1, **P2**

2. For the vertical help lines switch the gap in the properties bar and position the help lines.

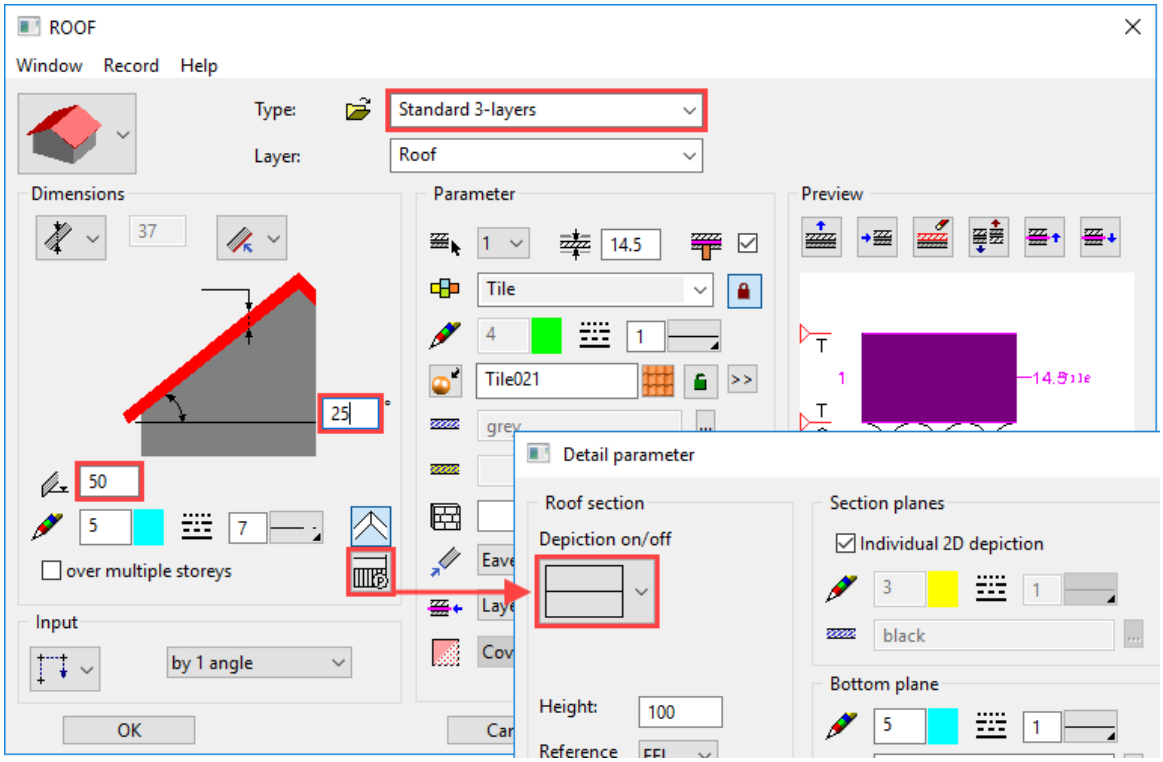
P3, P4



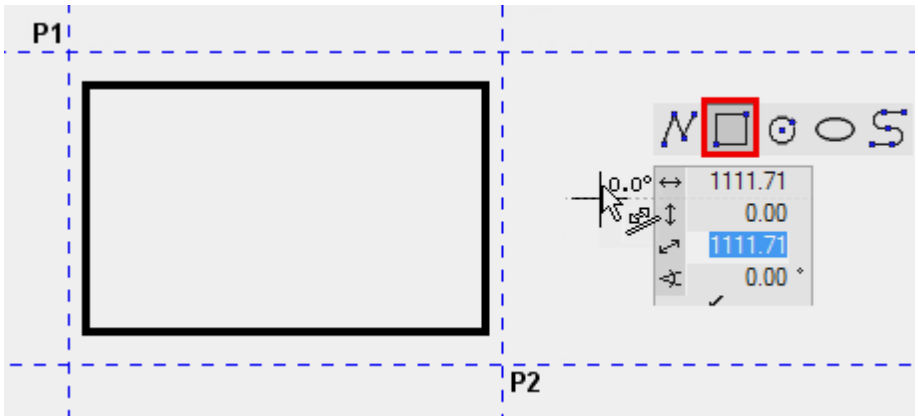
3. If you select the function CREATE ROOF the properties bar will appear.

