



User Manual

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Ansvar Projekt

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1. Introduction

Ansvar Element Module (AEM, AnsvarCAD) is an AutoCAD add-on module for element design. All operations are executed in the familiar AutoCAD environment, with 100% AutoCAD objects. The result is an accurate **3D model (BIM)**, which can be shared and viewed even without the add-on (**DWG, IFC, etc.**).

Element models are generated automatically and element types (**walls, ground floors, partition floors, roofs, terraces, etc.**) and connections can be added/edited freely. Created models can be used for preparing **shop drawings** of elements. Drawing design and layout as well as detail specifications and dimensions are fully configurable.

The add-on **offers a detail check function for ensuring that there are no intersections between details** that could later cause problems during assembly. The checks can also be run on other AutoCAD objects (3DSolid, Mass Element) – this enables users to see potential intersections with existing concrete or metal frames and other non-element structural details.

Element and detail **specifications can be exported to Excel**, where users can view all the necessary quantities, lengths, and surface areas. It is also possible to export data related to other AutoCAD objects (3DSolid, Mass Element, Line, Polyline, Circle, etc.).

Ansvar Element Module (AEM, AnsvarCAD) is designed for **AutoCAD Architecture**. The Architecture version of AutoCAD is the same old AutoCAD, except with additional options for 3D model design (**wall, window, door, opening, etc.**). Its structure and functionality are like standard AutoCAD. **With the release of AutoCAD 2019, the Architecture Toolset was made a part of AutoCAD, which means the software can be run on standard AutoCAD.**

2. Installation

2.1. Software installation

Software installation is performed using the installation file. During installation you must accept the terms and conditions. When choosing the installation path, select a folder where the user has written access - this applies to users without administrator rights. Therefore, it is advisable to install the software under *My Documents* (for example C:\Users\YourUserName\Documents\AnsvrCAD), not *Program Files*.

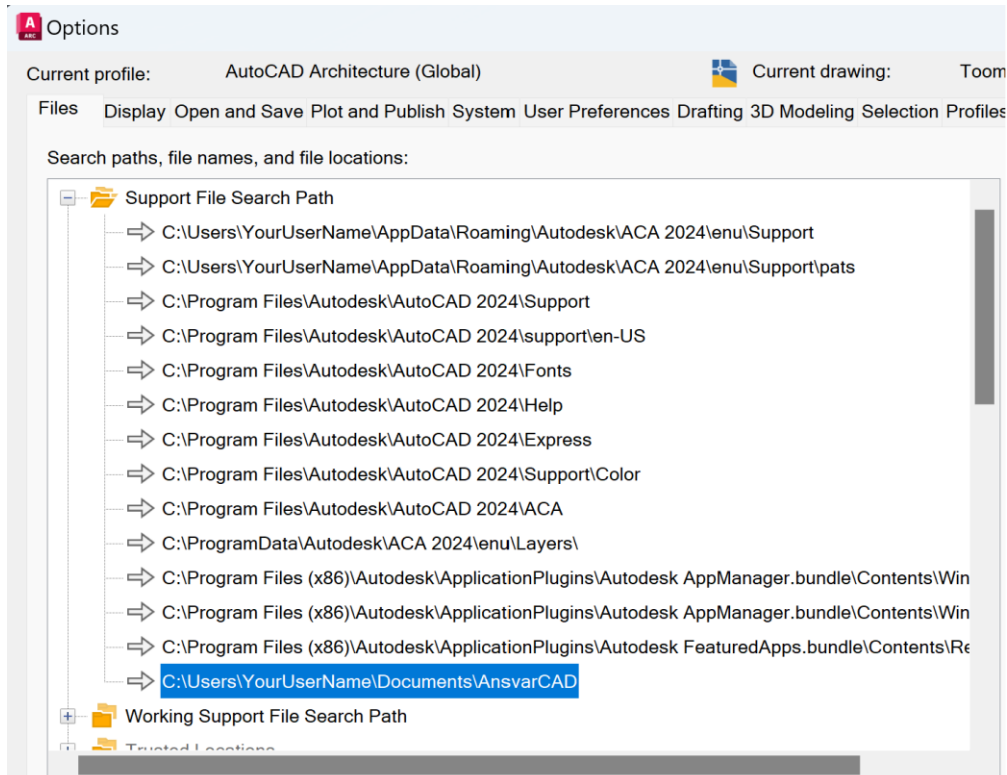
During installation, the necessary files are installed in the selected location. To remove the software, go to *Control Panel – Programs and Features*.

Installation does not automatically bind the software to AutoCAD, but installs files on the computer that AutoCAD can use - see next [§2.2](#).

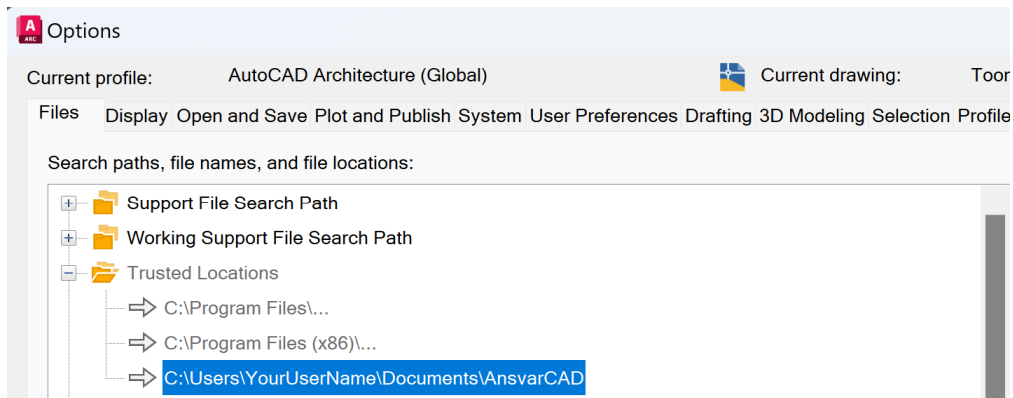
2.2. Binding the software to AutoCAD

To bind the software to AutoCAD, you must open AutoCAD first.

1. Enter the command **OPTIONS** (or select *Options* from the *AutoCad* menu).
2. Click on the *Files* tab.
3. Open *Support File Search Path* and add (*Add...*) the folder containing the previously installed AnsvrCAD software (for example: C:\Users\YourUserName\Documents\AnsvrCAD).



4. Open *Trusted Locations* and again add (*Add...*) the folder containing the previously installed AnsvaCAD software (for example: C:\Users\YourUserName\Documents\AnsvaCAD). This is necessary because AutoCAD is configured to avoid automatically launching add-on applications from locations not listed under *Trusted Locations*. For additional information, search the Internet for *AutoCAD TRUSTEDPATHS*.



5. Click *OK* to save the settings and exit.
6. Close *AutoCad* and reopen it.

After completing these steps, the software will be bound to AutoCAD and AnsvaCAD will be launched each time a drawing is opened, if the current profile is active.

Alternative: (however, binding must be done) it is possible to start the software with the *APPLOAD* command and select AnsvaCAD.VLX in the program folder. In this case, the software menu is not loaded either, and it should be loaded with the *MENULOAD* command and selected in the program folder ansvacad.cuix. In this case, this action must be repeated each time the drawing is opened.

NOTE: AnsvaCAD will be launched only when opening a drawing, not upon starting AutoCAD.

2.3. AnsvarCAD license

When installing AnsvarCAD for the first time, you will need to apply for a license certificate. If there is no valid license certificate, a notification to that effect will be displayed. The usual software commands will also be unavailable. The only command available to the user will be `AEM_REQUEST`, which should be run.

After running the command, you will be asked to choose a location for saving the file *AnsvarRequest.txt*. This file then needs to be sent by e-mail to info@ansvarcad.com in reply to which you will receive a license certificate.

The license certificate will be a file named *aemcertificate.crt*, which must be saved in the folder containing the AnsvarCAD software (for example: C:\Users\YourUserName\Documents\AnsvarCAD). If a certificate already exists in the folder, it should be overwritten.

The certificate request only needs to be made when installing the software for the first time. In the future you will only be sent an updated license certificate which must be used to replace the old certificate in the installation folder.

2.4. Limited Software Differences

There is a full version and a limited version of the software. The full version has all the options described in this user manual.

The limited version has the following special features:

- `AEM_VIEWELEMENT` (Paperspace – Layout) when generating the drawing of the element, up to 2 dimensioning chains and 1 table can be specified. Additional detail circles and dimensioning circles are not considered, and the word *LIMITED* is added to them when the drawing is generated.
- `AEM_VIEWELEMENT` (Paperspace – Layout) when the drawing of the element is generated, the information SOFTWARE: ANSVARCAD.COM is added to the corner of the drawing.
- `AEM_CONSTRCHECK` when checking the intersections of the details, the check is performed and the number of intersections found is shown, but the locations of the intersections are not shown.
- `AEM_EXPORT` there are no options, i.e. it is not possible to export as text, shop drawing or machine files.
- `AEM_COMMANDS` there are no options (*Split Mass Element, Subtract Mass Element, Multiple Layout Views*)
- `AEM_SETTINGS` the settings attribute cannot be changed, so element types and edge settings cannot be separated per project.

3. AnsvarCAD commands

3.1. AEM_Request

This command is used to request the license certificate necessary upon first installation of the software – see §2.3.

3.2. AEM_AddElement

The `AEM_AddElement` command is used to transform an AutoCAD wall into an AnsvarCAD element. To use the command, you will first need to add an AutoCAD wall (`WALLADD`).

Upon entering the command, you will be asked to select a wall. After you have selected a wall, you will need to enter a name for the element. The name should consist of two letters and 3–4 digits, e.g. `EW101` or `EW1001`. When choosing the name, we recommend following a formula where the first two letters indicate the element group (exterior wall, interior wall, partition floor, roof, etc.), the first digit is the floor number, and the last digits are the sequence number on the given floor. This style of designation makes it easy to switch elements on/off by group or floor later.

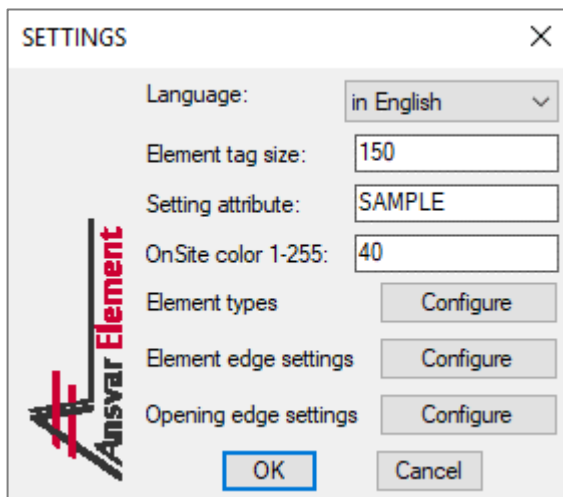


After the name is entered, the element will receive a tag. The tag will follow the element automatically. Should the tag disappear at any time, you can get it back by editing any of the element’s parameters (depth, length, height, etc.) temporarily. The arrow indicates the outer surface.

This command cannot be used on existing AnsvarCAD elements.

3.3. AEM_Settings

Entering the `AEM_Settings` command opens a window with further options.



Language – software language

Element tag size – the size of the text on element tags [mm]

OnSite color – colour code for details marked as on site, number 1-255

Setting attribute – a freely selectable identifier used for creating project-specific settings (element types, edge settings)

Element types – for configuring element types

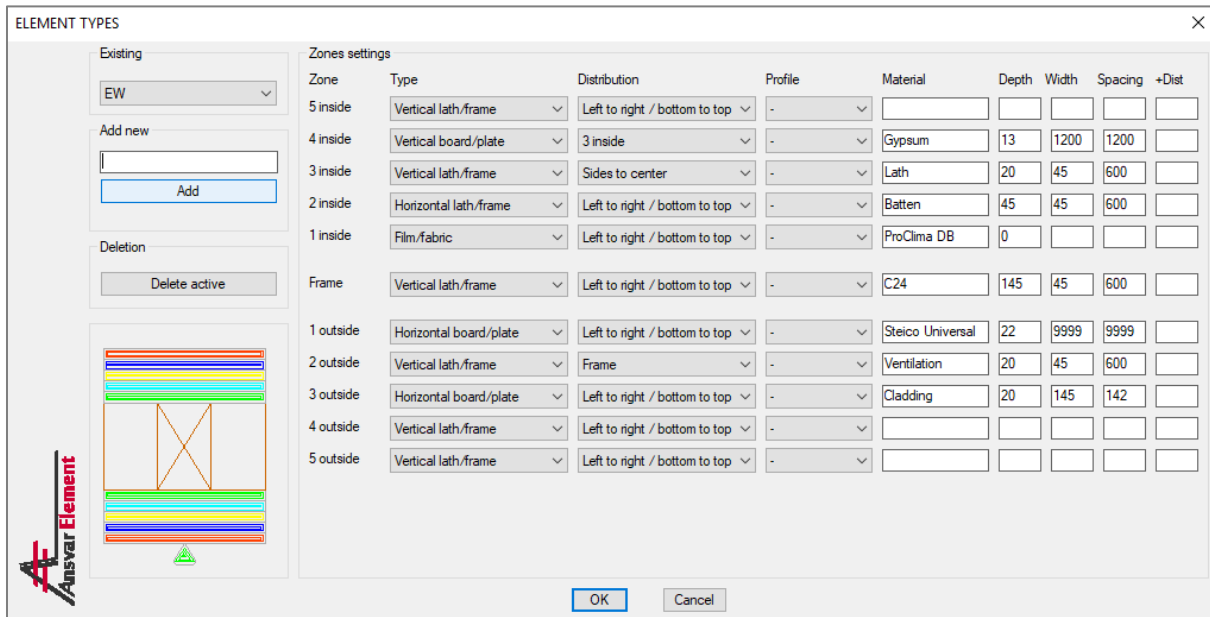
Element edge settings – for configuring element edge conditions

Opening edge settings – for configuring areas

around openings




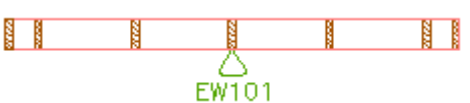


3.3.1. Element types

This option opens a window where you can create and configure element types.



To add a new type, enter a new name and click *Add*. The added type will then appear in the drop-down list under *Existing*.

ZONE	The location of the layer in the element.
TYPE	Layer type: either vertical or horizontal and lath/frame or board/plate. Lath/frame and board/plate differ in that around openings a board/plate is cut inside the opening, whereas a lath/frame is moved away from the opening. The film / fabric is added as a polyline.
DISTRIBUTION	Type of detail distribution. It is also possible to determine the base layer by which the details are distributed. The base layer must be the previous layer of the given layer to be counted (for inside 2 it can be either a frame or inside 1)
PROFILE	Profile details - this is the AutoCAD profile <i>PROFILEDEFINE</i> , see also 4.4.3. Mass Element profile
MATERIAL	The name of the material, which is added to each detail upon element generation and later entered the specification.
DEPTH	Layer depth [mm] (the depth of a 45 x 195 frame is 195). Zero value is only allowed for film / fabric.
WIDTH	Detail width in the layer [mm] (the width of a 45 x 195 frame is 45).
SPACING	Spacing between details in the layer [mm].
+DISTANCE	Additional distance between the existing layer and the previous layer

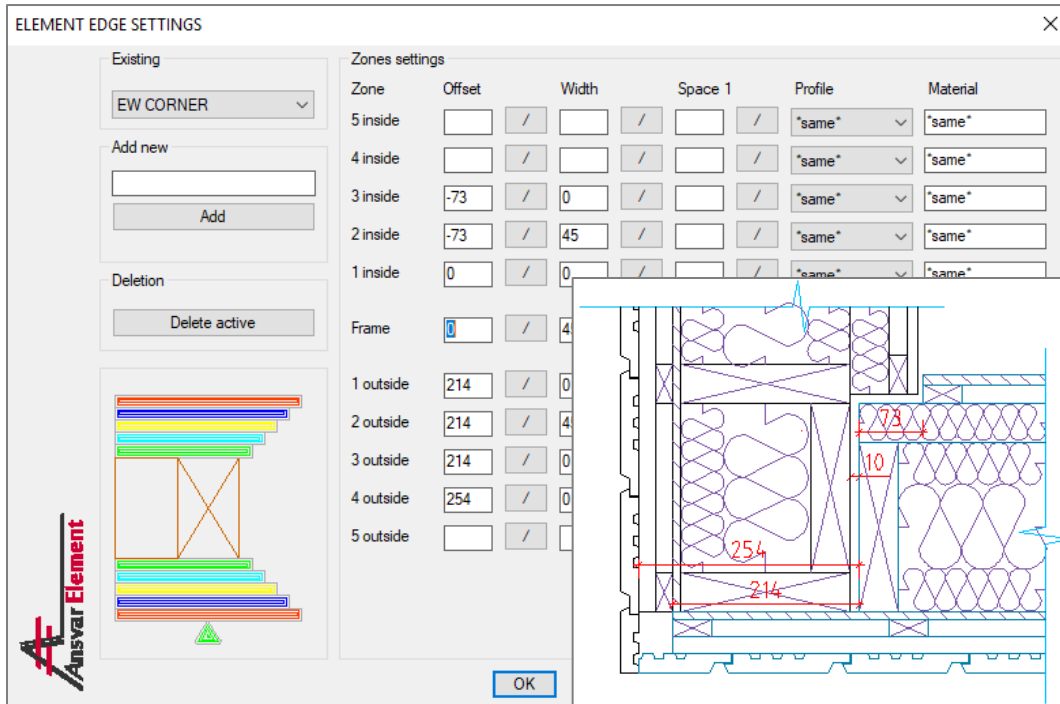
<p>Left to right / Bottom to top</p> 	<p>Right to left / Top to bottom</p> 
<p>Center to sides*</p> 	<p>Center to sides (detail in the middle)*</p> 
<p>Sides to center**</p> 	<p>Sides to center**</p> 

* The central point is always the center of the element (AutoCAD Wall), not the center of the generated layer.

** In the center distribution, the layer halves are not generated in the mirror image. In this case, the largest number of full-size plates can be mounted on the frame.

3.3.2. Element edge settings

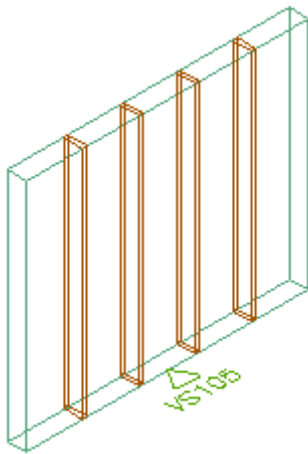
Here you can configure the offset of element layers in relation to the edge of the element. This is necessary to ensure the formation of the correct joints between elements.



As with element types, to add a new offset, you must enter a new name and click *Add*. The added offset will then appear in the drop-down list under *Existing*.

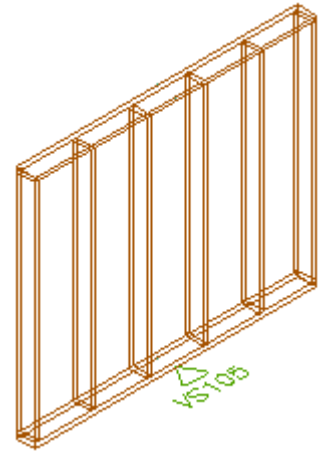
ZONE	The location of the layer in the element.
OFFSET	A positive value means that the layer extends over the edge, while a negative value means that the layer terminates before the edge. Offsets can be measured in the drawing by clicking on "/" behind the respective cell, which temporarily closes the dialogue window to allow you to measure the distance in the drawing.
WIDTH	The width of the edge detail, which may be different from the width specified for the element type. This allows you to use a different cross section at the edges. If it is 0, no edge detail will be added, see also 3.3.4. Additional options for settings
SPACE 1	The first step of the detail, if not specified, is the same as the space defined for the element type. If the element type is assigned a distribution by some base layer, then this setting will not be considered here.
PROFILE	The profile of the edge detail, which may be different from that of the element type. If there is *same*, its value is taken from the element type, see also 4.4.3. Mass Element profile
MATERIAL	The name of the material later runs the specification. If there is *same*, its value is taken from the element type.

NOTE: All offsets represent overhang or indentation from the edge of the element (AutoCAD Wall).



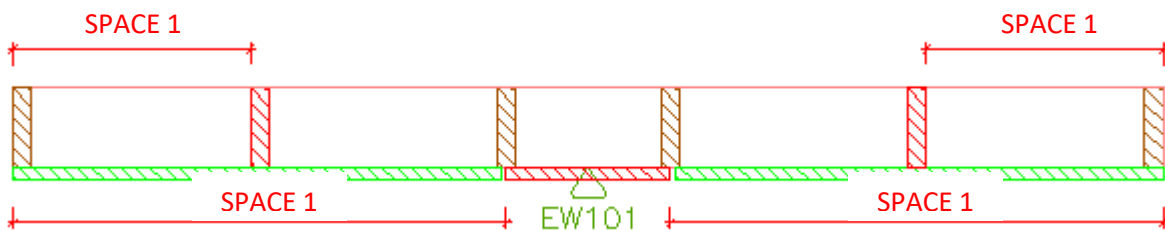
If the element is assigned edges with widths of zero, the result is a layer without edge details.

If you leave the edges unspecified at all, the software will try to find the optimal solution, but it is still advisable to set the edge settings to ensure the desired result.

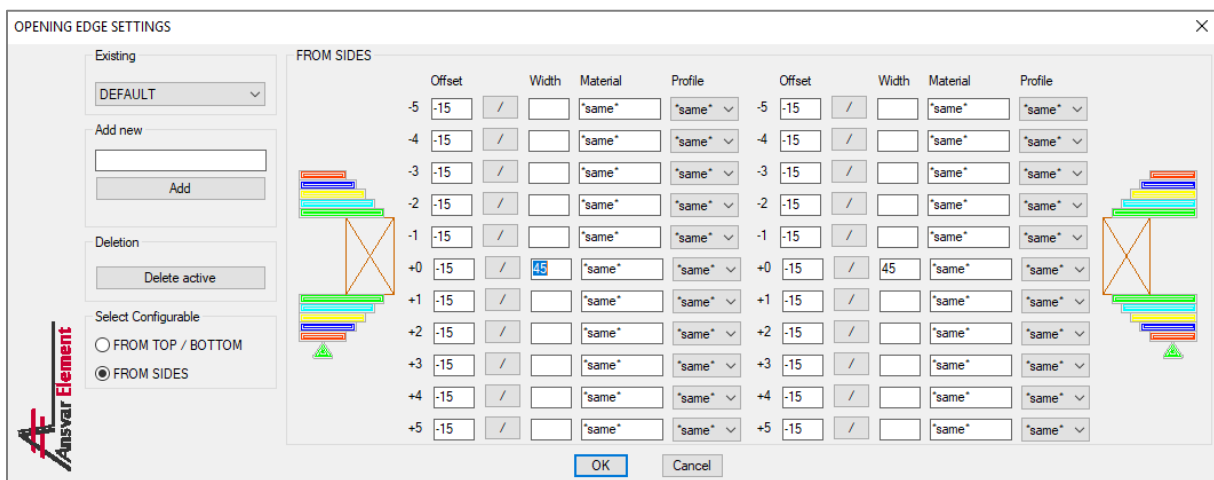
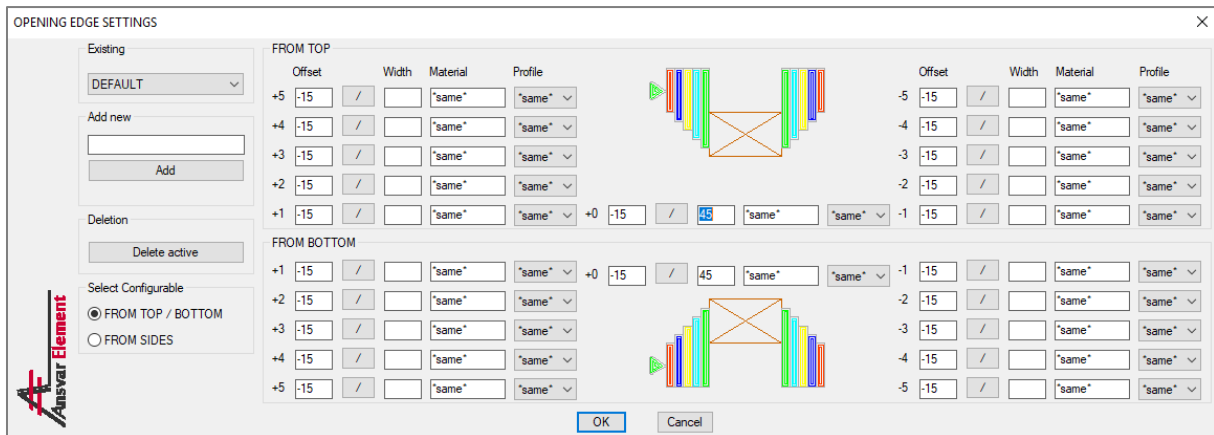


NOTE: The width of the edges cannot be determined on the plate / board / film / fabric, i.e., this input has no effect.

Space 1 is determined from the edge of the layer to the beginning of the next detail (in the picture below, these details are marked in red). Whether this setting is counted depends on the type of layer and the edge of the element to which it is assigned. For example, if the vertical frame is set from left to right, the right edge setting is not counted as space 1. However, if the distribution is from sides to the center, both the left and right edge space 1 setting is important. However, when it comes to horizontal details, the left and right edges space 1 are not important and the space 1 settings on the top and bottom edges are important.



3.3.3. Opening edge settings



As with element types and element layers' offsets, to add a new opening layer offset, you must enter a new name and click *Add*. The added offset will then appear in the drop-down list under *Existing*.

OFFSET A positive value means that the layer extends over the edge, while a negative value means that the layer terminates before the edge. Offsets can be measured in the drawing by clicking on "/" behind the respective cell, which temporarily closes the dialogue window to allow you to measure the distance in the drawing.

WIDTH The width of the edge detail, which may be different from the width specified for the element type. This allows you to use a different cross section at the edges. If it is 0, no edge detail will be added, see also [3.3.4. Additional options for settings](#)

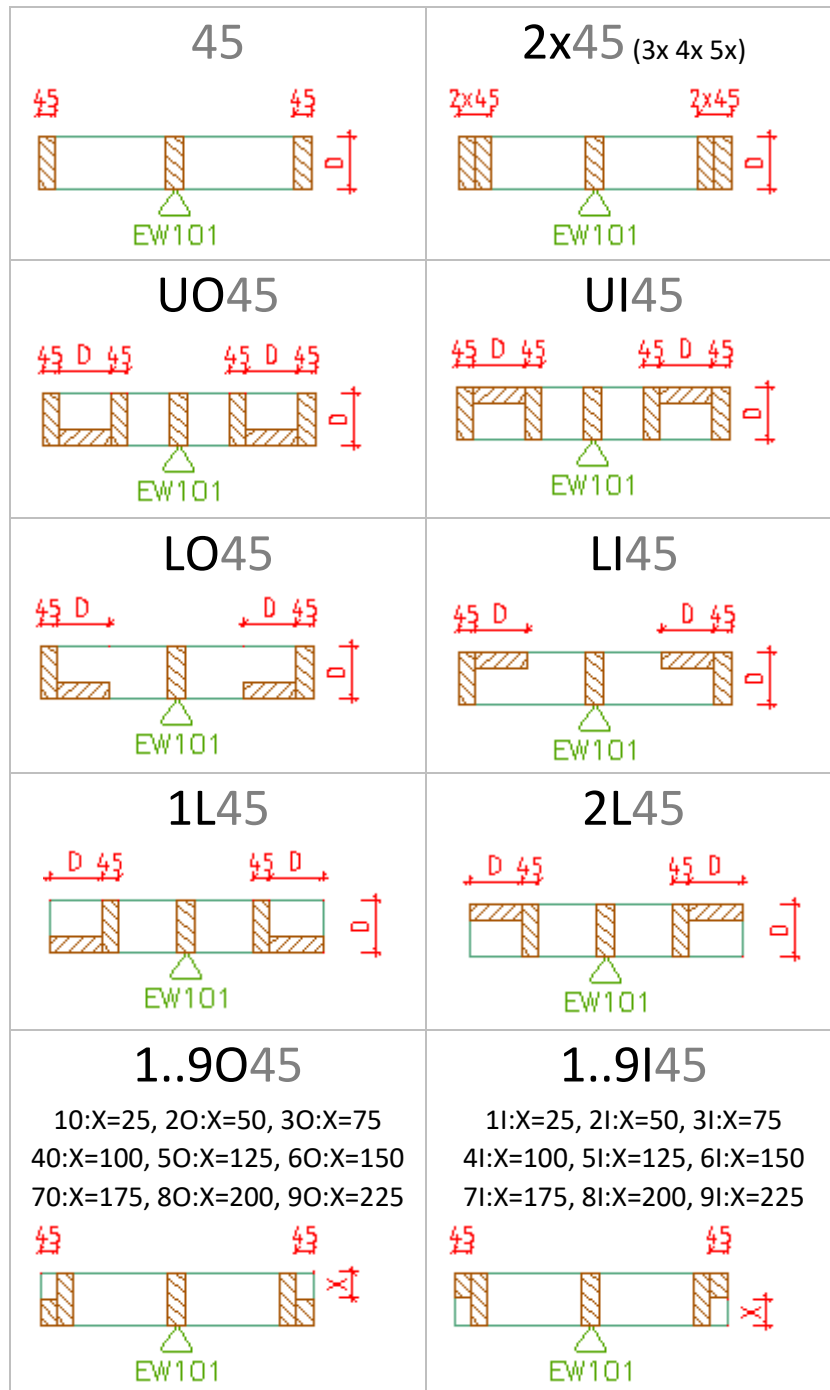
PROFILE The profile of the edge detail, which may be different from that of the element type. If there is *same*, its value is taken from the element type, see also [4.4.3. Mass Element profile](#)

MATERIAL The name of the material later runs the specification. If there is *same*, its value is taken from the element type.

NOTE: By default, the DEFAULT preset is applied to all infills.

3.3.4. Additional options for settings

It is possible to set a specific type value instead of the numeric value of the width of the element types, the edge of the element, and the edge of the opening. In this case, this detail is combined in several details. Possible options described below - 45 is a sample size that is freely selectable. When generating the model, the given details are initially considered to be cross-sectional and later modified to be specific type.

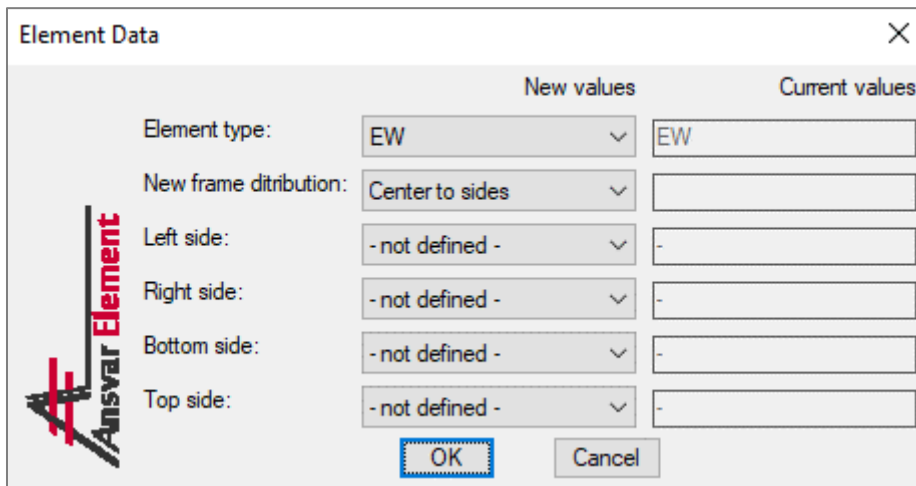


3.4. AEM_Data

This is a universal command, the action of which depends on the current location (model space or paper space) and the selected object. It is used for managing data related to various objects.

3.4.1. Element

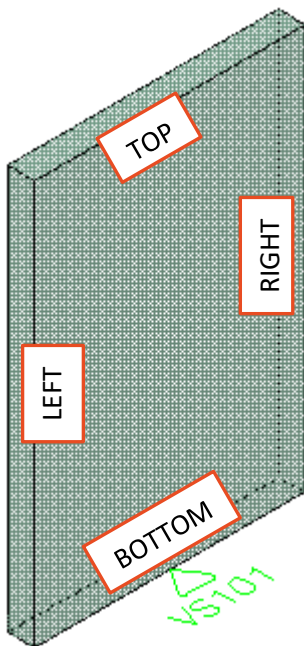
If elements are selected in model space (*Model*), the command opens a window, where you can configure data related to the element(s).



The options available are tags previously entered in `AEM_SETTINGS` for element types and element layers' offsets.

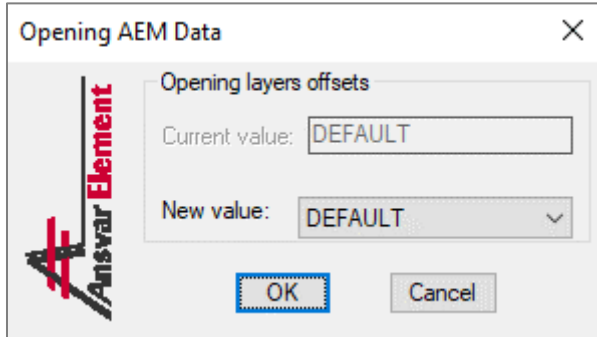
The left and right side are as seen from the side of the arrow in the element tag.

To generate an element, the **element type** must be defined, while offsets may be undefined.



3.4.2. Door, window, opening

If a window, door or opening is selected in model space (*Model*), the command opens a dialogue window, where you can configure the related data.

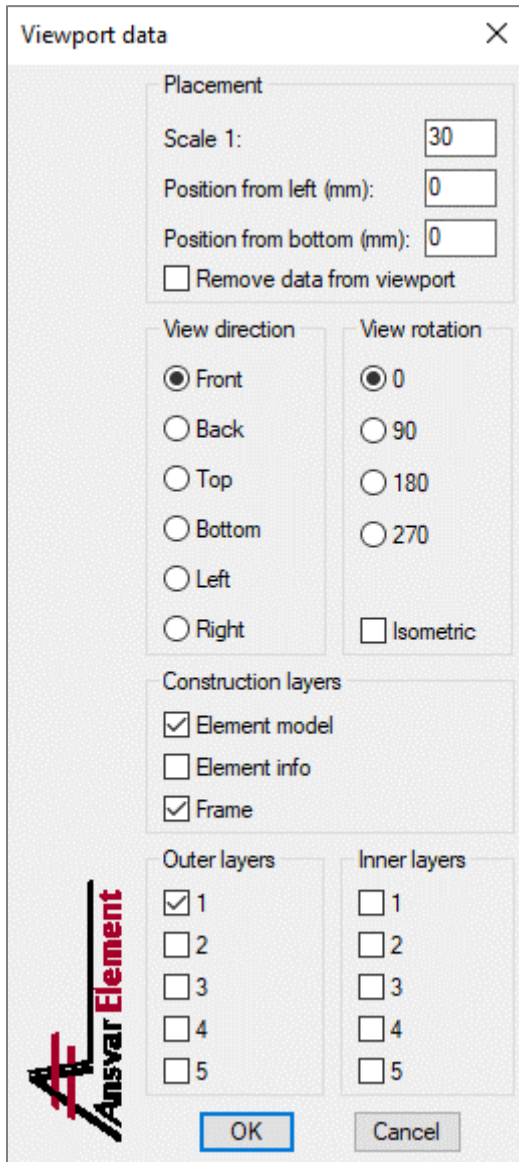


The options available are tags previously entered in `AEM_SETTINGS` for layers' offsets around openings.

NOTE: If the settings for an infill are left undefined, by default the DEFAULT preset is applied, if it exists under Layers' offsets around openings.

3.4.3. Viewport

If a viewport is selected in paper space (*Layout*), the command opens the viewport configuration window. The settings in this window are used for generating working drawings of elements. They provide information to the software regarding which view should be displayed in the selected viewport.



Scale is the scale of the drawing, for example, 1:30.

Position from left and **bottom** determines the position of the element in the viewport. The position is measured from the element model (AutoCAD Wall). As such, it is best to avoid placing the element at the very corner, because this may leave overhanging layers hidden.

Tick the box **Remove data from viewport** to remove the data from the selected viewport.

View direction determines the direction of view. The arrow in the element tag indicates the front side.

View rotation rotates the view clockwise by the selected number of degrees.

Tick the box **Isometric** to use an isometric view. When using this option, the scale and position settings are ignored, and the element is placed in the centre of the viewport.

Under **Construction layers**, **Outer layers**, and **Inner layers**, the user can select which layers will be visible in the viewport.

3.4.4. Detail circle

If a circle is selected in paper space (*Layout*), the command opens a configuration window. The settings in this window are used for generating working drawings of elements. They let the software know the location and content of details' specifications. A detail circle is a regular circle to which AnsvaCAD data have been added. The centre point of the circle is the top left corner of the specification table. To add a new detail circle, first draw a regular circle in the appropriate location, then run the command `AEM_DATA` and select the circle. For newly created circles, the user will be prompted to specify the type of the circle (dimensioning circle or detail circle).

Pos	Amount	Width	Depth	Length	Description
1	14	45	195	2910	C24 45 x 195
2	2	45	195	3990	C24 45 x 195

Table setting ✕

Details

Layers:

Show only types:

Show only with description:

Do not show with description:

Info to viewport

Add info to viewport:

What info to the viewport:

Notes:

Show only notes:

Do not show notes:

Design

Text style:

Text size:

Table colorcode:

COLUMN	TITLE	POSITION	WIDTH	SORT BY
Position:	<input type="text" value="Pos"/>	<input type="text" value="1"/>	<input type="text" value="10"/>	<input checked="" type="radio"/>
Amount:	<input type="text" value="Amount"/>	<input type="text" value="2"/>	<input type="text" value="10"/>	<input type="radio"/>
Depth:	<input type="text" value="Depth"/>	<input type="text" value="4"/>	<input type="text" value="10"/>	<input type="radio"/>
Width:	<input type="text" value="Width"/>	<input type="text" value="3"/>	<input type="text" value="10"/>	<input type="radio"/>
Length:	<input type="text" value="Length"/>	<input type="text" value="5"/>	<input type="text" value="10"/>	<input type="radio"/>
Area:	<input type="text" value="Area"/>	<input type="text" value="0"/>	<input type="text" value="10"/>	<input type="radio"/>
Description:	<input type="text" value="Description"/>	<input type="text" value="6"/>	<input type="text" value="30"/>	<input type="radio"/>
Length SUM m:	<input type="text" value="Length SUM"/>	<input type="text" value="0"/>	<input type="text" value="10"/>	<input type="radio"/>
Area SUM:	<input type="text" value="Area SUM"/>	<input type="text" value="0"/>	<input type="text" value="10"/>	<input type="radio"/>

Under **Layers**, select the layers to be entered into the table. Multiple items can be selected by holding down the *Ctrl* key; this will allow you to include multiple layer objects in the table.

Under **Show only types**, enter the object types to be listed (multiple types must be separated by a comma). By default, all objects under the selected layers will be listed. There are no input restrictions, and all names displayed under *properties* (without spaces) can be used, for example: *Masselement, 3Dsolid, Wall, Window, Door, Opening, Windowassembly, Block, Circle, Polyline, Line* (also lists polylines), etc. The software additionally supports *Allopenings*, which is the same as entering *Window, Door, Opening, and Windowassembly*.

Under **Show only with description**, you can enter the description of the objects to be listed. The entered name can also be defined partially and does not need to be written out in full. For example, if you have objects with descriptions *45x195 (to spec), 45x145 (to spec)*, etc., and only want objects with descriptions containing *(to spec)* to be listed, you can use the description: **(to spec)*. The asterisk represents texts of various length and makeup. For example, if you were to enter **x195**, all objects with a description containing *x195* in the middle, beginning, or end would be listed. In contrast, **x195* only designates objects with a description ending with *x195*.

If a description that matches the description of an object is entered under **Do not show with description**, that object will not be listed. The entered name can also be defined partially and does not need to be written out in full (see the description for “Show only with description”).

Text style allows the user to select the style of the text in the table. The options available are all the text styles used in the drawing (text style management: *STYLE*).

Text size is the size of the text in the table.

The number in the **Table colour code** field determines the colour of the text and table.

The fields under **TITLE** allow the user to enter a suitable name for each column (designed for adding support for various languages, for example, German).

POSITION indicates the position of the column in the table. If the value is zero, the column will not be displayed in the table.

WIDTH is the width [mm] of the column in the table. Column widths are not automatically adjusted to match the length of the text. Therefore, each column should be given sufficient width to fit all of the text in the cell. This concerns the *description* column, as detail descriptions may have different lengths.

The option selected under **SORT BY** determines the basis for sorting, i.e. ordering the details in the table.

In the **Info to viewport** section you can also add data to the object in the viewport.

In the **Add info to viewport** field, enter the tag of the viewport to which you want the data to be added. As the tag is software-internal, to enter it you must click on *Select*, after which you will be able to select the desired viewport. If no tag is entered, the data will not be added to any viewports.

In the **What info to the viewport** field, you can define the data to be added to the object. By default, this is set to [POSITION], i.e. the position number. If you wish to add other data, enter the data type in the field. The following variables can be used: [POSITION], [DESCRIPTION], [NAME], [ELEMENT], [ZONE], [WIDTH], [DEPTH], [LENGTH], [AREA]. When using [POSITION], it will also be marked with a circle ③, e.g.: [NAME] signifies [ELEMENT]-[ZONE]-[POSITION]. Of course, you can also use free-form text.

Under **Notes**, you can select the notes concerning the listed objects that you wish to be added to the viewport. Multiple items can be selected by holding down the *Ctrl* key.

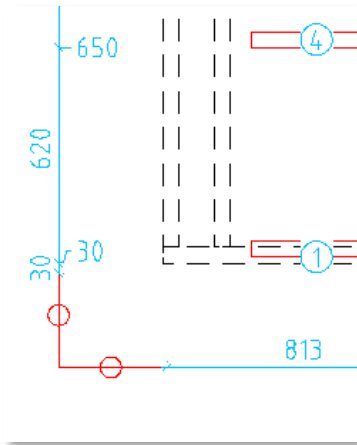
In the **Show only notes** field, you can define which notes must be added. The entered name can also be defined partially and does not need to be written out in full (see the description for “Show only with description”).

In the **Do not show notes** field, you can define which notes must not be added. The entered name can also be defined partially and does not need to be written out in full (see the description for “Show only with description”).

NOTE: A detail's position is essentially the sequence number of the detail in the layer. The first detail added to the drawing is assigned the number 1 and each subsequent detail receives the next higher number. The position number in the table will match, for example, position numbers later exported into Excel.

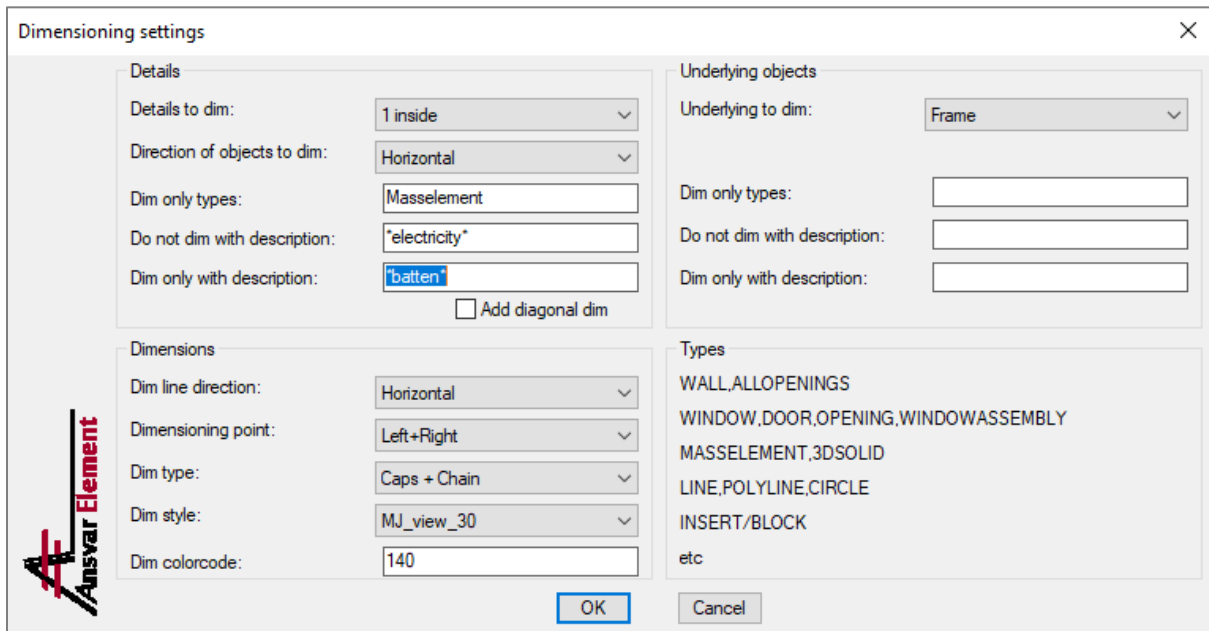
3.4.5. Dimensioning circle

If a circle is selected in paper space (*Layout*), the command opens a configuration window. The settings in this window are used for generating working drawings of elements. They inform the software of the location and attributes of the dimensioning circle.



A dimensioning circle is a regular circle to which AnsvaCAD data have been added. The center point of the circle coincides with the dimension line. To add a new dimensioning circle, first draw a regular circle in the appropriate location, then run the command **AEM_DATA** and select the circle.

For newly created circles, the user will be prompted to specify the type of the circle (dimensioning circle or detail circle) and select the viewport to be used for dimensioning the details.



Under **Details to dim**, select the layer to be dimensioned.

Direction of objects to dim determines which details will be dimensioned. If any value other than *All* is selected, then sloped details (frame diagonals, sloped chords, etc.) will not be dimensioned. *Direction* refers to the orientation in the selected viewport, meaning that if the element is rotated by 90 degrees in the viewport, a horizontal lath will have a vertical direction.

Under **Dim only types**, enter the object types to be dimensioned (multiple types must be separated by a comma). By default, all objects under the selected layer will be dimensioned. There are no input restrictions, and all names displayed under *properties* (without spaces) can be used, for example: *Masselement*, *3Dsolid*, *Wall*, *Window*, *Door*, *Opening*, *Windowassembly*, *Block*, *Circle*, *Polyline*, *Line* (also lists polylines), etc. The software additionally supports *Allopenings*, which is the same as entering *Window*, *Door*, *Opening*, and *Windowassembly*.

If a description that matches the description of a detail is entered under **Do not dim with description**, that detail will not be dimensioned. The entered name can also be defined partially and does not need to be written out in full. For example, if you have objects with descriptions *45x195 (no dim)*, *45x145 (no dim)*, etc., and do not want objects with descriptions containing *(no spec)* to be dimensioned, you can use the description: **(no dim)*. The asterisk represents texts of various length and makeup. For example, if you were to enter **x195**, all objects with a description containing *x195* in the middle, beginning, or end would be excluded from dimensioning. In contrast, **x195* only designates objects with a description ending with *x195*.

If a description that matches the description of a detail is entered under **Dim only with description**, that detail will be dimensioned. The entered name can also be defined partially and does not need to be written out in full (see the description for “Do not dim with description”).

If the box **Add diagonal dim** is ticked, the diagonal dimension of the endmost points of the selected layer will also be added in addition to other dimensions. When using this option, the *Direction of objects to dim* setting is ignored.

Under **Underlying to dim**, select the reference object for dimensioning (offsets). If you do not wish to use any underlying objects, select the same layer as under *Details to dim* (in that case, there is no need to enter any additional parameters under *Dim only types, do not dim with description, and Dim only with description*).

Dim line direction is either horizontal or vertical.

Under **Dimensioning point**, you can select the sections to be dimensioned: edges, center or all possible points (the latter is generally used for panels with openings).

Dim type determines whether to display only intermediate dimensions from one detail to the next, or summed chain dimensions, i.e. distances from the start.

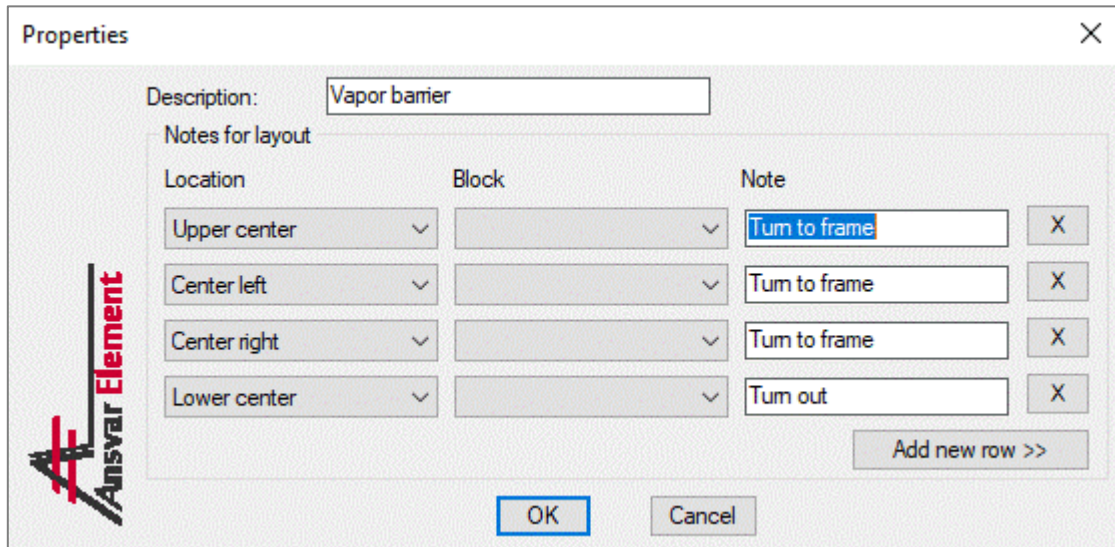
Under **Dim style**, you can select between all dimension styles currently defined in the drawing (*Dimension Style Manager - DIMSTYLE*). In the case at hand, the *Scale factor* defined in the dimension line style is irrelevant, as the dimension line will be adjusted automatically according to the viewport scale.

The number in the **Dim color code** field determines the color of the dimension line. For the color to take effect, the color of the various sections of the dimension line must be set to *byBlock* when configuring the dimension line style.