4. Open the roof parameters in the properties bar.

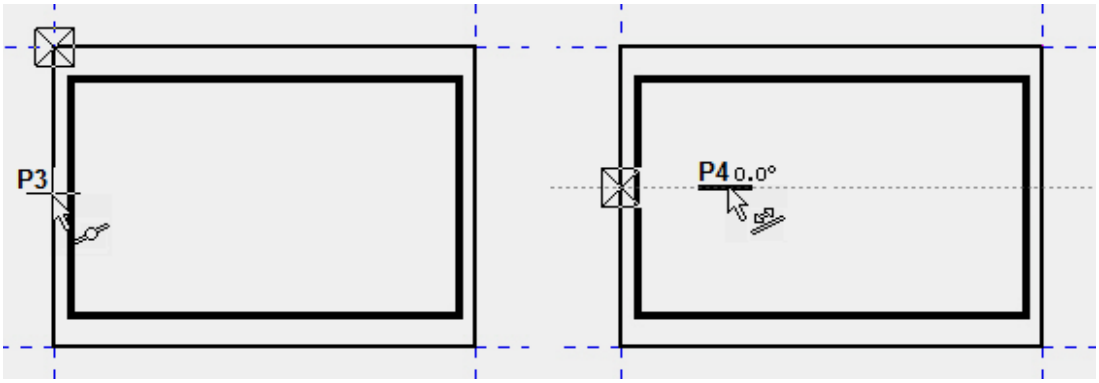
5. Select the type "Standard 3-layers" and make the settings. Switch off the display of the roof section in the detail parameters.



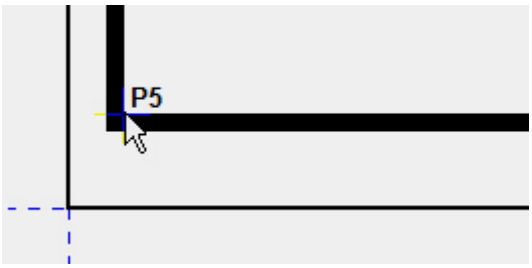
6. From the input assistant select the drawing function rectangle and drag the rectangle up over the points **P1** and **P2**.

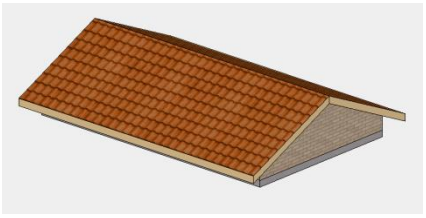


7. The position of the ridge side must now be defined. Move the cursor into the centre of the element until the capture symbol *Middle of element* appears **P3**. The second ridge side is located precisely horizontally so that you can move the mouse to the right until the temporary help line appears with 0° > **P4**.



8. You can position the height marker anywhere in the floor plan. In our example, the height is measured on the inside edge of the wall > **P5**.





9. The help lines are no longer required. Remove the help lines using the function DELETE ALL HELP GEOMETRY.

10. Select the function SHOW. If no element is selected the entire model will be displayed.

11. Cancel the function with [**Esc**].

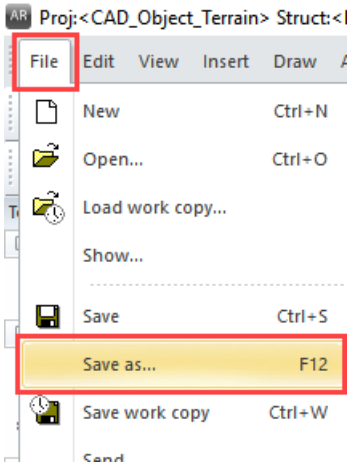
WORKSHOP END

SAVE

The first time you save you select the function SAVE AS under the FILE menu.