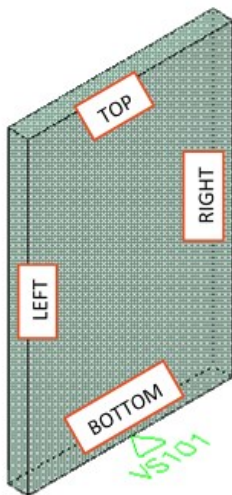
NOTE: When copying layouts, the link between a dimensioning circle and its viewport is lost. Thus, after copying a layout, dimensioning circle settings must be reset; a notification will be displayed to inform the user of the loss of the link and the user will be prompted to reselect the viewport to which the dimensioning circle is linked.

3.4.6. Other objects

If an object that is not an element or an infill is selected in model space (*Model*), the user can enter additional information for it. Not all AutoCAD objects can be provided with a *Description*. Objects that cannot be given a description through AutoCAD *Properties*, can be given one here.

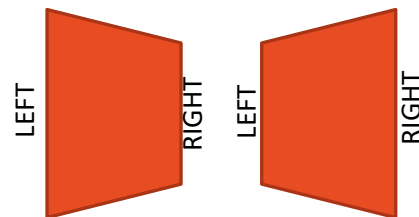


It is possible to select several different types of objects at a time. If the selected objects include an object that can be provided with a *Description* directly through AutoCAD, it cannot be set up here – the value will be displayed but cannot be edited.



Objects can also be given notes that can later be used in element drawings. The location definitions for top, bottom, left, and right mark the sides of the object as seen from the front (indicated by the arrow) of the element containing the object.

Note locations are never tied directly to the object; they are always bound to the edges of the element containing the object. If the object is rotated/mirrored after it has been given notes, the locations of the notes will remain the same. They will also remain connected to element later in the layout, meaning that if the element is viewed from the back in the drawing, the note on the right will be displayed on the left and vice versa in accordance with the position of the left and right side of the element.

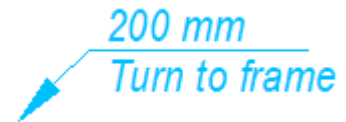


Location determines the position of the note relative to the element containing the object.

Block is the block to be used as the note. If no block is selected, it will be a reference line. Under *Block* you can also use *attribute*, which is filled with the text entered for the note. These must be named *AEM_NOTE_1*, *AEM_NOTE_2*, etc.

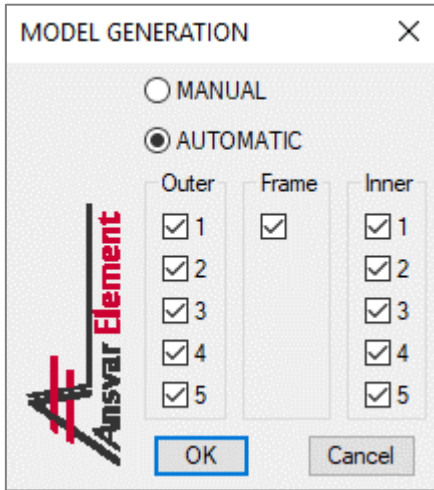
Under **Note**, enter the text for the note; this will be added to the reference line or under *block attribute*. To enter a new line, use two commas, e.g.: "Offset 200 mm,,Turn to frame".

Attributes	
AEM_NOTE_3	
AEM_NOTE_2	Turn to frame
AEM_NOTE_1	200 mm



3.5. AEM_GenElement

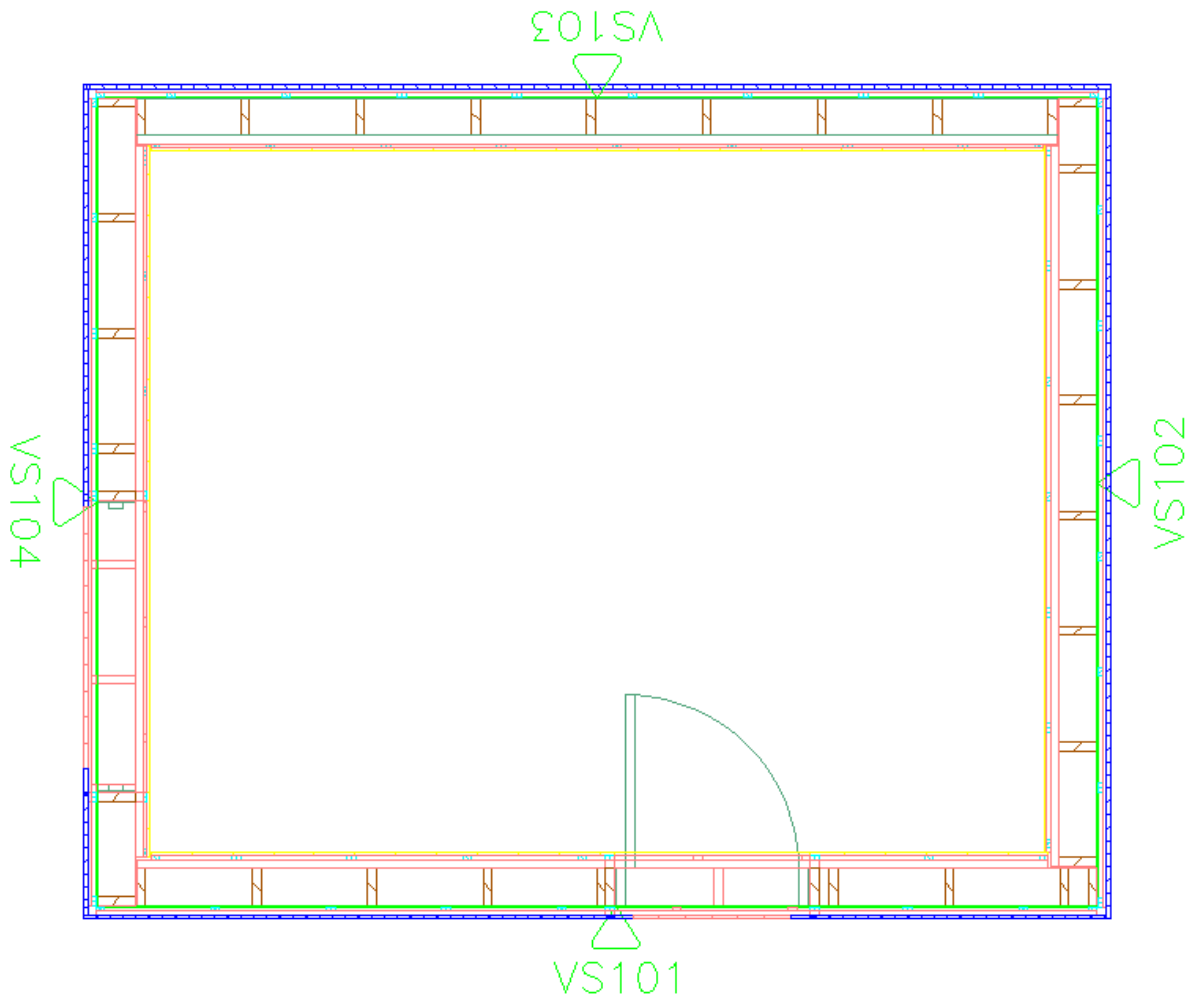
The command `AEM_GENELEMENT` first opens a window where you can select whether to generate the entire element model with all layers or only one layer.



Generally, all element layers are generated together, and single layer generation is primarily intended for correcting a layer in the current model or adding an additional layer.

If the element model has been generated before and it is re-generated, then all previously generated layers will be deleted first. For manual generation, it is also possible to maintain existing details.

The element is generated using all previously defined settings.



If you choose to generate a single layer, a layer data entry window will open. The data can be entered similarly to defining element type settings. You will also be able to define layer offsets in this window. There is a new input field here: **Distance from element**, which is the distance from the center of the element model (AutoCAD Wall) - the positive number to the outside and the negative number to the inward distance.

Space 2 can be set only for the sides to the center distribution, and here denotes a space from the right / top edge, depending on the type of layer (horizontal / vertical). In all other cases, space 1 is used, which then marks the first space from where the division begins (left, right, top, bottom).

It is also possible to retrieve data from the element settings, which allows you to easily adjust one layer if you do not want to change the general settings and then re-generate the layer automatically.

Generate layer
✕

DETAILS

Layer zone: <input type="text" value="Frame"/>	Distance from element [mm]: <input type="text" value="0.00"/>
<input type="button" value="Load from element data"/>	Depth [mm]: <input type="text" value="195"/>
Layer type: <input type="text" value="Vertical lath/frame"/>	Width [mm]: <input type="text" value="45"/>
Distribution: <input type="text" value="Center to sides"/>	Spacing [mm]: <input type="text" value="600"/>
Profile: <input type="text" value="-"/>	Space 1 [mm]: <input type="text"/>
Material: <input type="text" value="C24"/>	Space 2 [mm]: <input type="text"/>

Delete existing

ELEMENT OFFSETS

Bottom [mm]:

Top [mm]:

Left [mm]:

Right [mm]:

ELEMENT SIDEDETAILS

Bottom [mm]:

Top [mm]:

Left [mm]:

Right [mm]:

OPENING OFFSETS

Bottom [mm]:

Top [mm]:

Left [mm]:

Right [mm]:

OPENING SIDEDETAILS

Bottom [mm]:

Top [mm]:

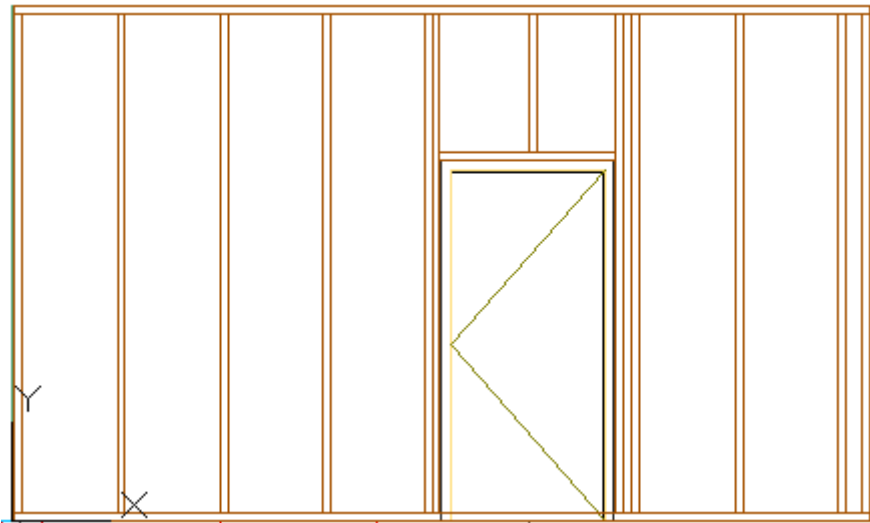
Left [mm]:

Right [mm]:

3.6. AEM_ViewElement

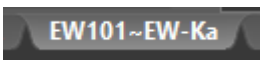
The function of this command depends on whether you are in model space (*Model*) or paper space (*Layout*).

In **model space**, select an element (pressing the *Enter* key allows you to enter the name of the element manually). After selecting the element, the element is brought into view, while all other elements in the same group are switched off. For example, selecting *EW101* switches off all elements beginning with *EW1*, leaving only *EW101* visible. The element is always brought into front view, i.e. as seen from the side of the arrow in the element tag.

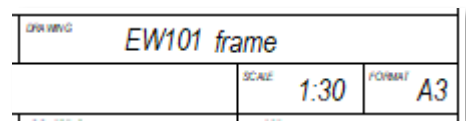


In **paper space**, i.e. **Layout**, the command generates a working drawing of the element with the previously defined specification tables and dimensions.

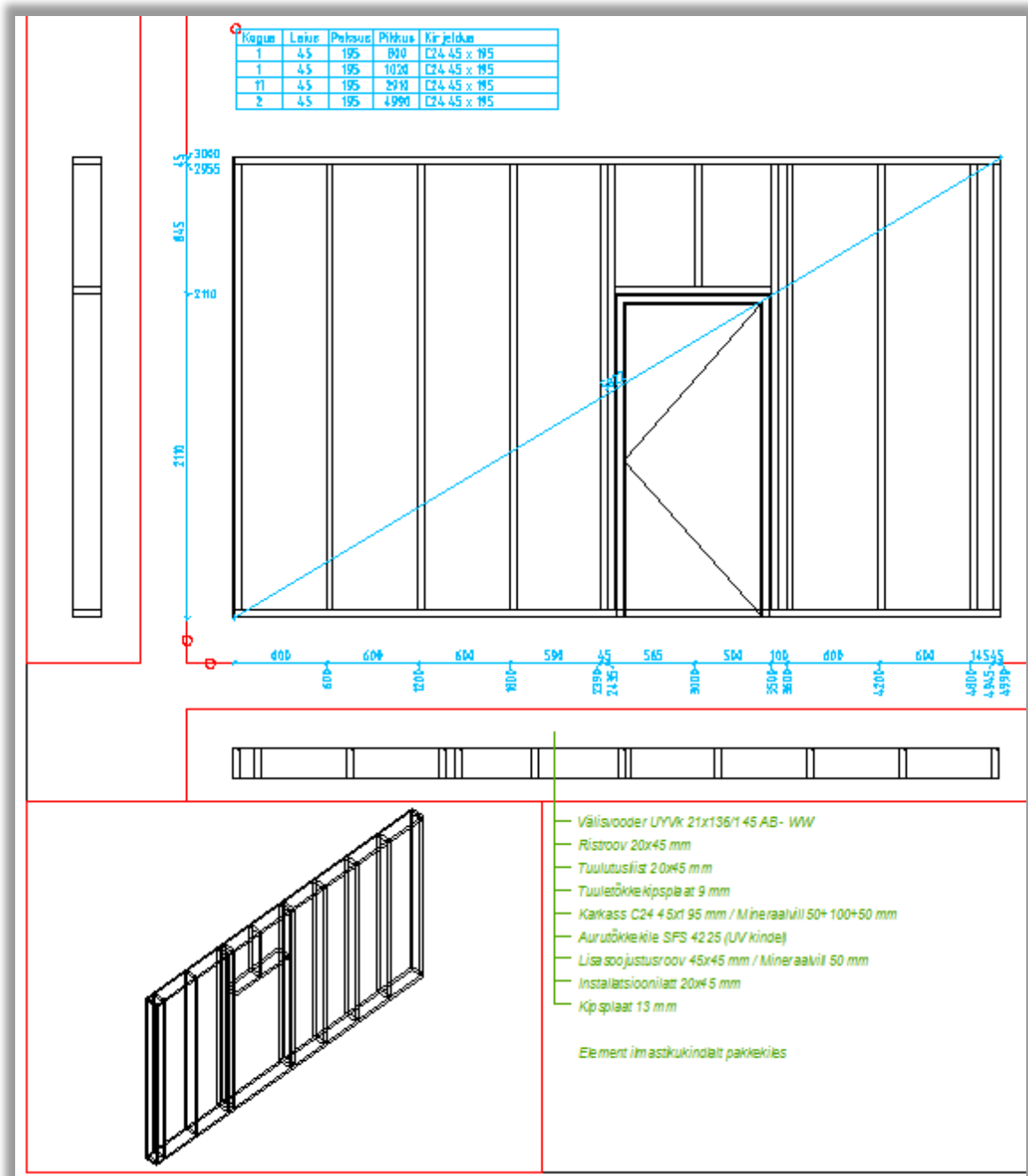
During generation, the name of the element is added in front of the name of the layout.



If the layout has a block containing an attribute named *AEM_ELEMENT_NAME*, the name of the element will also be added to that. This enables the user to create title blocks where the name of the element changes automatically when an element is generated.



During generation, a data layer named *xAnsvarVP_Info_EW101* is also created and switched on for the element. All data layers of other elements are switched off. This enables the user to add additional notes regarding the element drawing to the layer. If another element is generated, the layer is switched off, but the data are retained. Thus, if you return to the element later, any additional information (notes, additional dimensions, etc.) will still be there.

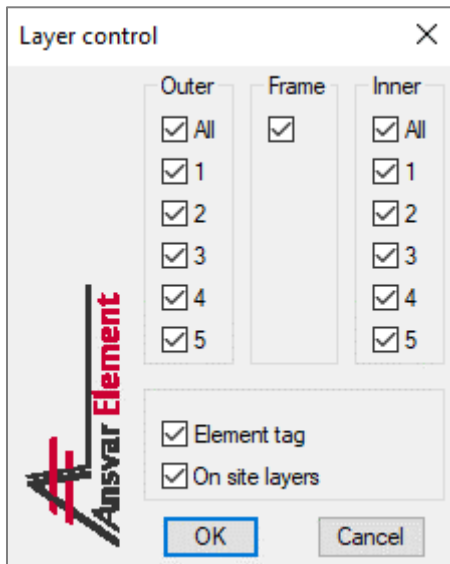


NOTE: To have all element layers visible in the drawing, they must also be switched on in model space.

NOTE: To generate multiple layouts or elements simultaneously, see 3.13.3. Multiple Layout Views

3.7. AEM_LayerControl

This command is designed for switching element layers on/off. Entering the command, opens a window where you can select which layers should be visible and which layers should not.



NOTE: The element model layer cannot be switched off, because it determines whether the element as a whole is hidden or visible (see [AEM_VISIBILITYTOGGLE](#)).

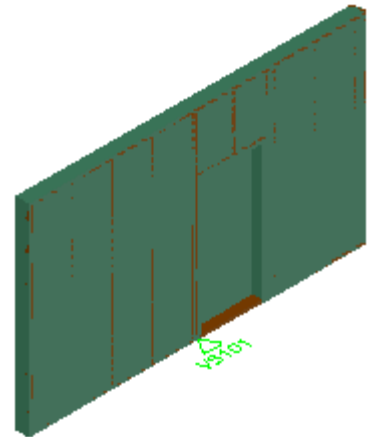
3.8. AEM_VisibilityToggle

After element layers have been generated, it is generally undesirable to have the element model (AutoCAD Wall) visible, as this often conceals the frame.

The element model layer cannot be switched off, because it determines whether the element as a whole is hidden or visible. However, it is possible to hide the model. To do this, use the `AEM_VISIBILITYTOGGLE` command.



After entering the command, the user will be asked for the name of the element or element group whose visibility is to be toggled. If elements with different states (hidden, visible) are selected, the user will be asked how to proceed. Otherwise, the current state will be reversed: if the element is visible, it will be hidden, and vice versa.



NOTE: If you wish to change the location of the model, the element model must be visible, otherwise it cannot be marked/selected, and while the location of the details will change, the element model will not be moved.

3.9. AEM_OnElements and AEM_OffElements

These commands are designed for switching an element or element group on/off.

AEM_ONELEMENTS asks the user to enter the name of the element (e.g., *EW101*) or element group (e.g., *EW1*). This command enables switching on single elements or element groups or by floors.

AEM_OFFELEMENTS is the opposite command: it is used for switching an element or element group off. This command also allows the user to select elements manually. The user can select either the element model or element tag.

The function of these two commands depends on whether you are in model space (*Model*) or paper space (*Layout*).

In **model space**, the element is switched on/off in the model.

In **paper space**, if no viewports are active, elements are also switched on/off in the model. However, if a viewport is activated, elements are switched on/off only within that viewport, while the model is unaffected. This is primarily intended for creating floor plans where all elements are switched on in the model, but different viewports show different floors.

3.10. AEM_Rename

The `AEM_RENAME` command is designed for renaming elements and/or details. Renaming details only (without the element model), is designed for moving details from one element to another.

The command is governed by the following rules (the software will notify the user in the case of an error):

- Details and/or elements to be renamed must belong to the same element.
- If an element is selected for renaming, the new name must not already be in use.
- If only details are selected for renaming, an element model with the new name must also exist.

NOTE: If you wish to rename the entire element, there is no need to select all its details: simply select the element itself. You will then be asked whether you wish to rename just the element model or its details as well.

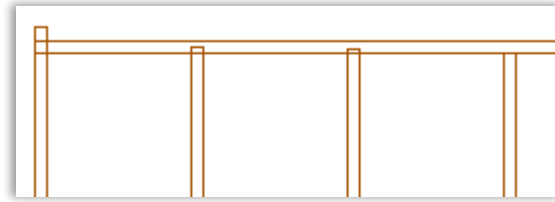
If you wish to split an element, do as follows:

- Create a new element model (AutoCAD Wall).
- Add an AnsvaCAD element using the command `AEM_ADDELEMENT`.
- Run the `AEM_RENAME` command and select the details you wish to move to the new element.

NOTE: Details can also be moved manually between layers.

3.11. AEM_ConstrCheck

The `AEM_CONSTRCHECK` command is designed for checking for intersecting details. If there is an undiscovered intersection between two details in a model, they can be identified using this command.



Kontrollimine: 100%

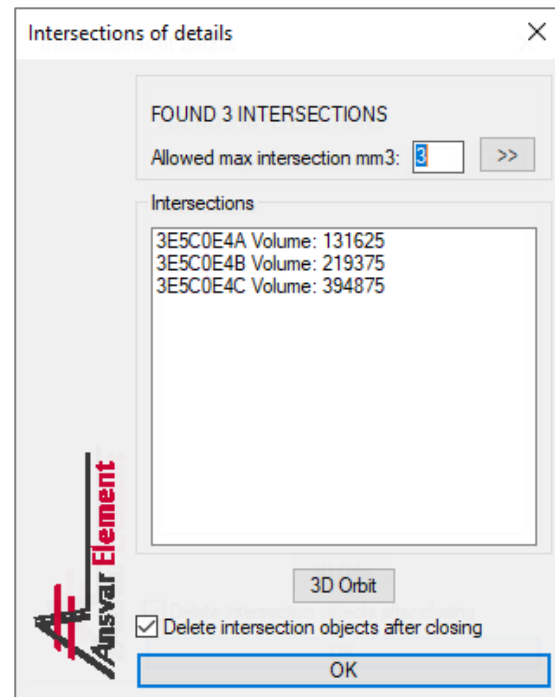
After running the command, the user is prompted to select the details to check. It is recommended to run the check section by section in the model, as the function checks for intersections between all selected details. For example, if 100 details were selected, 4,950 checks would be run, and if 1,000 details were selected, the total number of checks would be 499,500. Thus, 10 times as many details amounts to 100 times as many checks. The optimal number of selected details depends on the performance of the user's computer.

After selecting the details, the results window is displayed. Intersections are shown in a list together with their identifier and volume in mm³.

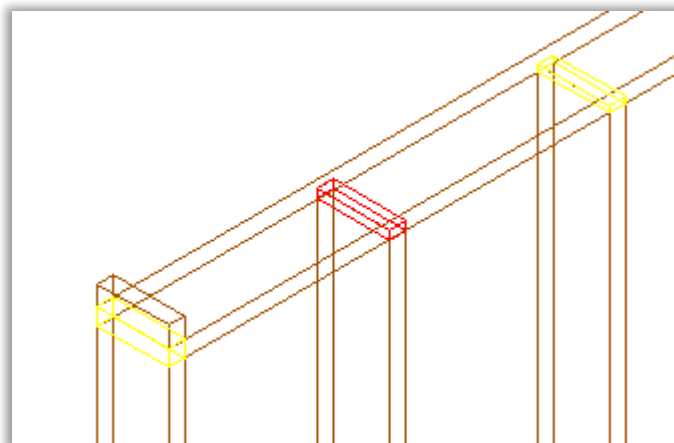
The user can enter an allowed maximum intersection volume, in which case intersections smaller than the specified volume will not be displayed in the list (for example, an intersection volume of 8 corresponds to a 2 x 2 x 2 mm intersection, which may be negligible in practice).

Intersections are also marked in yellow in the model. Clicking on an intersection in the list marks it in red and zooms in on it in the model.

If the box *Delete intersection objects after closing* is unticked and the window is closed, the intersection markers are retained, and they can be examined further in the model. Rerunning the `AEM_CONSTRCHECK` command deletes any existing markers before the new check.

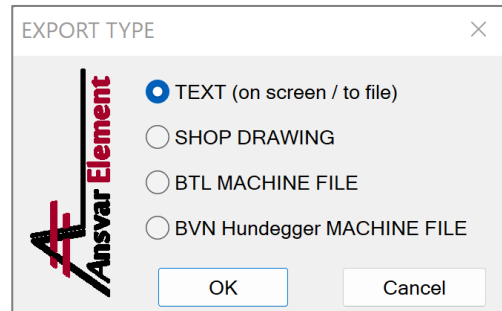


NOTE: This command also allows checking for intersections between 3Dsolid and Mass Element objects. The selected details do not need to belong to an AnsvaCAD element.

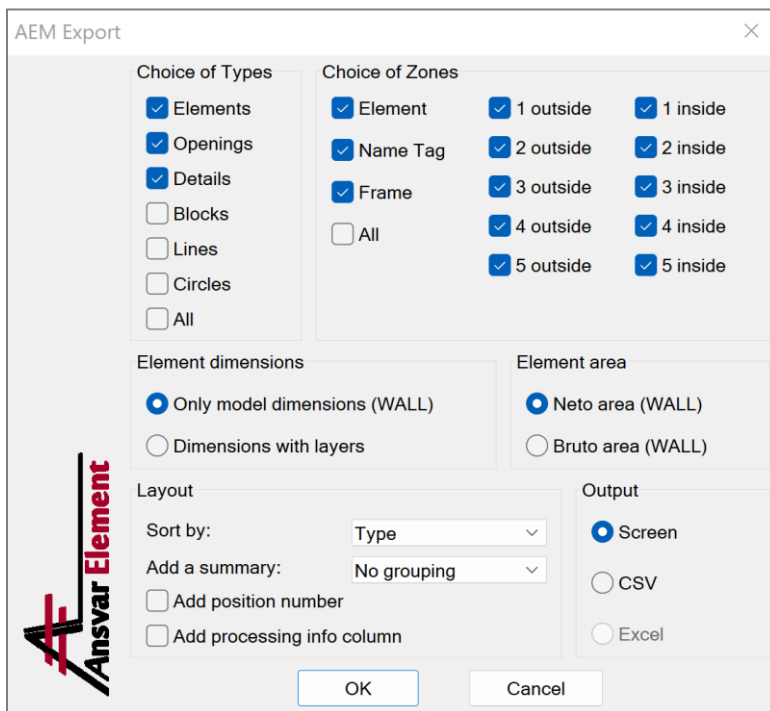


3.12. AEM_Export

The `AEM_EXPORT` command is used for retrieving detail specifications from a model. Running the command opens a window with several exporting options.



3.12.1 Export as text



Under **Choice of Types**, select the types of the objects about which you wish to export information.

Under **Choice of Zones**, select the zones of the objects about which you wish to export information. By default, all element zones are selected. If you wish to include element-external objects, select *All*.

The **Element dimensions** setting only applies to element models. It does not affect other objects. The user can choose whether to export only the dimensions of the element (AutoCAD Wall) or the external dimensions of the entire element with all layers (including any offsets).

The **Element area** setting also applies only to element models and does not affect other objects. It is the area of the element model (AutoCAD Wall). *Net* area is the area of the element minus any openings, *Gross* area is the area with openings. If the element has custom dimensions (*Roof/Floor Line* jagged – gable or other element), this will be taken into account in the area calculation.

Sort by enables the user to choose the criterion for sorting the list.

Under **Add a summary**, the user can add a summary row after each group to list the summed values of the group. If sorting is done by element and summaries are added by zone, the generated list will contain summaries for each element zone. If sorting is done by zone and summaries are also added by zone, the summary will show the values summed over all elements.

If **Add position number** is checked, the result will include the positions of details based on the element position numbers in the working drawing.

If **Add processing info column** is checked, additional column is added to the table, where, in the case of 3DSolids and MassElements, it is displayed whether the part has processing.

Under **Output**, the user can select whether the result is to be displayed directly on the screen or exported in CSV format (Comma-Separated Values), which yields a text file that can be opened in Excel.

NOTE: The details do not need to be AnsvarCAD elements, but can also be element-external objects. In such a case, the information in the “Element” and “Zone” columns is taken from the name of the detail layer. The separator is an underscore. E.g., if the layer is named “OnSite_Glulam”, the element is “OnSite” and the zone is “Glulam”.

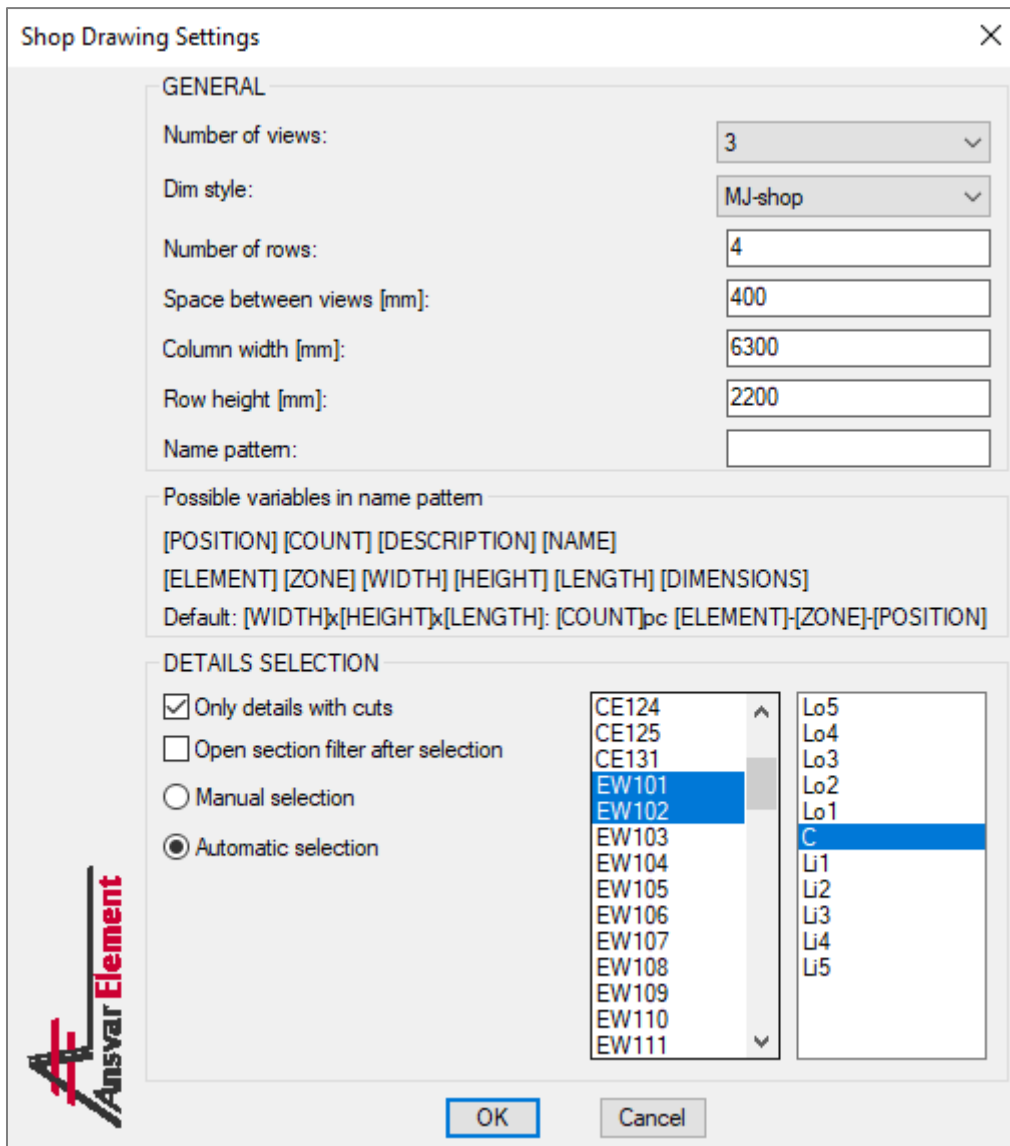
Object-dependent parameters:

- In the case of lines, listed parameters include line length, and in the case of polylines they also include line width.
- In the case of circles, listed parameters include circle diameters.
- In the case of blocks, the name is listed below the description.

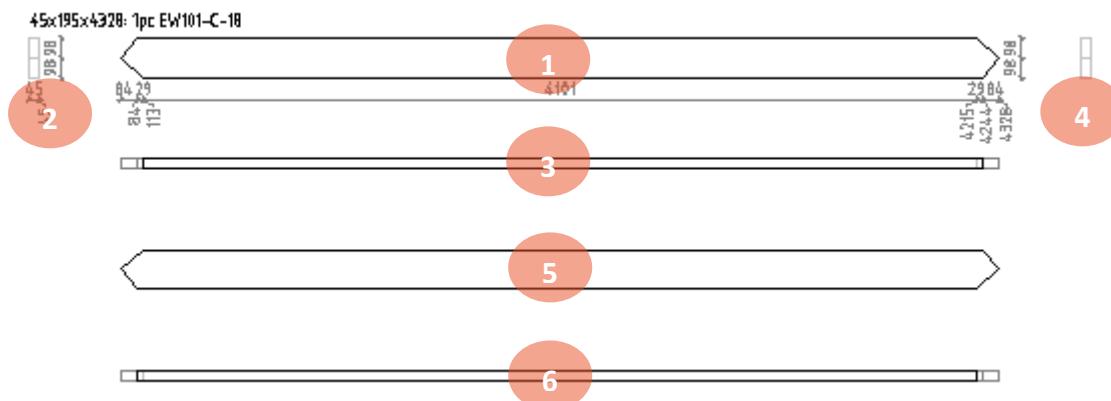
This allows different details to be entered the model and easily exported into specifications later.

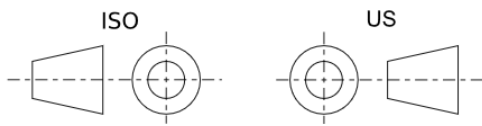
3.12.2. Export shop drawing

With this option, it is possible to automatically generate shop drawings of details.



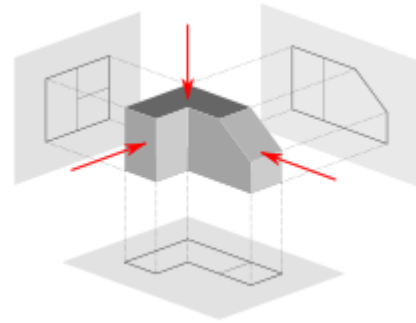
Number of views determines the number of views to be generated for the detail. The figure below shows the order in which views will appear. Only views 1 and 2 are dimensioned.





Views are generated using the ANSI/US layout instead of the ISO system, as this is often customary in production and ISO style views can be confusing. The figure on the left illustrates the difference between the

two systems: in the ISO system, the left side view of a detail is placed on the right, while in the ANSI system it is on the left. The figure on the right illustrates the logic behind the ISO system, wherein views are projections and thus the right-side view is projected to the left, the left side view to the right, etc.

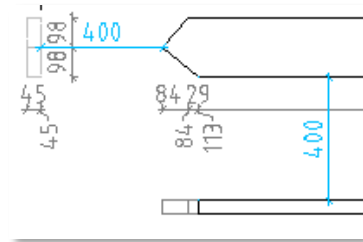


In the generated result, therefore, view 2 (on the left) is the left side view of detail 1. View 4 (on the right) is the right-side view of detail 1. View 3 (at the bottom) is the bottom view of detail 1. View 5 is the bottom view of view 3. View 6 is a bottom view of view 5, i.e. essentially the top of view of view 1.

Dim style is a freely selectable style that is used for generating dimension lines. This style also determines the style of the text used for displaying data next to the detail drawing.

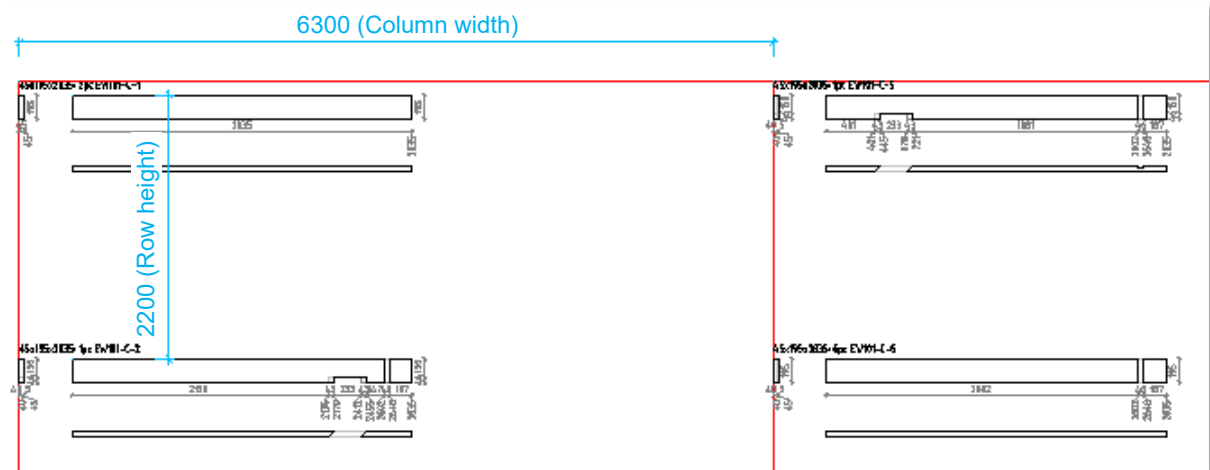
Number of rows determines how many rows of details are placed in each column.

Space between views [mm] is the space between the different views of a detail.



Column width [mm] is the distance between columns.

Row height [mm] is the distance between details in rows.



Name pattern determines the pattern for adding text to details. The default pattern is 45x195x2835: 2pc EW101-C-1. If you wish to use a custom pattern, enter it in the field. The following variables can be used: [POSITION], [COUNT], [DESCRIPTION], [NAME], [ELEMENT], [ZONE], [WIDTH], [HEIGHT], [LENGTH], [DIMENSIONS].

i.e., by default (if the field is left blank), the pattern is:
[DIMENSIONS]: [COUNT]pc [ELEMENT]-[ZONE]-[POSITION]

Details' selection

If **Only details with cuts** is selected, shop drawings are generated only for details with cuts (incision, bevel, etc.) regardless of the selection. This makes it easy to create drawings only for details that require machining, without having to find them one by one in the model.

If **Open section filter after selection** is selected, after detail selection, a window will open where the user can select the cross-sections of details for which shop drawings are to be generated. This makes it easier to handle situations where there are cross-sections for which separate shop drawings are not required.

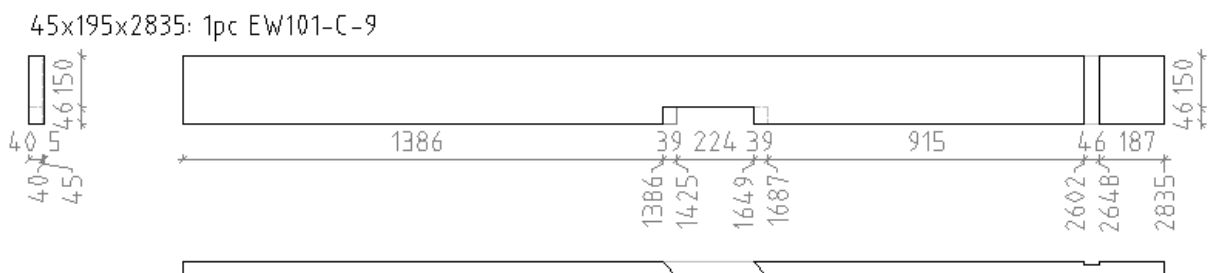
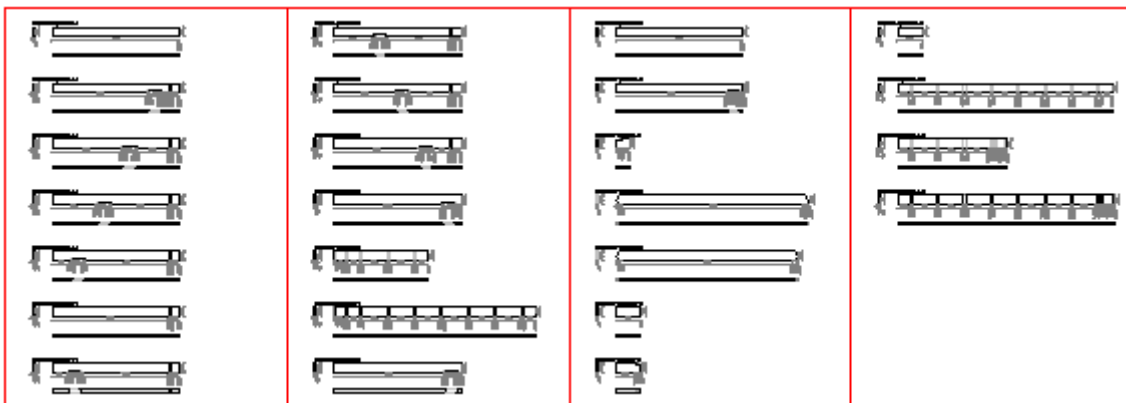
If **Manual selection** is selected, the details must be selected from the drawing manually (the adjacent options, as well as the element and zone are disregarded).

If **Automatic selection** is selected, the details are selected from the model automatically based on the selected elements and zones.

Selecting parameters

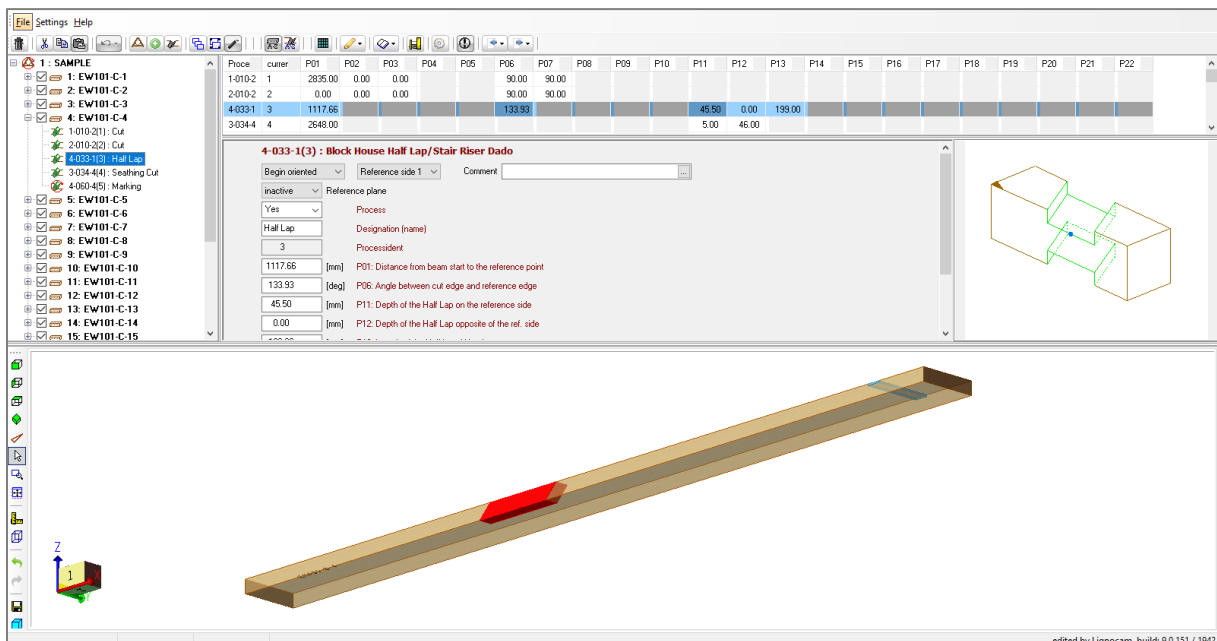
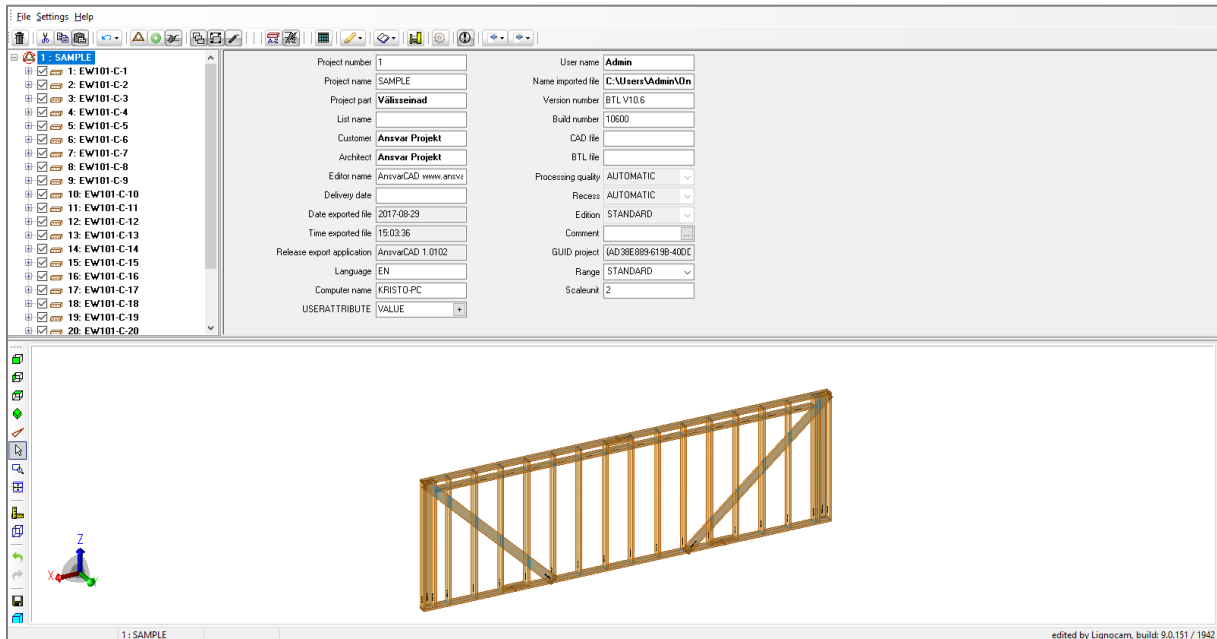
Here is a short guide on how to select the *number of rows*, *column width*, and *row height* parameters. The choice depends on the required details and scale. Suppose we need to prepare shop drawings of a frame on an A4 sheet (210 x 297 mm) with cross-sections of mainly 45 x 195 and detail lengths of up to approximately 5 m.

To fit a 5 m detail, we would need to use a scale of $5,000/210 = 24$, i.e. 1:30 with a margin. *Row height* depends on the *number of views* and the *space between views*. If we wanted to use, for example, 3 views spaced 400 mm apart, the approximate row height would be 200 (text) + 195 (detail) + 400 (spacing) + 45 (detail) + 400 (spacing) = 1,240. The height of an A4 sheet at 1:30 scale is $297 \times 30 = 8,910$ mm, i.e. the sheet fits $8,910 / 1240 = 7$ views. Column width is derived directly from the scale and sheet width, i.e. $30 \times 210 = 6,300$. The figure below shows the result.

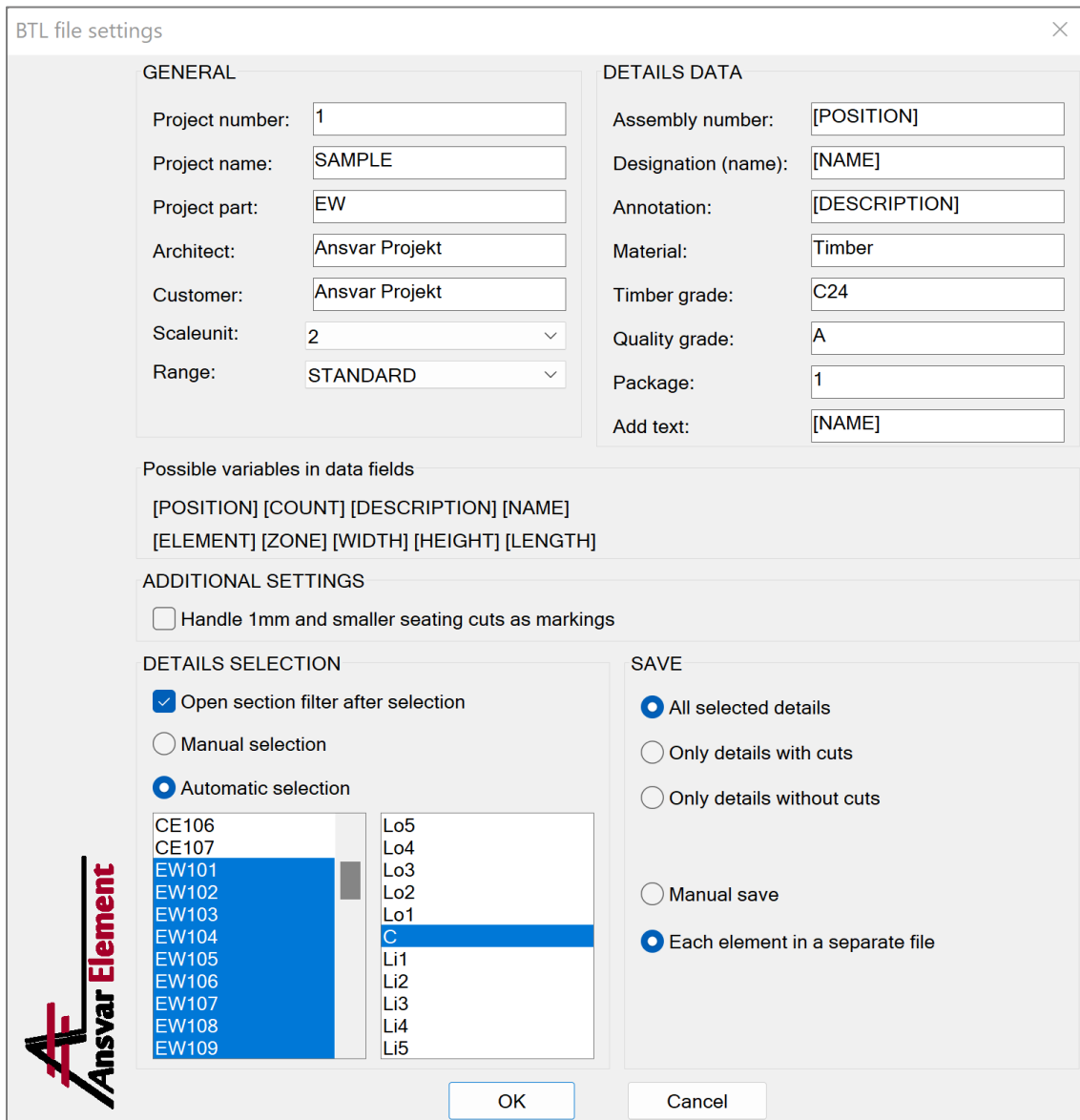


3.12.3. BTL machine file

The BTL machine file format is a free format, meaning that it is not bound directly to any specific machine. For additional information, visit design2machine.com/btl/. From this website, you can also download the free BTL-Viewer software for viewing BTL files. AnsvarCAD also populates the BTL file with information about detail positions, which makes it possible to view the whole structure in the BTL-Viewer.