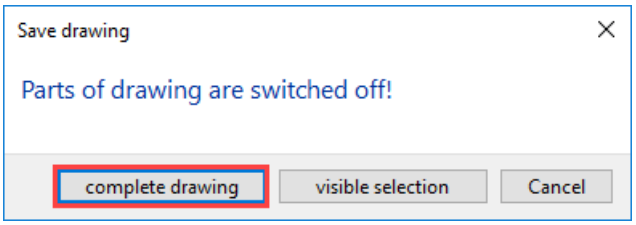
WORKSHOP

1. Menu FILE > SAVE AS



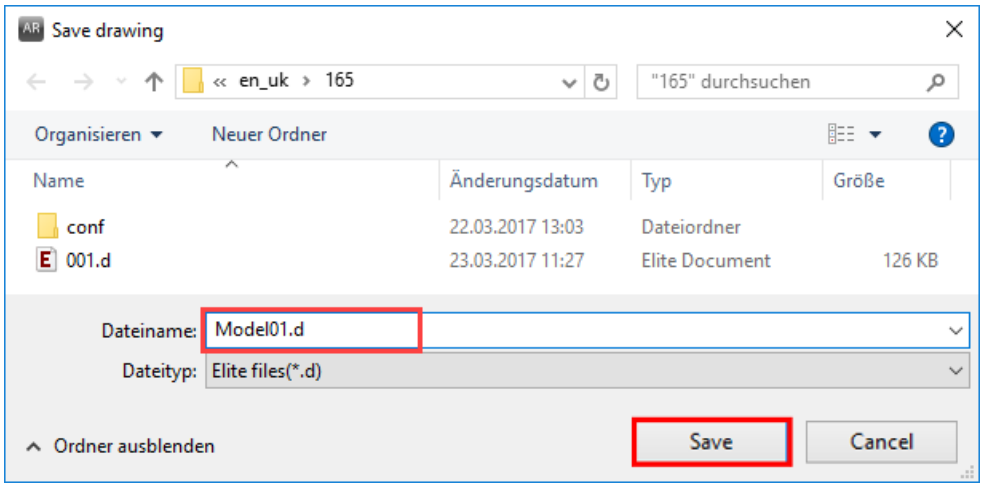
TIP

With this save function, it is possible to save only the currently displayed content. If the drawing is not fully displayed, the following message appears.



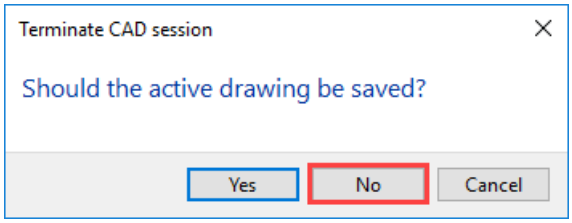
With these options you can choose to save either the "complete drawing" or only the "visible selection".
In most cases, however you will want to save everything and not just the visible parts.
If the message appears in your example, select the option "Complete drawing".

2. In the field *Filename* enter the name **Model01** and save the model.



3. To check whether the file is saved, you quickly see a control text in the status line (bottom left of the screen edge).

4. End the program by selecting FILE > END from the menu
You no longer need to save the model.



5. The program closes by itself.

TIP

When you end the program, the current setting on the complete drawing is saved. The assignment of toolbars is then identical to the current one when you switch on.

WORKSHOP END

OPEN

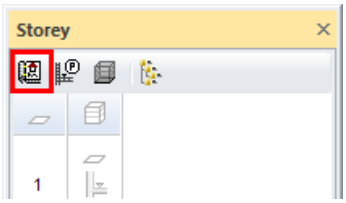
Your project consists of two parts:
project data and model data

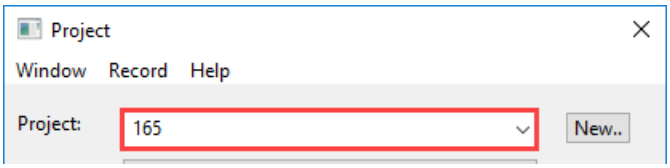
The corresponding project is automatically loaded when you load the model file. If you load the project data first, then you will be in the correct directory in Explorer when you open the model file.

WORKSHOP

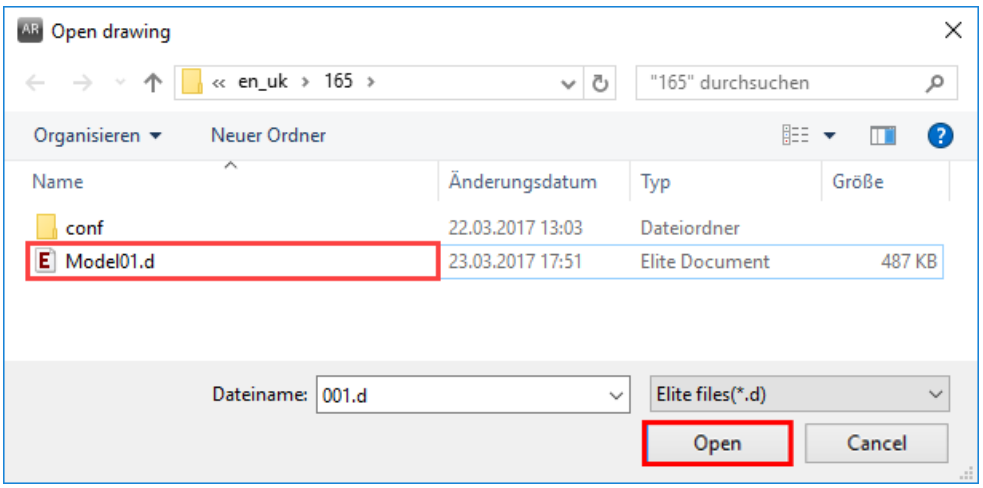
1. Start ELITECAD.

2. Load the project data from your project.





3. Open the model file.



WORKSHOP END