Selecting BTL machine file generation opens the following window. Not all fields are mandatory, and the general rule is that if you do not know what to put in a field, you can leave it blank. The information required may depend largely on the specific machine and company.



Project number, Project name, Project part, Architect, and Customer can be entered freely.

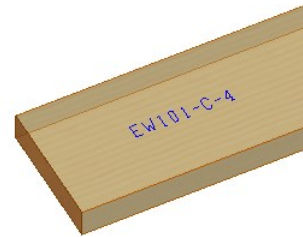
Scale unit is essentially the accuracy of the data, i.e. rounding to either 1 or 2 decimal places. It is recommended to leave the value at 2, unless the machine requires otherwise.

Range is a BTL-specific setting and the recommended value is *Standard*.

Assembly number, Designation, and Annotation can be left to use the default value, unless the machine requires a specific value, or you wish to avoid a specific value.

Material, Timber grade, Quality grade, and Package are simply additional information that may be included in the machine file.

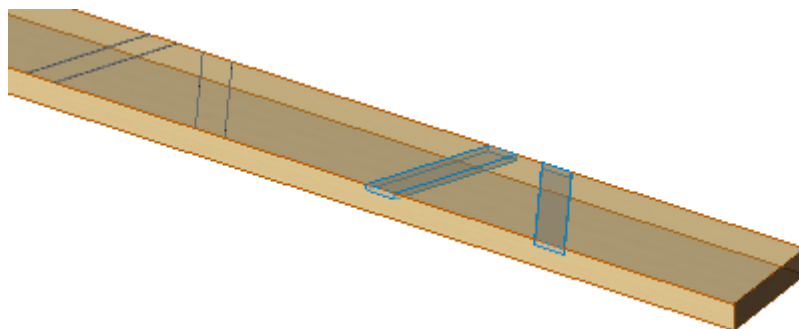
Add text is specific additional machine processing that can be applied to each detail. The function places text onto a detail. In BTL it is designed for machines that have a so-called pen for writing text directly onto a detail. Some machines, however, do not have a pen, but are configured to retrieve processing data to be written on a detail label that is printed separately by the machine for each detail. The content of this text depends on the desired result.



Assembly number, Designation, Annotation, Material, Timber grade, Quality grade, Package, and Add text are data fields which are added to each detail. The following variables can be used: [POSITION], [COUNT], [DESCRIPTION], [NAME], [ELEMENT], [ZONE], [WIDTH], [HEIGHT], [LENGTH].

Additional settings

If **Handle 1 mm and smaller seating cuts as markings** is selected, then the cuts are changed to markings, which means that instead of cuts, the machine will make marking lines in the corresponding places. In the figure below, on the left, seating cuts of less than 1 mm have been turned into markings, while on the right, the machine has made regular cuts.



Details' selection

If **Open section filter after selection** is selected, after detail selection, a window will open where the user can select the cross-sections of details to be added to the machine file. As machines often have restrictions due to which very small or very large cross-sections cannot be processed, this function frees the user from the need to find such details one by one.

If **Manual selection** is selected, the details must be selected from the drawing manually (the adjacent options, as well as the element and zone are disregarded).

If **Automatic selection** is selected, the details are selected from the model automatically based on the selected elements and zones.

NOTE: The software supports both Mass Element and 3DSolid object selection. Additionally, details are not required to belong to any element, i.e. they can also be standalone details.

Save

All selected details will save all details that were selected.

Only details with cuts - only those parts that have any processing in addition to end cuts are saved.

Only details without cuts will save only those parts that have no machining (except 90 degree end cuts).

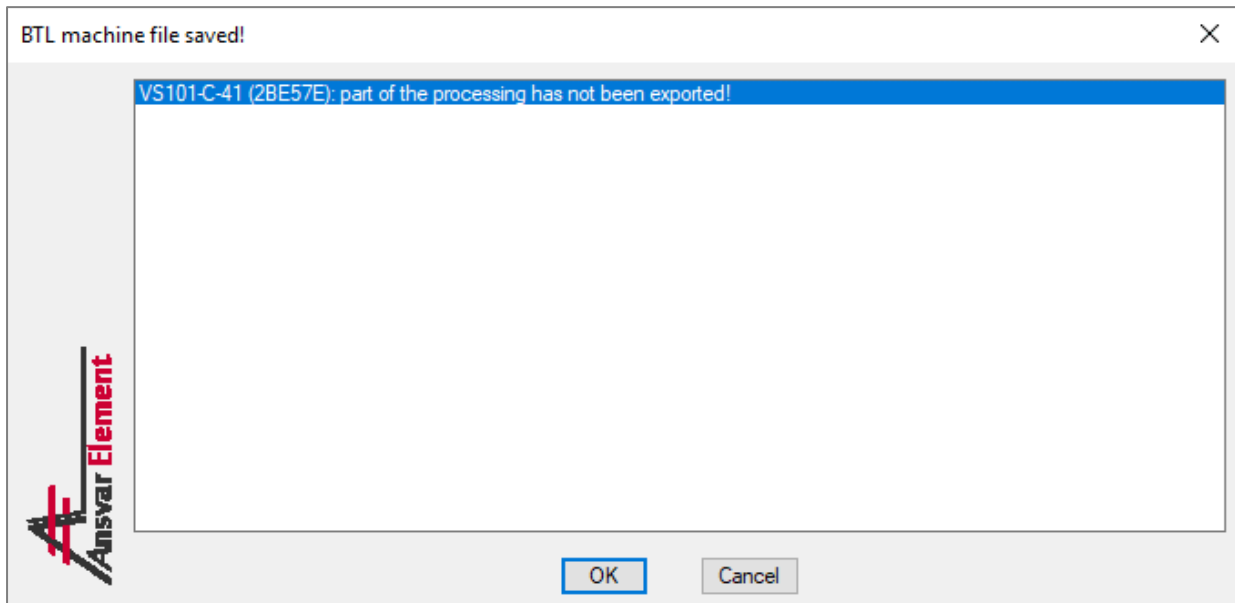
Manual save is regular saving, wherein the user is asked to choose where to save the file and what name to use.

If **Each element in a separate file** is selected, then each element is automatically saved in a separate file. While the user is still asked to choose the save location and file name, the name is irrelevant and is not used for saving the files. The files are named automatically based on the element number (EW101.btl). Each element group is placed in a separate folder (EW101 -> EW, IW101 -> IW, etc). If AnsvaCAD element external details are selected, both the folder and the file are named after the element/layer.

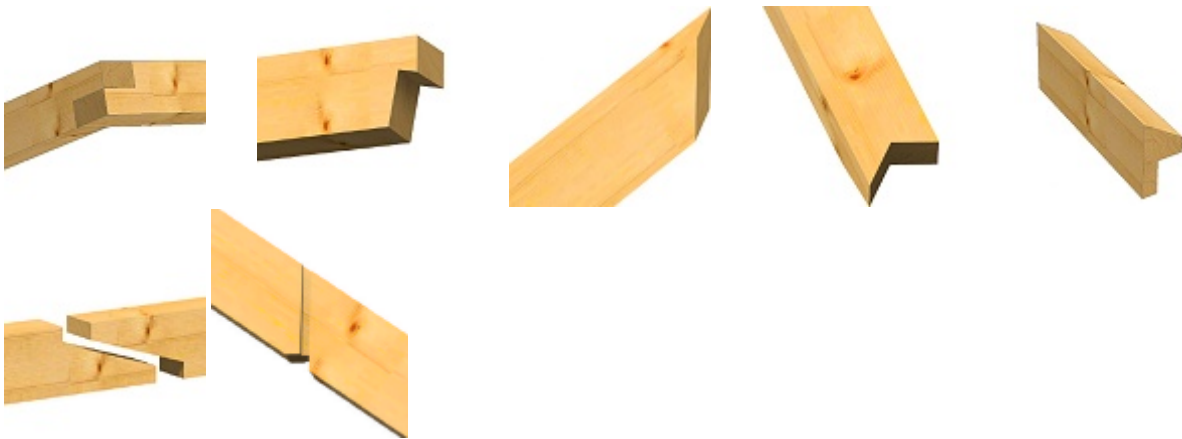
When saving into a separate file, any existing files are overwritten.

Possible cuts

AnsvaCAD recognizes all the most common cuts, though in some cases it may not be possible to save a cut in a machine file. In such cases, the user will be notified, and the details can be post-processed later. The corresponding error messages are saved in the file *BTLerrors.txt*.

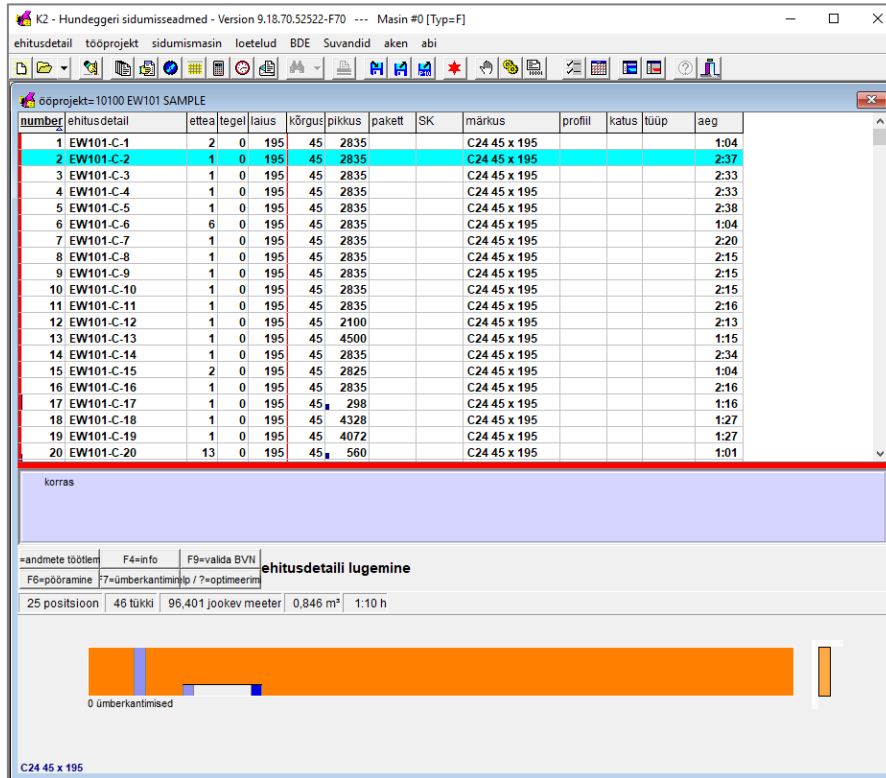


Most common cuts:



3.12.4. BVN Hundegger machine file

BVN is a format designed for Hundegger machines (such as K2, Speed Cut, etc.). BVN files can be opened directly using applications developed for the machines, such as Hundegger K2, Hundegger Cambrium, etc.



number	ehitusdetail	ettea	tegel	laius	kõrgus	piikkus	pakett	SK	märkus	profil	katus	tüüp	aeg
1	EW101-C-1	2	0	195	45	2835			C24 45 x 195				1:04
2	EW101-C-2	1	0	195	45	2835			C24 45 x 195				2:37
3	EW101-C-3	1	0	195	45	2835			C24 45 x 195				2:33
4	EW101-C-4	1	0	195	45	2835			C24 45 x 195				2:33
5	EW101-C-5	1	0	195	45	2835			C24 45 x 195				2:38
6	EW101-C-6	6	0	195	45	2835			C24 45 x 195				1:04
7	EW101-C-7	1	0	195	45	2835			C24 45 x 195				2:20
8	EW101-C-8	1	0	195	45	2835			C24 45 x 195				2:15
9	EW101-C-9	1	0	195	45	2835			C24 45 x 195				2:15
10	EW101-C-10	1	0	195	45	2835			C24 45 x 195				2:15
11	EW101-C-11	1	0	195	45	2835			C24 45 x 195				2:16
12	EW101-C-12	1	0	195	45	2100			C24 45 x 195				2:13
13	EW101-C-13	1	0	195	45	4500			C24 45 x 195				1:15
14	EW101-C-14	1	0	195	45	2835			C24 45 x 195				2:34
15	EW101-C-15	2	0	195	45	2825			C24 45 x 195				1:04
16	EW101-C-16	1	0	195	45	2835			C24 45 x 195				2:16
17	EW101-C-17	1	0	195	45	298			C24 45 x 195				1:16
18	EW101-C-18	1	0	195	45	4328			C24 45 x 195				1:27
19	EW101-C-19	1	0	195	45	4072			C24 45 x 195				1:27
20	EW101-C-20	13	0	195	45	560			C24 45 x 195				1:01

korras

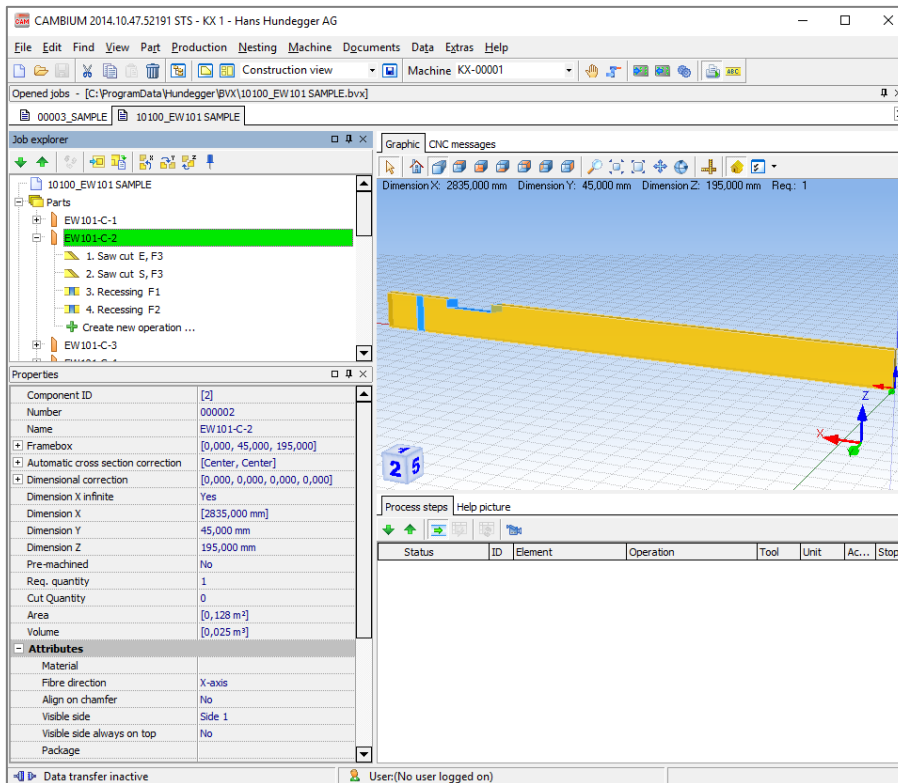
andmete tüübid: F4=info F9=valida BVN
 F6=põbramine F7=ümberkantmine / ?=optimeerimine

ehitusdetaili lugemine

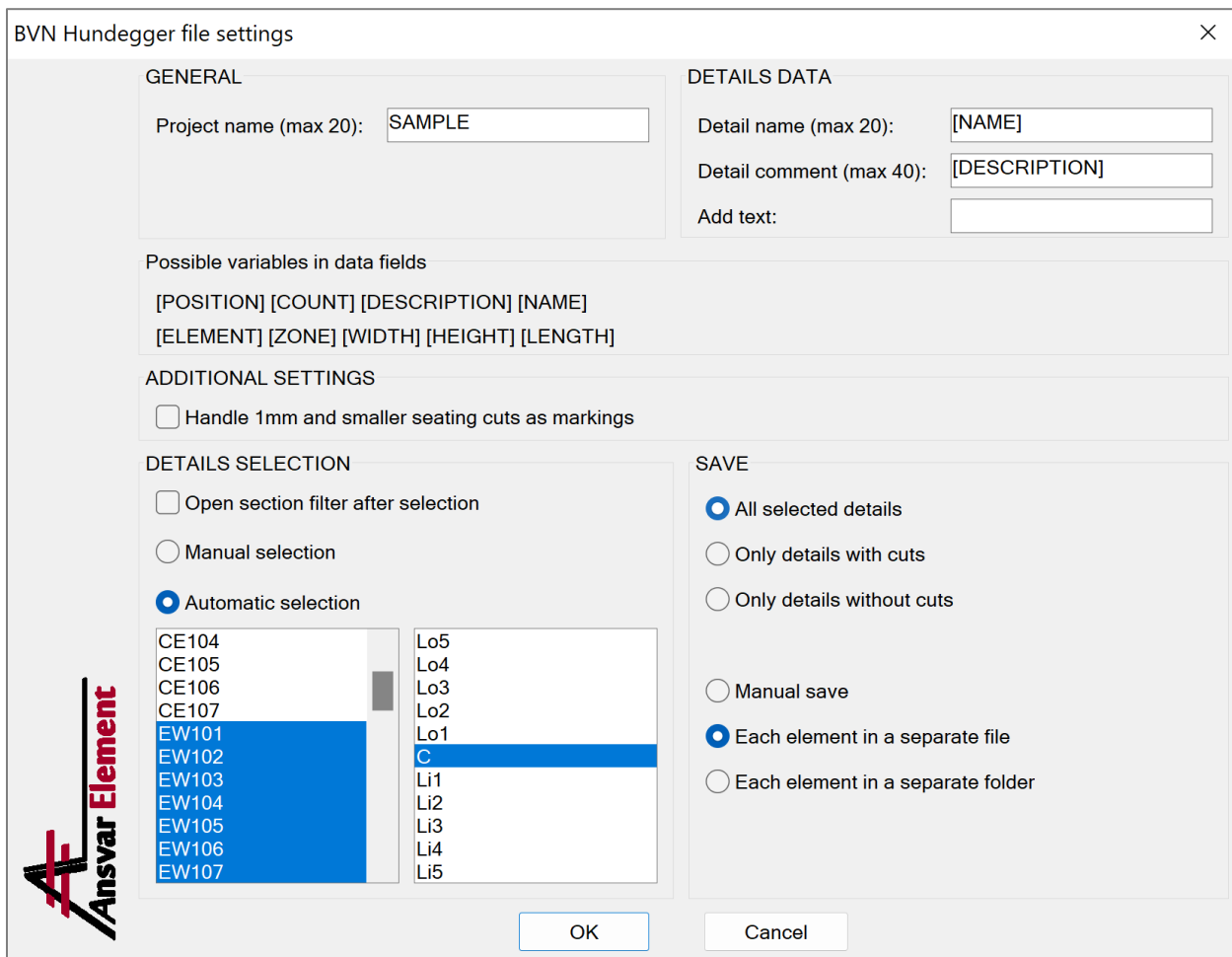
25 positsioon 46 tükki 96,401 jookev meeter 0,846 m² 1:10 h

0 ümberkantmised

C24 45 x 195



Selecting BVN Hundegger machine file generation opens the following window.



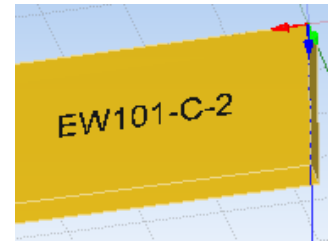
Project name is limited to 20 characters.

Detail name is limited to 20 characters. It is possible to use variables, in which case the 20-character limit applies to the end result. This means that if you were to use the variable [DESCRIPTION], the field would use up to 20 characters from the detail's description.

Detail comment is limited to 40 characters. It is possible to use variables, in which case the 40-character limit again applies to the end result. This means that if you were to use the variable [DESCRIPTION], the field would use up to 40 characters from the detail's description.

Detail number cannot be specified here, details are numbered automatically starting from 1 and increasing with each detail. Therefore, it is not derived from any specific detail. If only the details in a single element layer are selected, this number matches the detail's position number. If multiple elements or layers are selected, the number no longer matches the detail's position number, because the BVN detail number must be unique, but in each layer the numbers are repeated as they start again at 1.

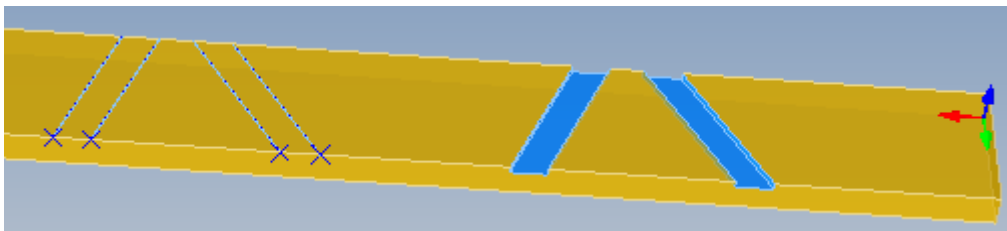
Add text is specific additional machine processing that can be applied to each detail. The function places text onto a detail. In BVN it is designed for machines that have a so-called pen for writing text directly onto a detail. Some machines, however, do not have a pen, but are configured to retrieve processing data to be written on a detail label that is printed separately by the machine for each detail.



The following variables can be used in **Detail name**, **Detail comment**, and **Add text**:
 [POSITION], [COUNT], [DESCRIPTION], [NAME], [ELEMENT], [ZONE], [WIDTH], [HEIGHT], [LENGTH].

Additional settings

If **Handle 1 mm and smaller seating cuts as markings** is selected, then the cuts are changed to markings, which means that instead of cuts, the machine will make marking lines in the corresponding places. In the figure below, on the left, seating cuts of less than 1 mm have been turned into markings, while on the right, the machine has made regular cuts.



Details' selection

If **Open section filter after selection** is selected, after detail selection, a window will open where the user can select the cross-sections of details to be added to the machine file. As machines often have restrictions due to which very small or very large cross-sections cannot be processed, this function frees the user from the need to find such details one by one.

If **Manual selection** is selected, the details must be selected from the drawing manually (the options listed below, as well as the element and zone are disregarded).

If **Automatic selection** is selected, the details are selected from the model automatically based on the selected elements and zones.

NOTE: The software supports both Mass Element and 3DSolid object selection. Additionally, details are not required to belong to any element, i.e. they can also be standalone details.

Save

NOTE: BVN assumes that the file name indicates the project number. Thus, the name should be a five-digit number, such as 00001.bvn, 12345.bvn, etc. Whether the name matches this format is not checked during saving.

All selected details will save all details that were selected.

Only details with cuts - only those parts that have any processing in addition to end cuts are saved.

Only details without cuts will save only those parts that have no machining (except 90 degree end cuts).

Manual save is regular saving, wherein the user is asked to choose where to save the file and what name to use.

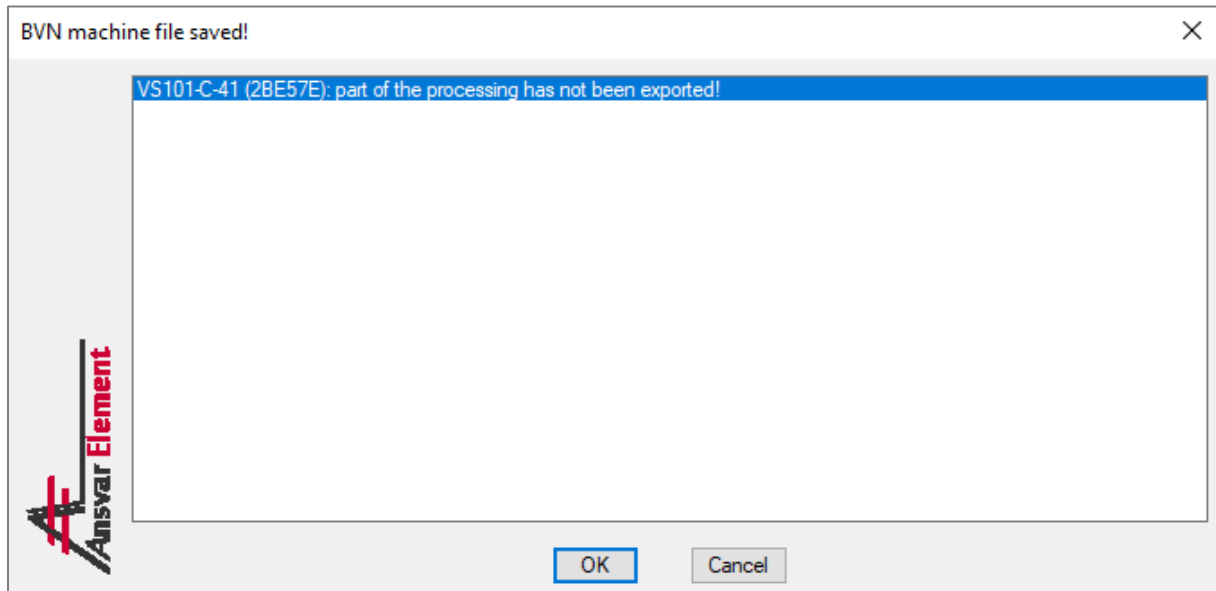
If **Each element in a separate file** is selected, then each element is automatically saved in a separate file. While the user is still asked to choose the save location and file name, the name is irrelevant and is not used for saving the files. The files are named automatically based on the element number (EW101 -> 10100.bvn). Each element group is placed in a separate folder (EW101 -> EW, IW101 -> IW, etc.), because elements of different groups are given the same name (both EW101 and IW101 are named 10100.bvn). If AnsvarCAD element external details are selected, both the folder and the file are named after the element/layer.

If **Each element in a separate folder** is selected, then each element is automatically saved in a separate folder. Folders are named after the element and files are named based on the element number.

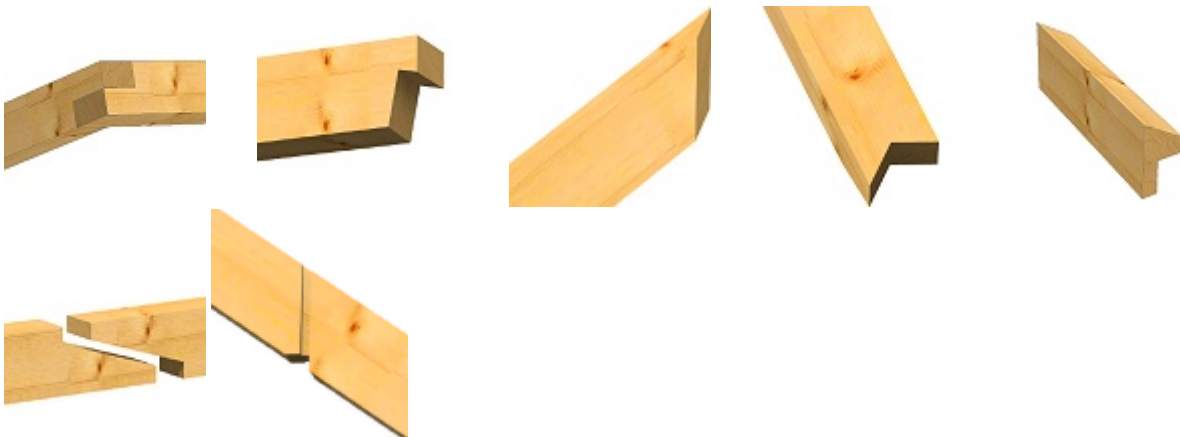
When saving into a separate file/folder, any existing files are overwritten.

Possible cuts

AnsvaCAD recognizes all the most common cuts, though in some cases it may not be possible to save a cut in a machine file. In such cases, the user will be notified, and the details can be post-processed later. The corresponding error messages are saved in the file *BVNerrors.txt*.

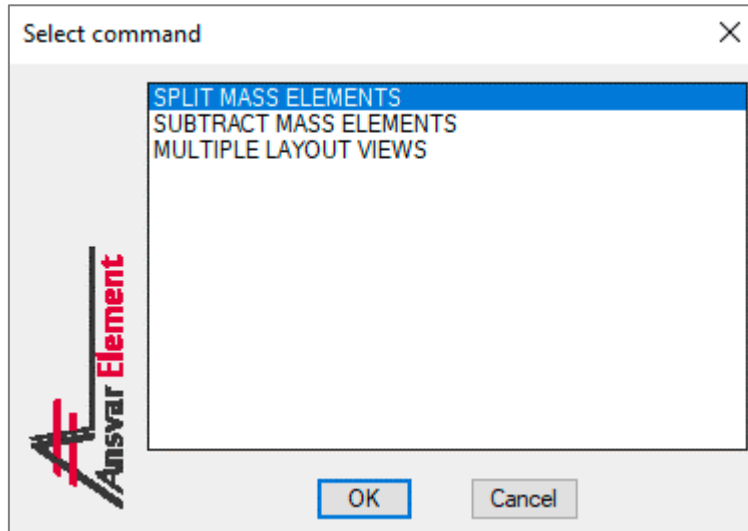


Most common cuts:



3.13. AEM_Commands

This command displays a list of additional commands and the options available depend on the software license. This list also includes any custom commands ordered by the customer.

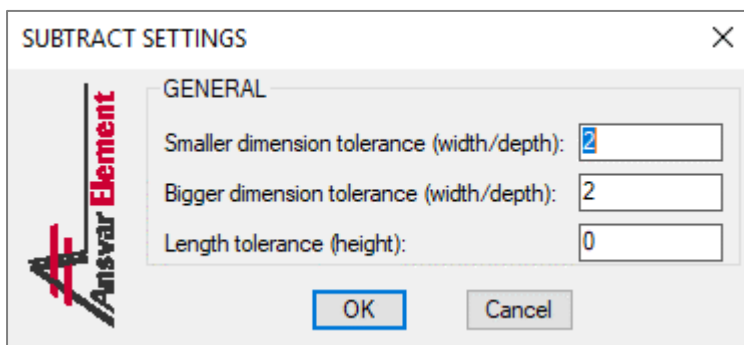
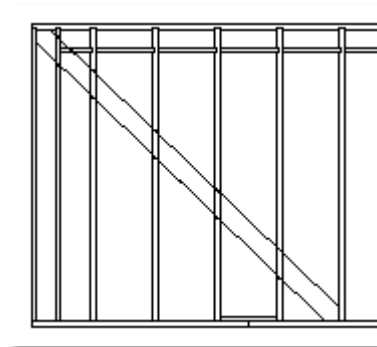


3.13.1. Split Mass Elements

While details can also be split using the AutoCAD command `MASSELEMENTDIVIDE`, the latter can only be used to process details one by one. The **Split Mass Elements** command, however, enables multiple details to be split simultaneously. It is similar to the AutoCAD command, but enables several details to be selected and split together.

3.13.2. Subtract Mass Element

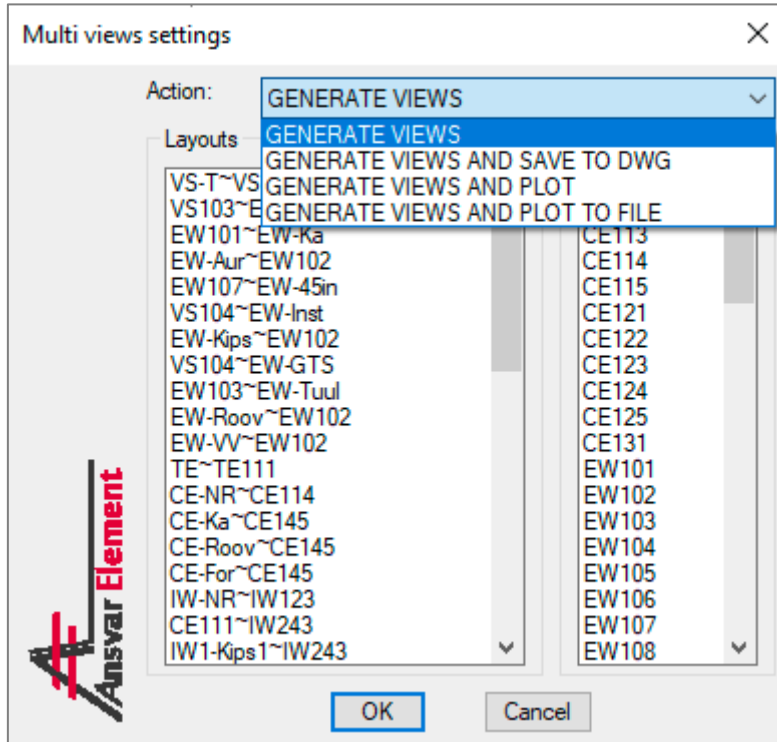
While details can also be subtracted from other details using the AutoCAD command `MASSELEMENTSUBTRACT`, the latter has certain restrictions. More specifically, it only allows one detail to be subtracted from at a time. **Subtract Mass Elements** is an improved version of the AutoCAD command that enables multiple details to be both subtracted from as well as used for subtracting. This is useful if, for example, you have a diagonal in an element frame and need to cut a mortise into multiple columns for seating the diagonal.



You can also specify an additional tolerance, in which case a larger cut is made for the mortise. Tolerances are defined based on the cross-section, meaning that the tolerance is not defined for the width, but for whichever dimension is smaller/larger on the detail to be cut.

3.13.3. Multiple Layout Views

In layouts, elements can be generated one at a time (see 3.6. AEM_ViewElement). However, if you wish to simultaneously generate multiple layouts or generate and plot multiple layouts and multiple elements, you can use the command **Multiple Layout Views**.



With **GENERATE VIEWS**, the selected elements are generated in the selected layouts. In this case, selecting multiple elements has no effect: the result will be layouts generated with the last element.

With **GENERATE VIEWS AND SAVE TO DWG**, the selected elements are generated in the selected layouts which are then saved as a DWG file in the specified location. Before generation, the user is asked to choose the save location. The file name set by the user during saving is irrelevant and is disregarded, as the file is named after the layout.

With **GENERATE VIEWS AND PLOT**, the selected elements are generated in the selected layouts and plotted using the plotter assigned in the layout.

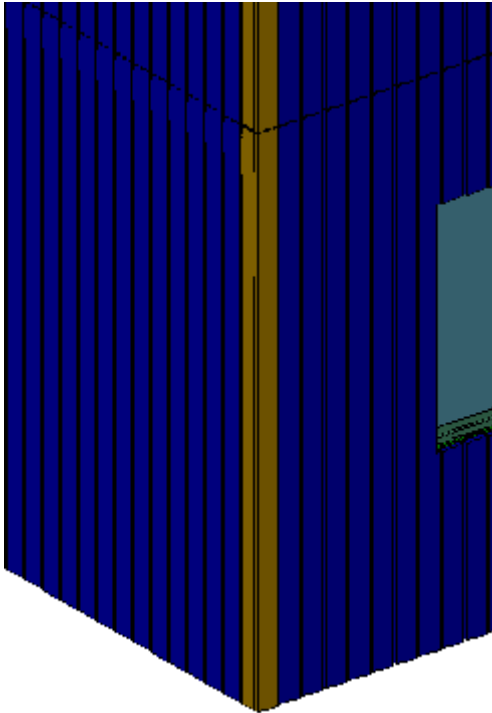
ATTENTION! If the assigned plotter is a PDF or another plotter that saves a file instead, you should choose the next option. Otherwise, you will receive an error if the file already exists, as the function expects a regular plotter and is unable to handle exceptions (which in this case means that AutoCAD will freeze and close).

With **GENERATE VIEWS AND PLOT TO FILE**, the selected elements are generated in the selected layouts and plotted to a file using the (PDF, DWF or other) plotter assigned in the layout. Before generation, the user is asked to choose the save location. The file name set by the user during saving is irrelevant and only the entered file extension is used, while the file is named after the layout. If no file extension is entered, it is set to PDF.

3.14. AEM_ToOnSite ja AEM_ToElement

These commands allow you to determine whether the details will go to the element or be installed on the site (*On Site*). In the case of non-elementary or object-mounted details, they remain associated with the layer of a particular element, but they are not shown when the element drawings are generated. They are also marked with an *OnSite* note in the specification.

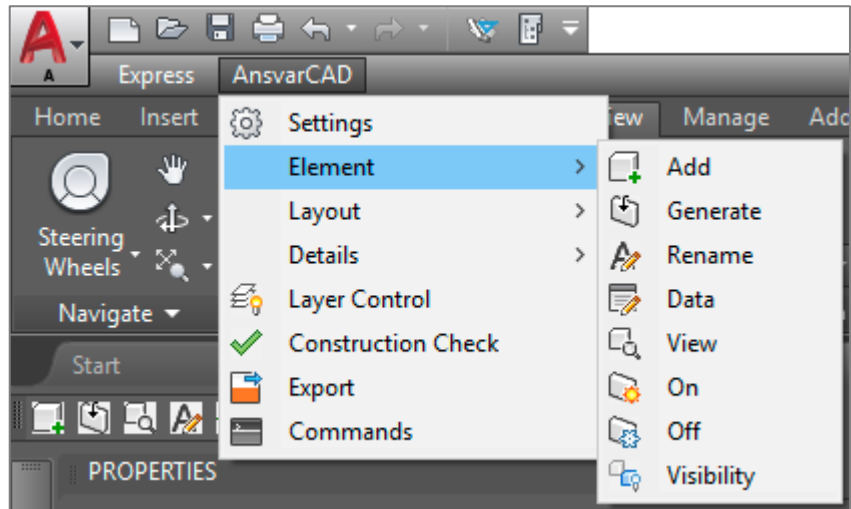
Details are automatically colored with another color (see `AEM_SETTINGS`), raising them back to the element is determined by color again *byLayer*. `AEM_LAYERCONTROL` allows you to turn on / off the appearance of non-elementary details.



4. Working with the software

4.1. Menus

AnsvarCAD operations can be run via commands or menus. There are two menus: the toolbar and the menu on the menu bar. Both menus should be automatically loaded when AnsvarCAD is started. If the top menu bar is not visible, run the command `MENUBAR` and set its value to 1.



4.2. Error Messages

While the software has been designed to run smoothly, there will inevitably sometimes be situations where not everything is working as it should. To deal with such cases, the software is equipped with an error code system. Error codes may not be informative to the user but will be useful to the developer.

If there is an error, an error message that looks as follows will appear on the command line:


```
ERROR: Error message
Error code: LVE003
```

If such a situation arises and repeats, the information in the error message should be forwarded to the developer. The information should be accompanied by a description of the actions that led to the error message appearing. The code in the error message can be used to identify the cause of the error and the appropriate solution.

The software has been developed in a way that ensures that there are no hidden connections in AnsvarCAD models and that errors would not damage the models. Thus, all software errors should be resolvable and there is no need to worry about models becoming unusable at any point.

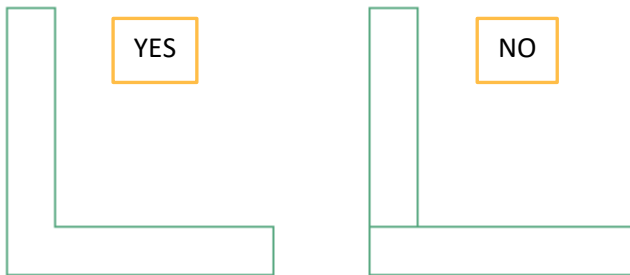
4.3. Working with elements

4.3.1. Adding elements

Before AnsvaCAD elements can be added using the `AEM_ADDELEMENT` command, there needs to be an AutoCAD Wall available. To add an AutoCAD Wall, run the command `WALLADD` or select  Wall from the menu.

Before drawing an element, define its parameters. These are primarily *Width* and *Base height*; additionally, *Clean up automatically* should be set to *No*.

The latter determines how the corners of the element are drawn. If it is set to *Yes*, the result is a so-called clean corner. If it is set to *No*, the ends of the element will be visible, which is necessary to be able to see where the element begins and ends.



Properties

No selection

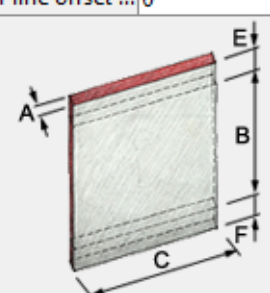
BASIC

General

Description	
Style	Standard
Bound spaces	By style (Yes)
Cleanup autom...	No
Cleanup group ...	Standard
Segment type	Line

Dimensions

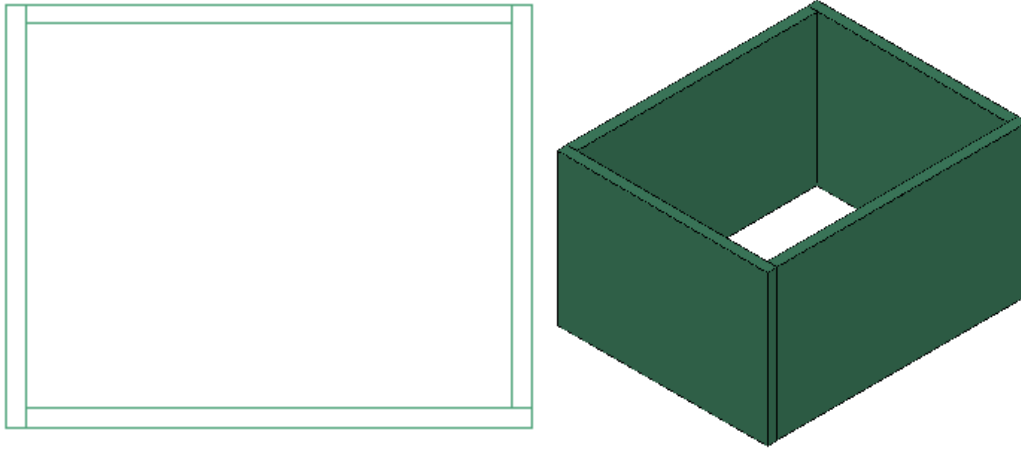
A Width	195
B Base height	3000
C Length	1
Justify	Baseline
* Offset	0
*E Roof line offset ...	0
*F Floor line offset ...	0



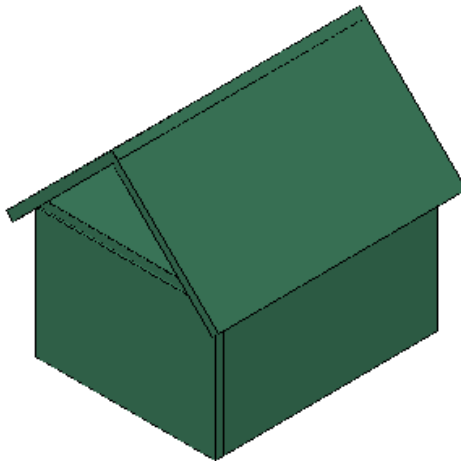
Location

Rotation	0
Elevation	0

To draw an element after running the `WALLADD` command, simply indicate its start and end point. The result will appear as follows:





If you wish to add a partition floor or roof element, simply use an AutoCAD Wall as described above and rotate it into the correct position. Later, during element generation, the position of the element will be taken into account and layers will be added in the correct position.




4.3.2. Adding a door, window or opening

After adding your elements, add the infills.

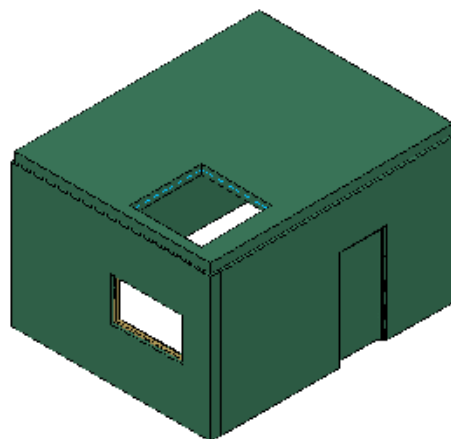
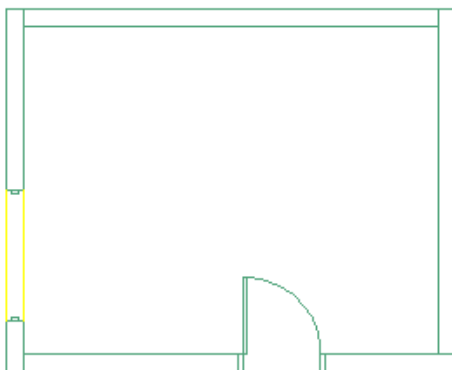
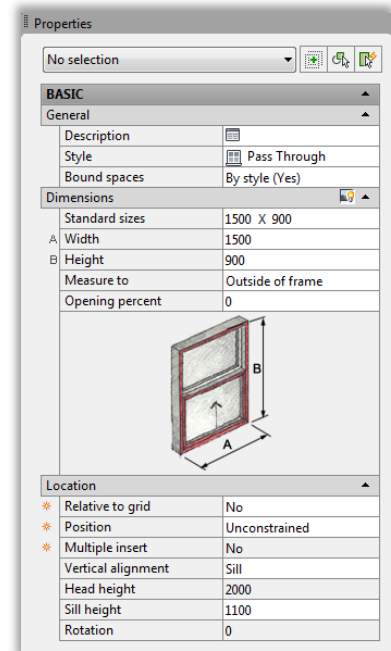
To add a door, run the command `DOORADD` or select  **Door** ▾ from the menu.

To add a window, run the command `WINDOWADD` or select  **Window** ▾ from the menu.

To add an opening, run the command `OPENINGADD` or select  **Door** ▾ from the menu.

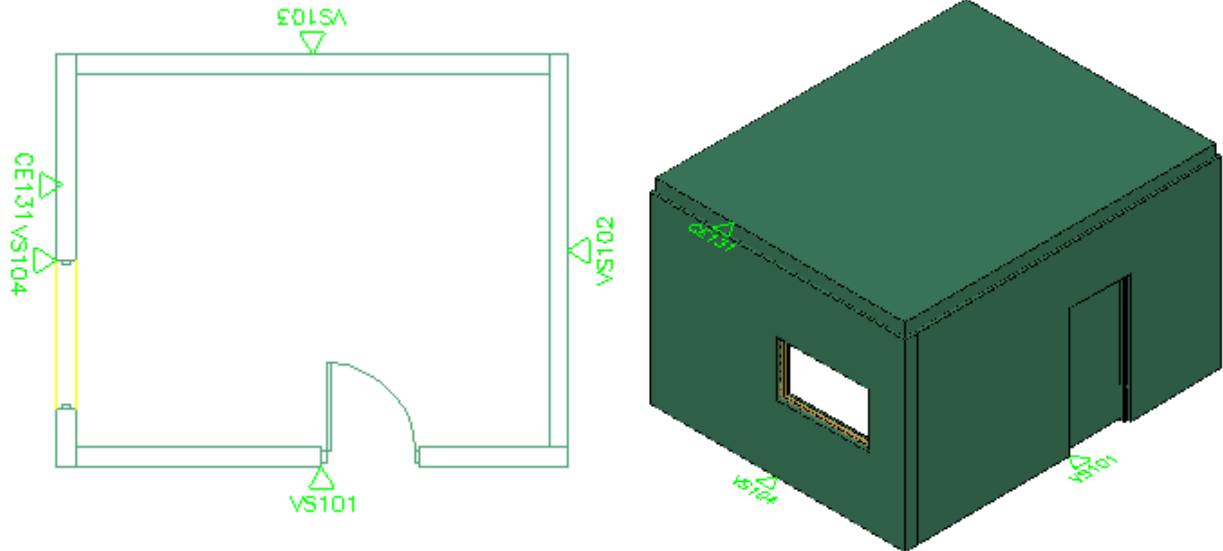
Similarly, to adding elements, after running the command, you must define the parameters of the added infill: *Width*, *Head height*, *Sill height*.

Next, mark the element to which you wish to add the infill and then its location along the length of the element. The parameters and location of infills can be edited later.



4.3.3. Adding element data

After adding your AutoCAD walls and infills, run the `AEM_ADDELEMENT` command (see §3.2) to transform the existing walls into AnsvarCAD elements.



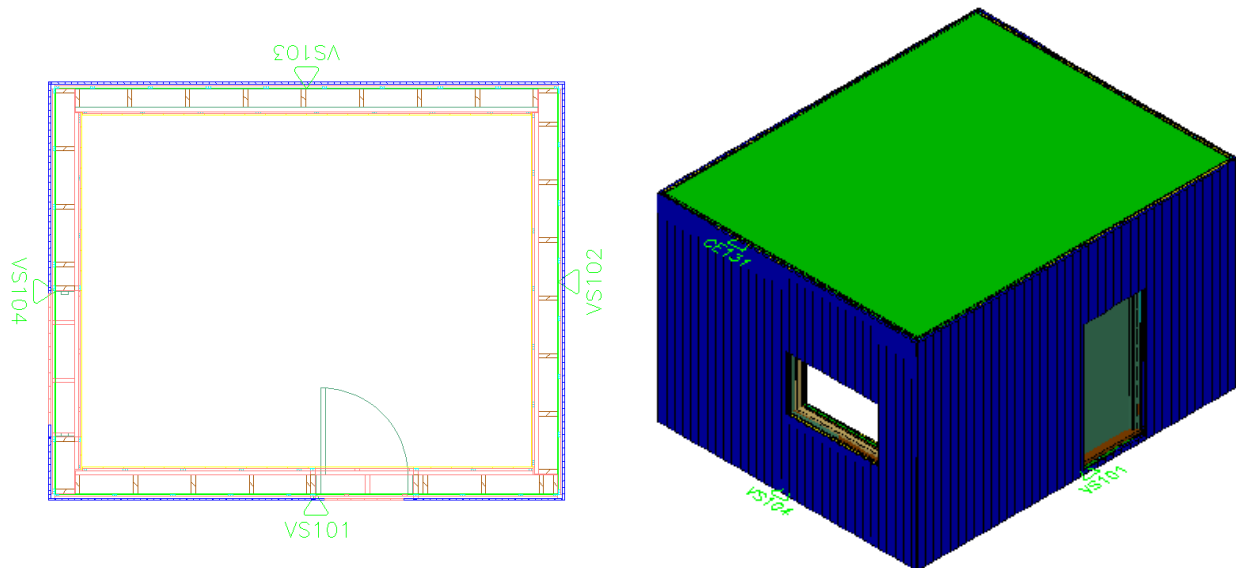
The elements and infills will still be AutoCAD objects and you will be able to modify them just as before, transforming them into AnsvarCAD elements. However, the elements will now be positioned in a specific layer indicated by a tag next to the element.

NOTE: Infills should also be added to the layer of the element to which they belong so that switching the element on/off later would reveal/hide the infills together with the element. Moreover, you will not be able to add any data (`AEM_DATA`) to the infill before this is done.

After an element or infill has been transformed into an AnsvarCAD element, you can modify its AnsvarCAD settings by running the command `AEM_DATA` (see §3.4.1 and §3.4.2).

4.3.4. Generating and viewing elements

After an element has been created and configured together with its infills, you will be able to generate an element model with all the layers. Element models can be generated using the command `AEM_GENELEMENT` (see §3.5).



Running the command will generate a model with all the layers of the element. Details are AutoCAD **Mass Elements**. These are parametric objects with a width, depth, and height. Parameters can be modified, and the elements are easy to process (split, merge, subtract, etc.), unlike 3DSolids. Mass Elements can be converted into 3DSolids and vice versa (see §4.4 Mass Element).

The details of generated elements are all placed in separate layers. Details can be moved between layers or elements simply by changing the layer of the detail (see §3.10 AEM_RENAME).

Each element detail is placed in a differently colored layer to make it easier to view them and prepare element drawings later. As Mass Elements themselves do not have a *Color* parameter, this cannot be used for changing the color of individual details. Instead, to change the color of an individual detail, you can use the *Style* parameter (see §4.4 Mass Element).

Individual elements can be viewed using the command `AEM_VIEWELEMENT`, which brings the element into front view and switches off all other elements in the same group. This command also makes it easy to view, for example, roof elements or other elements positioned at an angle, where the front view is otherwise difficult to set up.

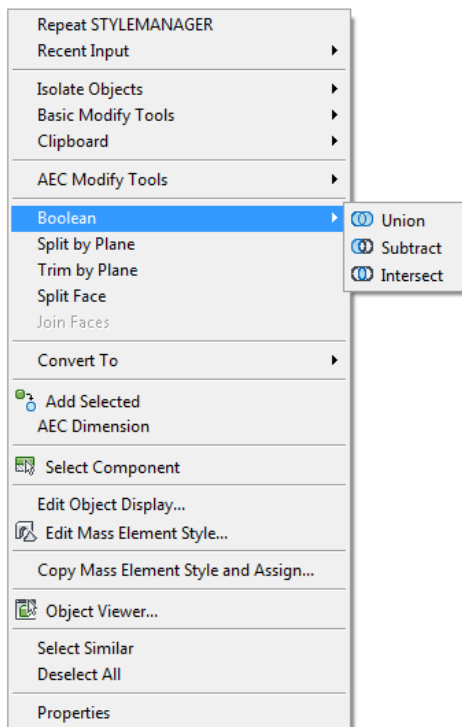
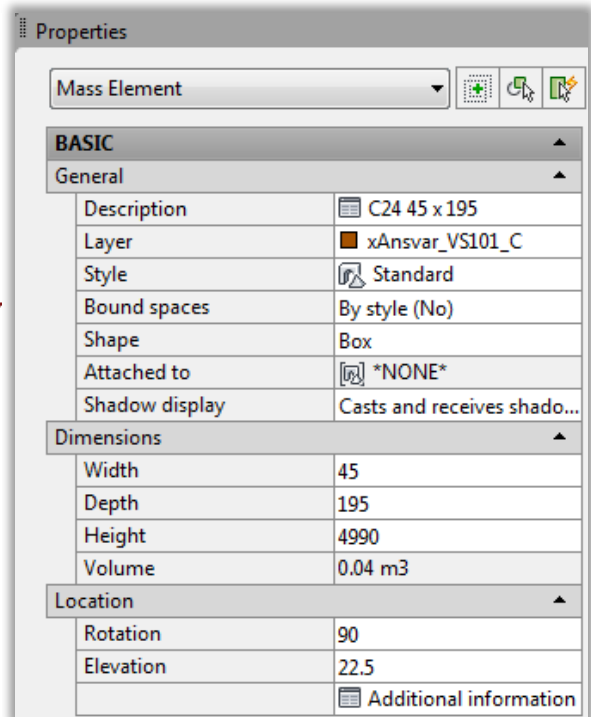
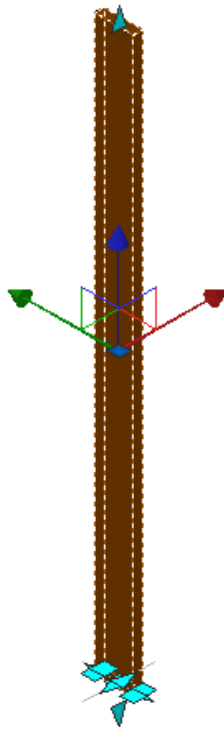
Individual element layers can be switched on/off using the command `AEM_LAYERCONTROL`, while elements as a whole can be switched on/off using the commands `AEM_OnElements` and `AEM_OffElements`.

4.4. Mass Element

4.4.1. Mass Element object

Mass Elements are parametric objects with a width, depth, and height. Parameters can be modified, and the elements are easy to process (split, merge, subtract, etc.), unlike 3DSolids. Mass Elements can be converted into 3DSolids and vice versa.

Shape is a major parameter of Mass Elements. There are many options to choose from, but the most important one is *Box*, which corresponds to a rectangular object. When a Mass Element is processed (cut, for example), this setting is changed to *Freeform*. Changing it back to *Box*, removes the processing and restores the Mass Element to a rectangular object. This is useful if, for example, you have added a diagonal to an element and cut a notch into a column for the diagonal, but then decide to remove it.

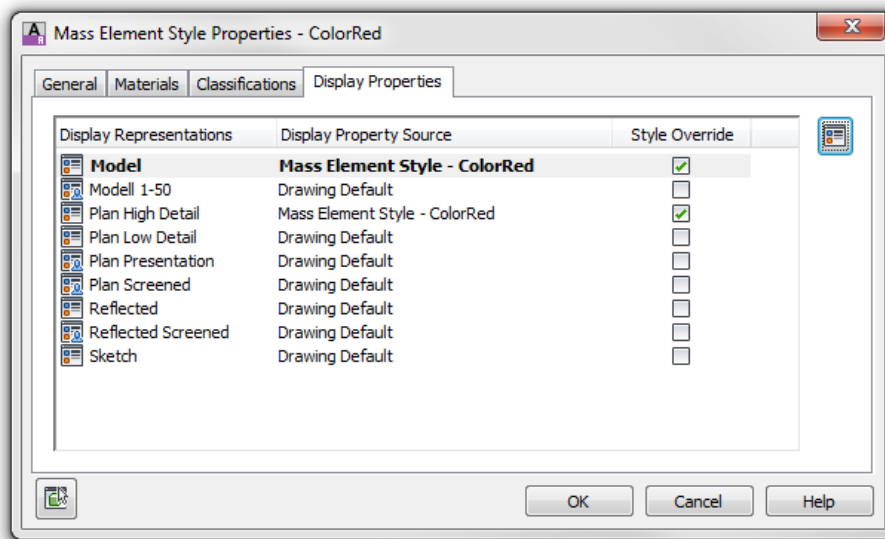


Right-clicking a Mass Element opens a list of options for processing.

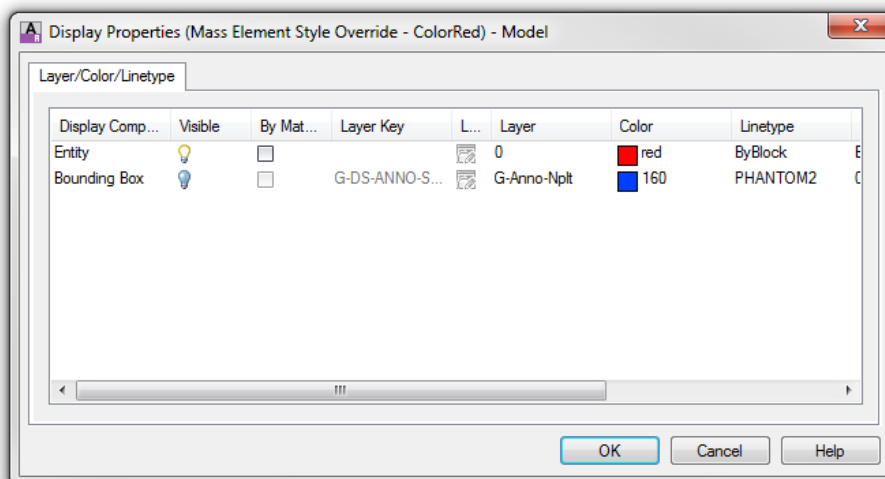
4.4.2. Mass Element color

As Mass Elements themselves do not have a *Color* parameter, this cannot be used for changing the color of individual details. Instead, to change the color of an individual detail, you can use the *Style* parameter. Initially, the only available option is *Standard*.

- To create a new style, right-click a Mass Element and select *Copy Mass Element Style and Assign*.
- In the window that opens, select the *General* tab and enter a suitable name under *Name*, for example, *ColorRed*.
- Select the *Display Properties* tab and tick the box for *Model*. Highlight *Model* and click the *Edit Display Properties* button in the top right corner.



- In the following window, under *Entity* untick *By Material* and select a suitable color under *Color*.

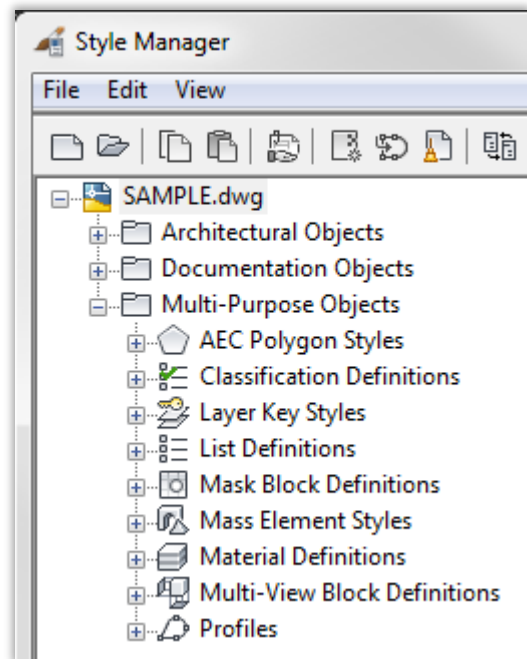


- Select *OK* and *OK*.

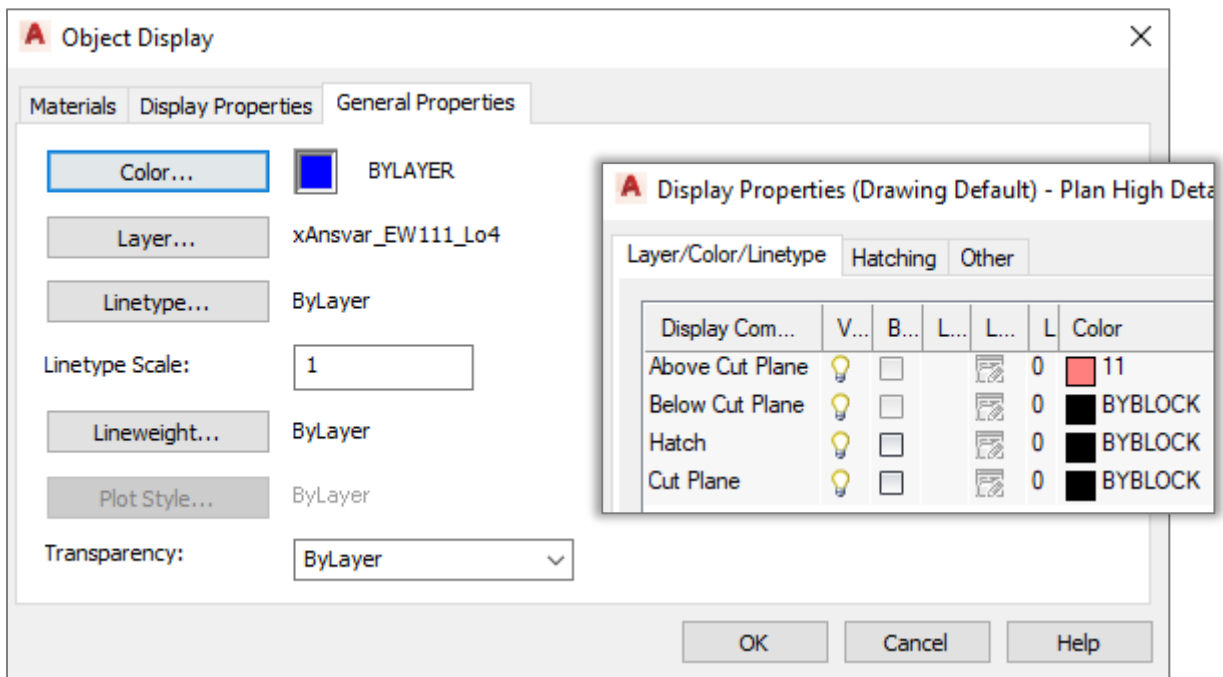
Now we have created a new style, which, when applied to a Mass Element, changes its color accordingly.

Styles can also be accessed from the menu *Manage – Style Manager* or by using the command *_AecStyleManager*. The window that opens contains a menu tree with the nodes *Multi-Purpose Objects – Mass Element Styles*. There, you can also create new styles or delete existing ones.

The same logic regarding styles also applies to all other AutoCAD objects, such as *wall, window, door, opening*, etc. Their styles can be found in the menu tree, under *Architectural Objects*.

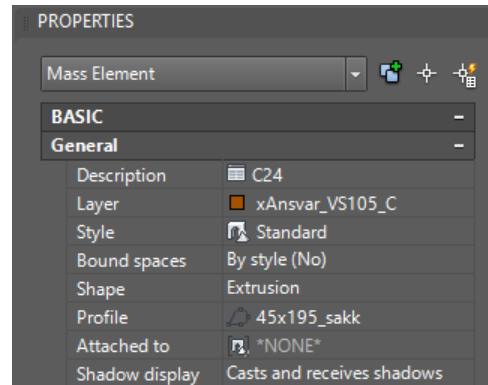


It is also possible to set the color using *Edit Object Display* (right click on the drop-down menu). This requires that under the *Mass Element Style* color is set to *byBlock*.

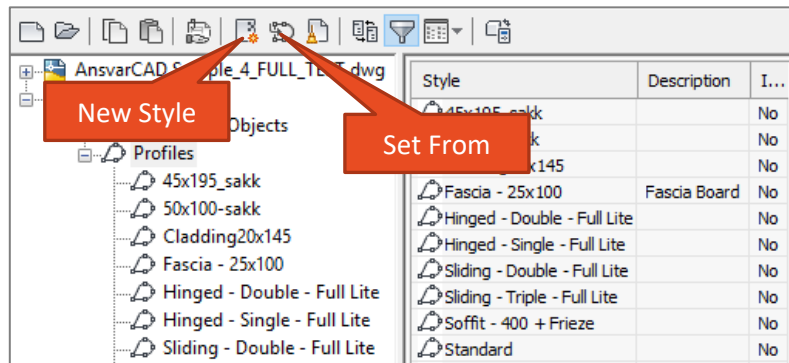


4.4.3. Mass Element profile

If *Mass Element* parameter *Shape* = *Extrusion* then it is possible to assign a profile. In this case, instead of a rectangular detail, a special shape is obtained. These profiles can also be set in the element settings, in which case the details are already generated with the desired profile.

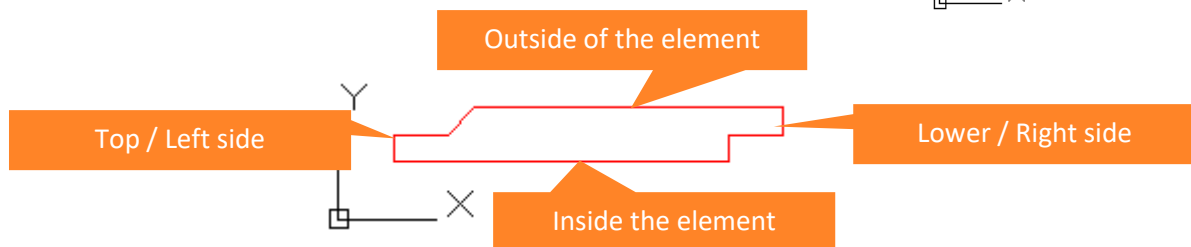
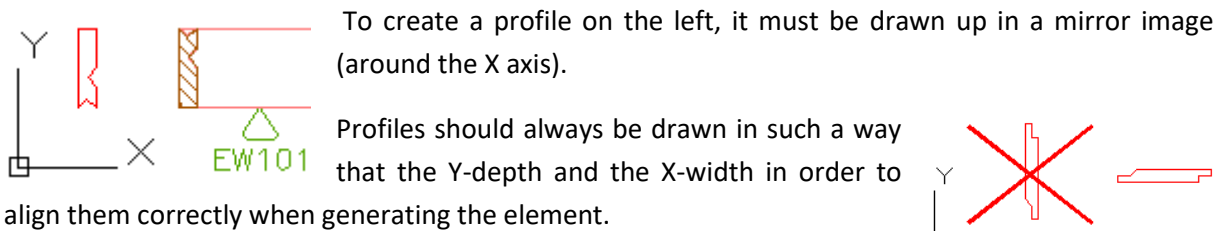


You must run **PROFILEDEFINE** to manage the selection of profiles. The *Style Manager* window opens, where you can create new profiles and manage existing ones.



To create a new profile, right-click on existing ones and select *New* or *New Style* from the menu.

You can set the shape of the profile by right-clicking on the profile and selecting *Set From* or selecting the same option from the menu. After making the selection, you need to choose the existing polyline, spline, ellipse or circle (*Add another ring?* <No>, <Centroid>). The profile is then created, and its shape also appears in the *Style Manager* window.



NOTE: In the outer layer and in the inner layer for the board, two different profiles have to be created to align them correctly.

4.5. Position numbers

In element working drawings and exported data, each object is assigned a separate position number. Position numbers are assigned automatically based on the current state. Identical objects are given the same number. Position numbers are indirectly related to the time of creation of the object in the model, i.e. objects created earlier are given a smaller position number and those created later a larger one. If an identical object already exists, the new object receives the same number as the earlier one. Compared parameters correspond to the columns of the export table (type, depth, width, height, m²/m³, description).



In each layer/zone of an element, position numbers start again at 1. Thus, element + zone + pos. No. make up a unique object code, such as VS101-C-1, VS101-Li1-1, TE101-C-1, etc.



















When modifying an object, bear in mind that it may also cause the position numbers of other objects in the layer/zone to change. For example, deleting the object at pos. 1 also changes the position number of all other objects.



Changing the shape of an object to be similar/different to that of other objects can also cause the position number of other objects to change.



When moving an object from one layer or element to another, the new state of position numbers will again depend on the time of creation of the object compared to others. The time of creation is the time of entering the object in the model, not of placing it in the zone.

				Created first/earlier	
				Created second/later	
					The result of moving an object from a layer created earlier to another
					The result of moving an object from a layer created later to another

NOTE: Always bear in mind that modifying an object may also cause the position numbers of other objects in the layer/zone to change. This should also be considered with regard to previously created element drawings and exports.

4.6. Working drawings

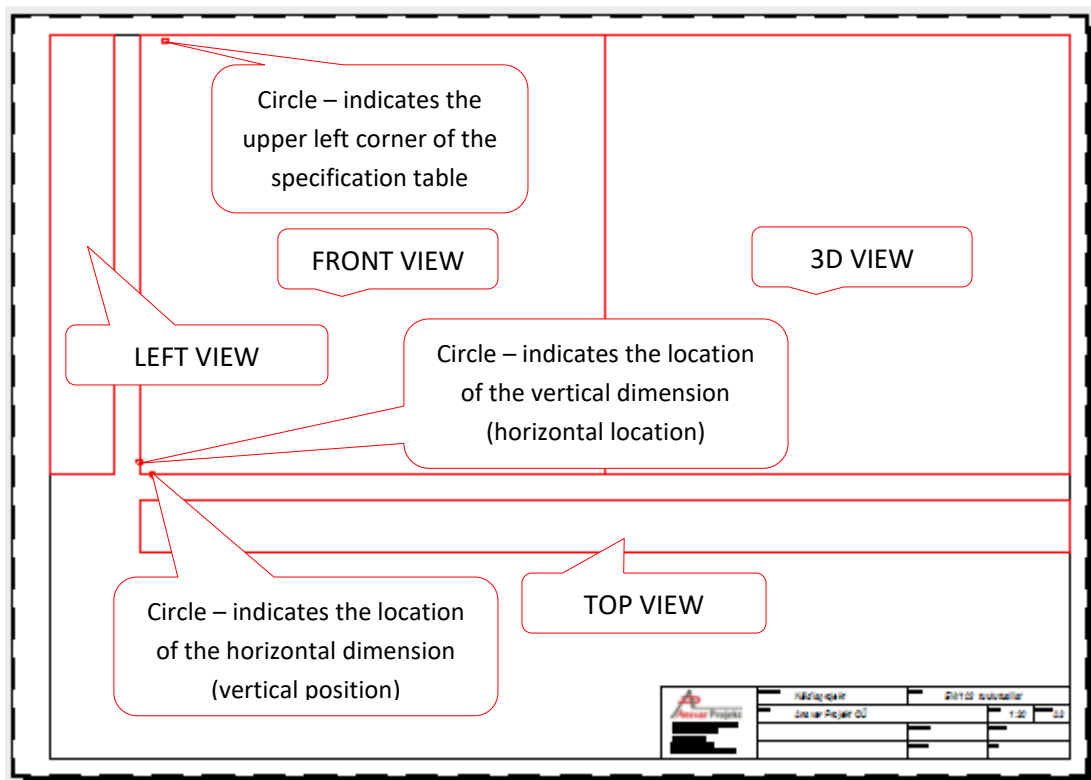
The formatting of working drawings is fully configurable. Working drawings are generated in pre-formatted layouts. During your first few uses of the software, you will need to devote some time to creating the initial templates, but once they are ready, they can then be reused and customized as necessary.

To create a new template for a working drawing, add a new layout with a suitable name:

Model \ VS-T \.

4.6.1. Views

In the created layout, add new viewports where you wish to place different element views. Suppose we need to create a template with a front, left, top, and 3D view of an exterior ventilated batten. For this, we would need to create four different viewports – at the time of creation, what the viewport shows is irrelevant. We also want the drawing to include a details' specification table and both a horizontal and a vertical chain dimension. To do so, draw regular circles in the appropriate locations.



NOTE: A viewport is a “window” into a model. For each viewport, the user can assign a position from which to view the model and define which part of the model should be visible. The viewport has no effect on the model itself.

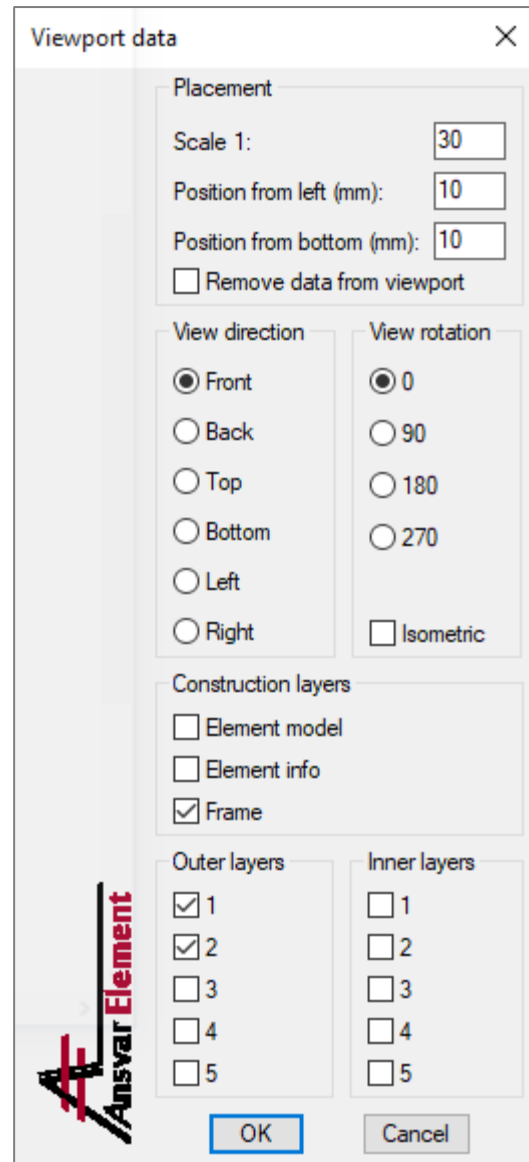
After creating a viewport, you will need to supply it with AnsvarCAD data by running the command `AEM_DATA` (see §3.4.3).

Front view settings:

- Scale: 1: 30
- Position from left and from bottom: 10 mm
- View direction: Front
- View rotation: 0
- Construction layers: Frame
- Outer layers: 1, 2
- Inner layers: -

Enabled outer layers include layers 1 and 2, where layer 1 is a wind barrier layer and layer 2 is the layer of the ventilation batten to be viewed. Other layers do not need to be visible in our drawing.

Other views have similar settings, only the *View direction* setting is different. In a 3D view, *Isometric* must also be selected.



4.6.2. Specification table

Specification table settings can also be configured using the `AEM_DATA` command (see §3.4.4). Run the command and select the previously created circle that marks the top left corner of the specification table. Since it is a regular circle with no data added yet, you are then asked to specify the type of the circle (dimensioning circle or detail circle).

In the window that opens, you will be able to configure the settings of the specification table:

- Design: freely customizable
- Layers: 2 outside (layer of the ventilation batten)
- Columns: freely customizable

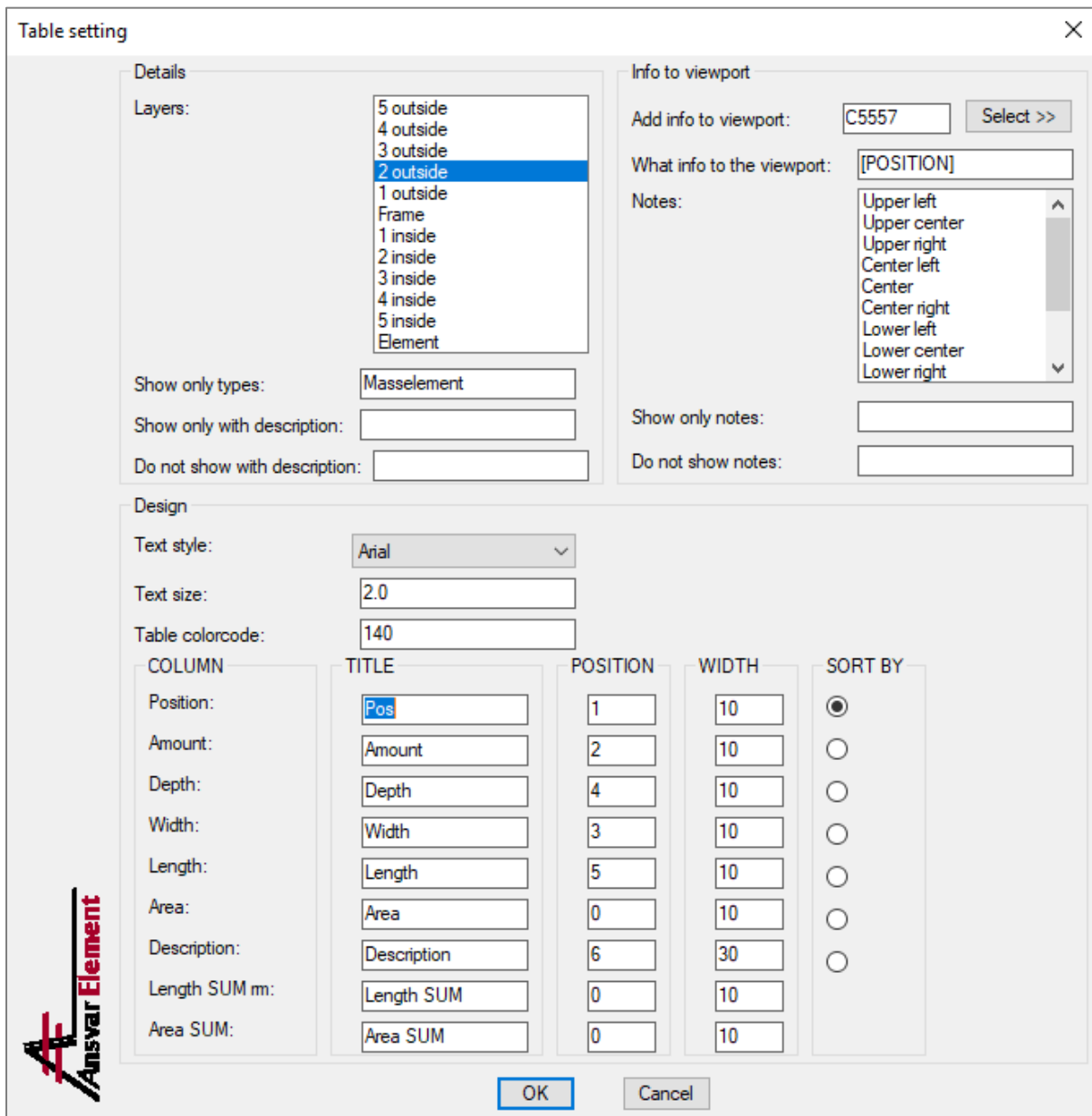


Table setting

Details

Layers:
 5 outside
 4 outside
 3 outside
 2 outside
 1 outside
 Frame
 1 inside
 2 inside
 3 inside
 4 inside
 5 inside
 Element

Show only types:

Show only with description:

Do not show with description:

Info to viewport

Add info to viewport:

What info to the viewport:

Notes:
 Upper left
 Upper center
 Upper right
 Center left
 Center
 Center right
 Lower left
 Lower center
 Lower right

Show only notes:

Do not show notes:

Design

Text style:

Text size:

Table colorcode:

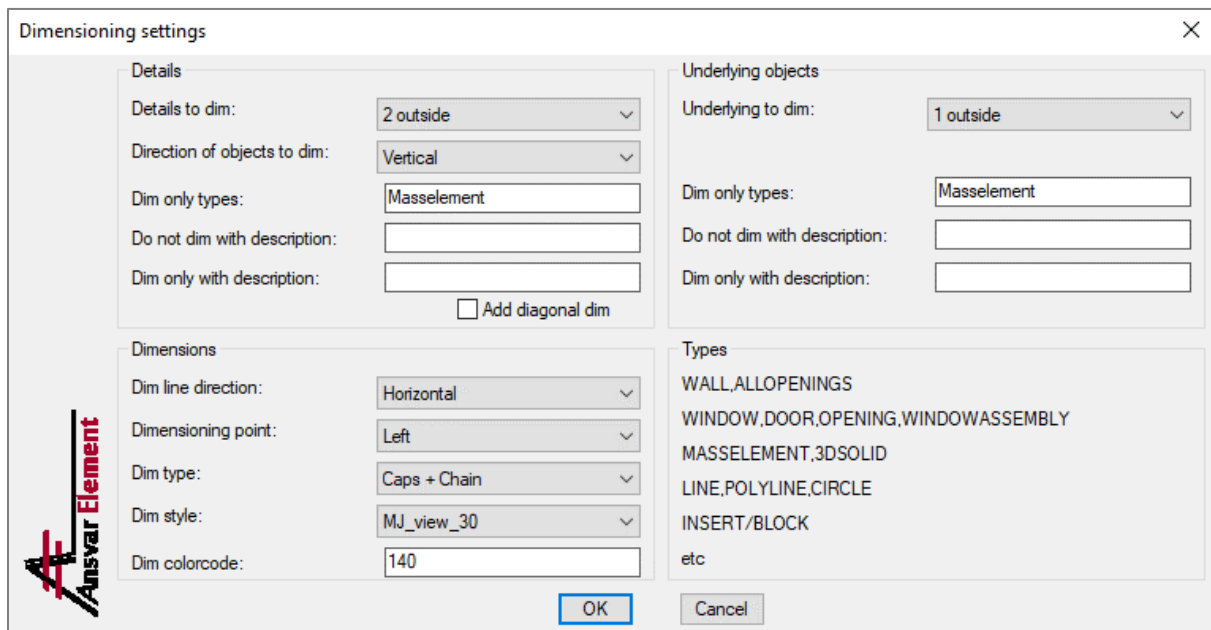
COLUMN	TITLE	POSITION	WIDTH	SORT BY
Position:	<input type="text" value="Pos"/>	<input type="text" value="1"/>	<input type="text" value="10"/>	<input checked="" type="radio"/>
Amount:	<input type="text" value="Amount"/>	<input type="text" value="2"/>	<input type="text" value="10"/>	<input type="radio"/>
Depth:	<input type="text" value="Depth"/>	<input type="text" value="4"/>	<input type="text" value="10"/>	<input type="radio"/>
Width:	<input type="text" value="Width"/>	<input type="text" value="3"/>	<input type="text" value="10"/>	<input type="radio"/>
Length:	<input type="text" value="Length"/>	<input type="text" value="5"/>	<input type="text" value="10"/>	<input type="radio"/>
Area:	<input type="text" value="Area"/>	<input type="text" value="0"/>	<input type="text" value="10"/>	<input type="radio"/>
Description:	<input type="text" value="Description"/>	<input type="text" value="6"/>	<input type="text" value="30"/>	<input type="radio"/>
Length SUM m:	<input type="text" value="Length SUM"/>	<input type="text" value="0"/>	<input type="text" value="10"/>	<input type="radio"/>
Area SUM:	<input type="text" value="Area SUM"/>	<input type="text" value="0"/>	<input type="text" value="10"/>	<input type="radio"/>

4.6.3. Chain dimensions

Chain dimension settings can also be configured using the `AEM_DATA` command (see §3.4.5). Run the command and select the previously created circle that marks the location of the chain dimension. Since it is a regular circle with no data added yet, you are then asked to specify the type of the circle (dimensioning circle or detail circle).

In the window that opens, you will be able to configure the settings of the chain dimension:

- Details to dimension: 2 outside (ventilation batten)
- Underlying objects: 1 outside (wind barrier board)
- Dimension line direction: Horizontal
- Dimensioning point: Left
- Direction of objects to dim: Vertical
- Dimension line type: Caps + Chain
- Dimension line style: freely customizable
- Dimension line color code: freely customizable

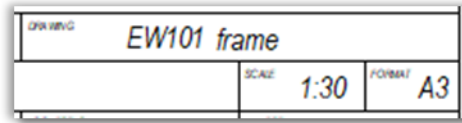


The settings of the vertical chain dimension line are similar, the only differences are:

- Dimension line direction: Vertical
- Dimensioning point: Left + Right
- Direction of objects to dim: All

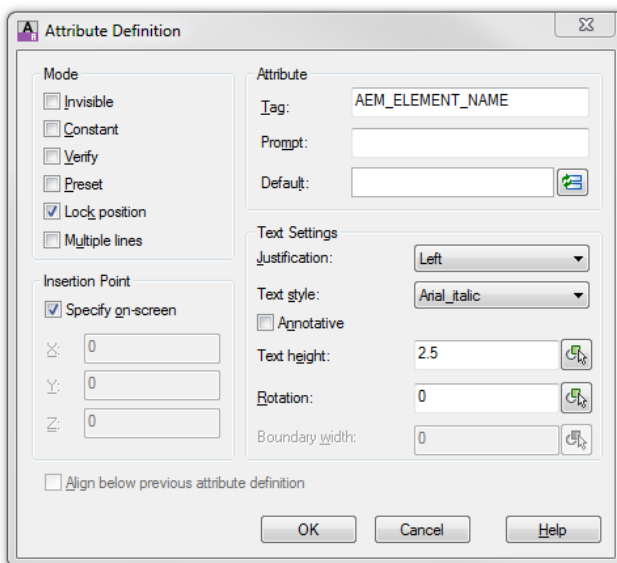
4.6.4. Element tag

If the layout has a block containing an attribute named `AEM_ELEMENT_NAME`, the name of the element will also be added to that. This enables the user to create title blocks where the name of the element changes automatically when an element is generated.

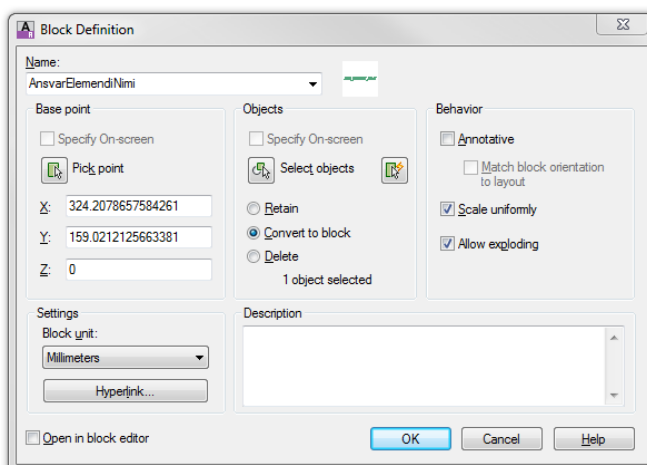


To create such a block, follow these steps:

- Select *Insert – Define Attributes* from the menu or run the command `_ATTDEF`.
- In the window that opens, enter `AEM_ELEMENT_NAME` under *Tag* and select the style and size of the text.



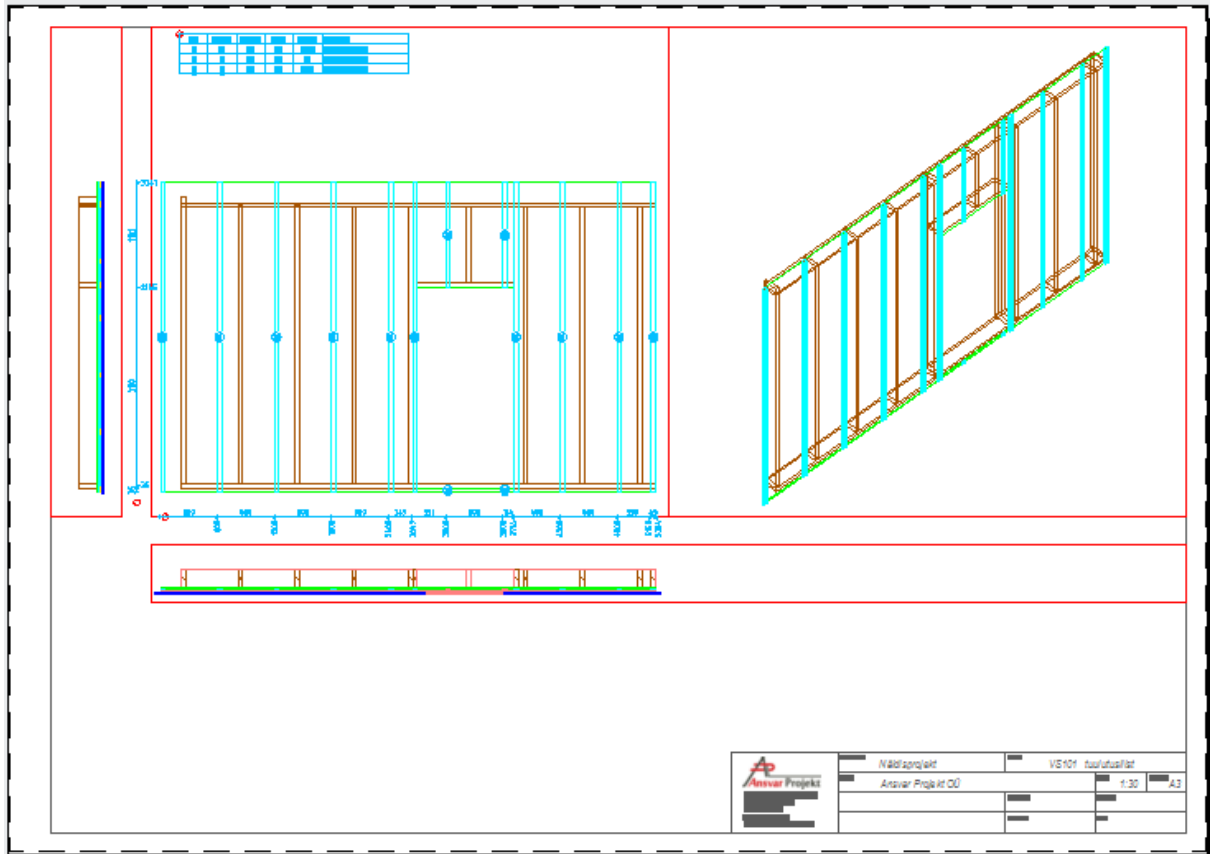
- Then select the appropriate location in the drawing to add the attribute to the drawing.
- Create a new block by running the `BLOCK` command.
- Enter a suitable *Name*, *Base point* (near the attribute), select the previously created attribute using *Select object* (you can also select additional objects, such as the entire title block).




- When you are finished, click *OK* to create the new block.

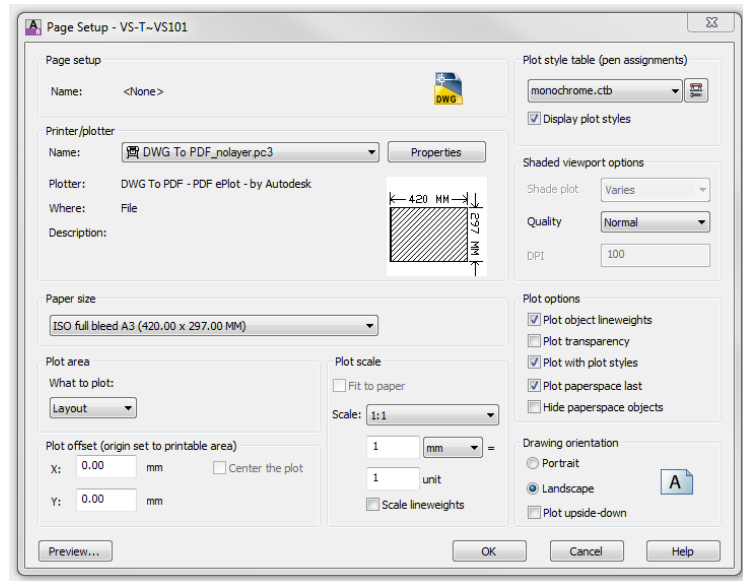
4.6.5. Generating a working drawing

After setting up the work drawing, run the command `AEM_VIEWELEMENT`. You are asked to specify the name of the element and then a working drawing is generated based on the previously defined settings.



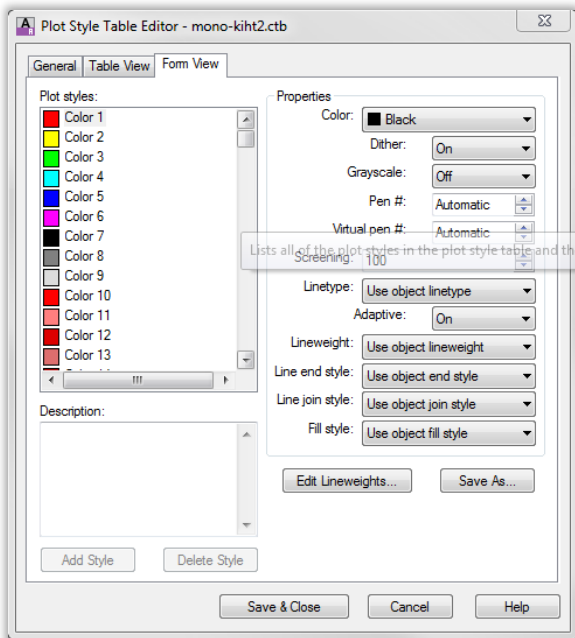
By default, the working drawing is highly multicolored, which can make it difficult to understand. There are several options in AutoCAD to correct this.

Right-click the *Layout* tab  and select *Page Setup Manager* or run the command *PAGESETUP*. In the window that opens, select *Modify* to open the layout plotting setup window.



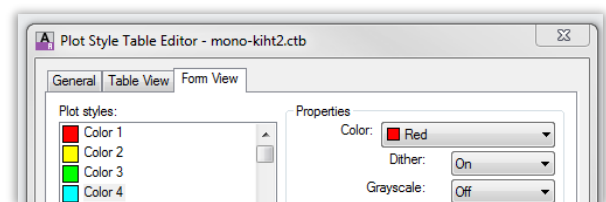
In the top right section of the window, *Plot Style Table* is set to *None* by default. From there, first select *monochrome.ctb* and then click the *Edit* button next to it.

In the window that opens, click *Save As* and save *monochrome.ctb* under a new name, because we will be editing it. In this case, the new name could be *mono-layer2.ctb* (as we are currently creating the working drawing of layer 2, this will later need to be done similarly for other layers).

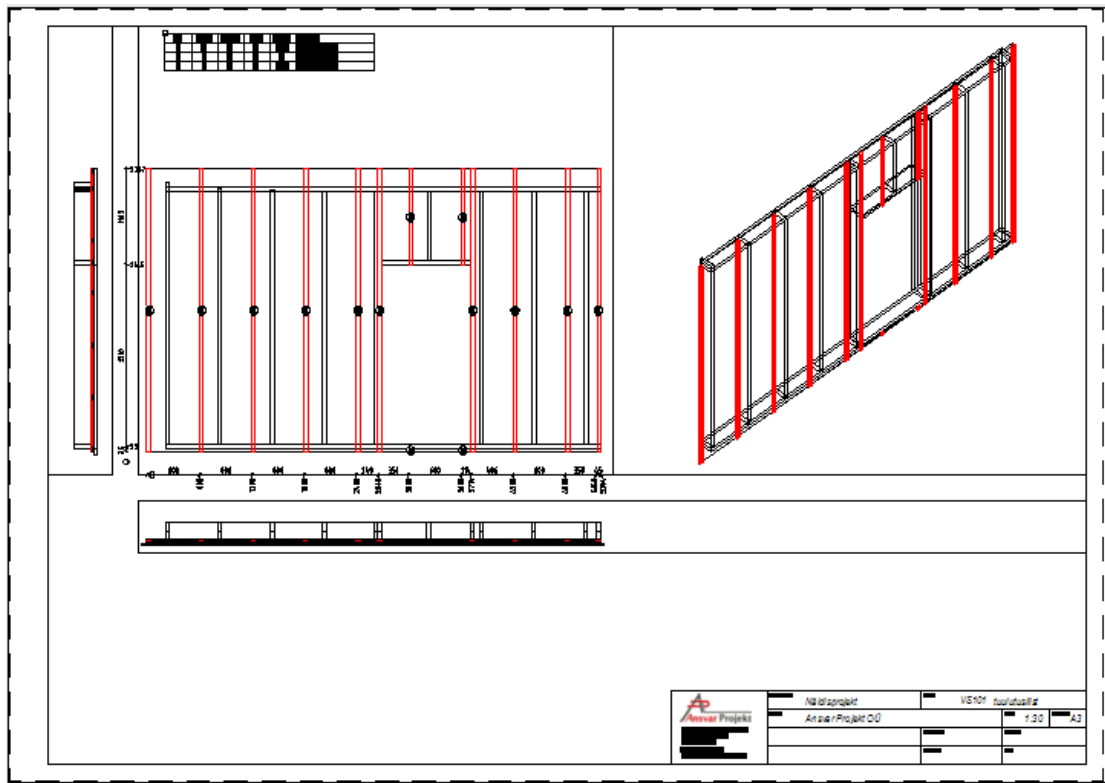


In *Plot Style Table Editor*, there are 255 different colors, each of which has been set to *Black* under *Color*. This is a monochrome style, where all colors are displayed as black. Here, you can make exceptions for desired colors. This is the reason why each layer is a different color when an element is generated.

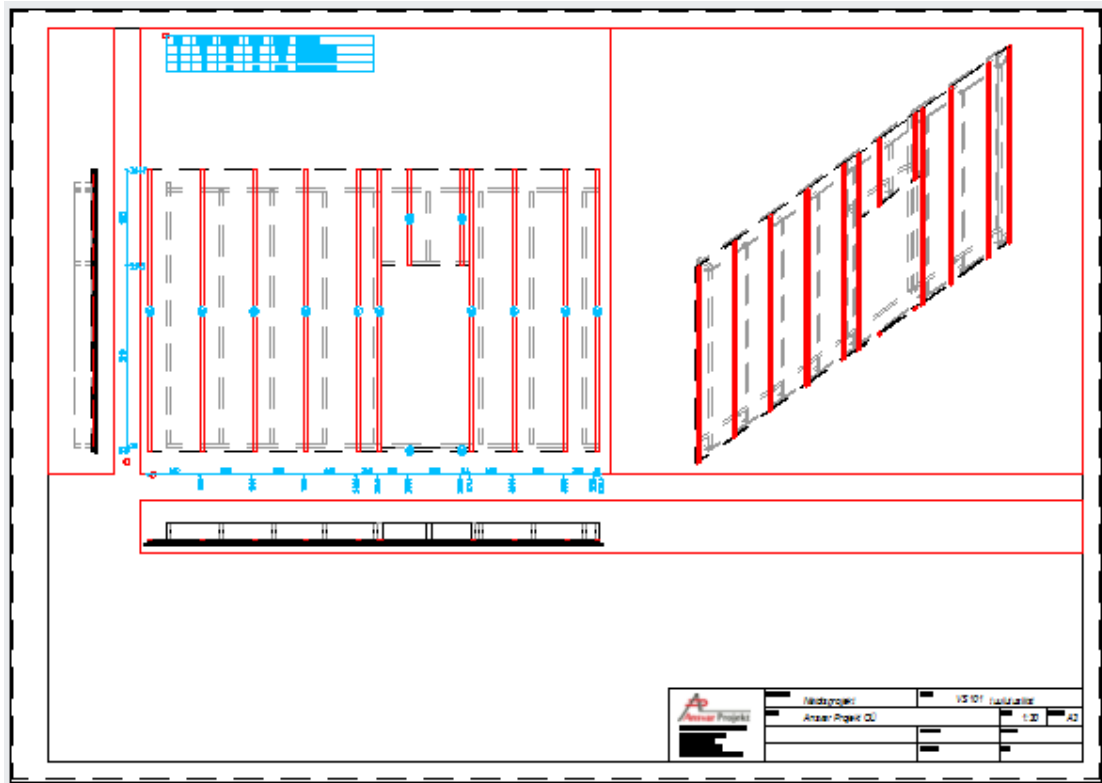
Currently, layer 2 is set to light blue (*Cyan – 4*). Select this color under *Plot styles* and set it to *Red* under *Color*.



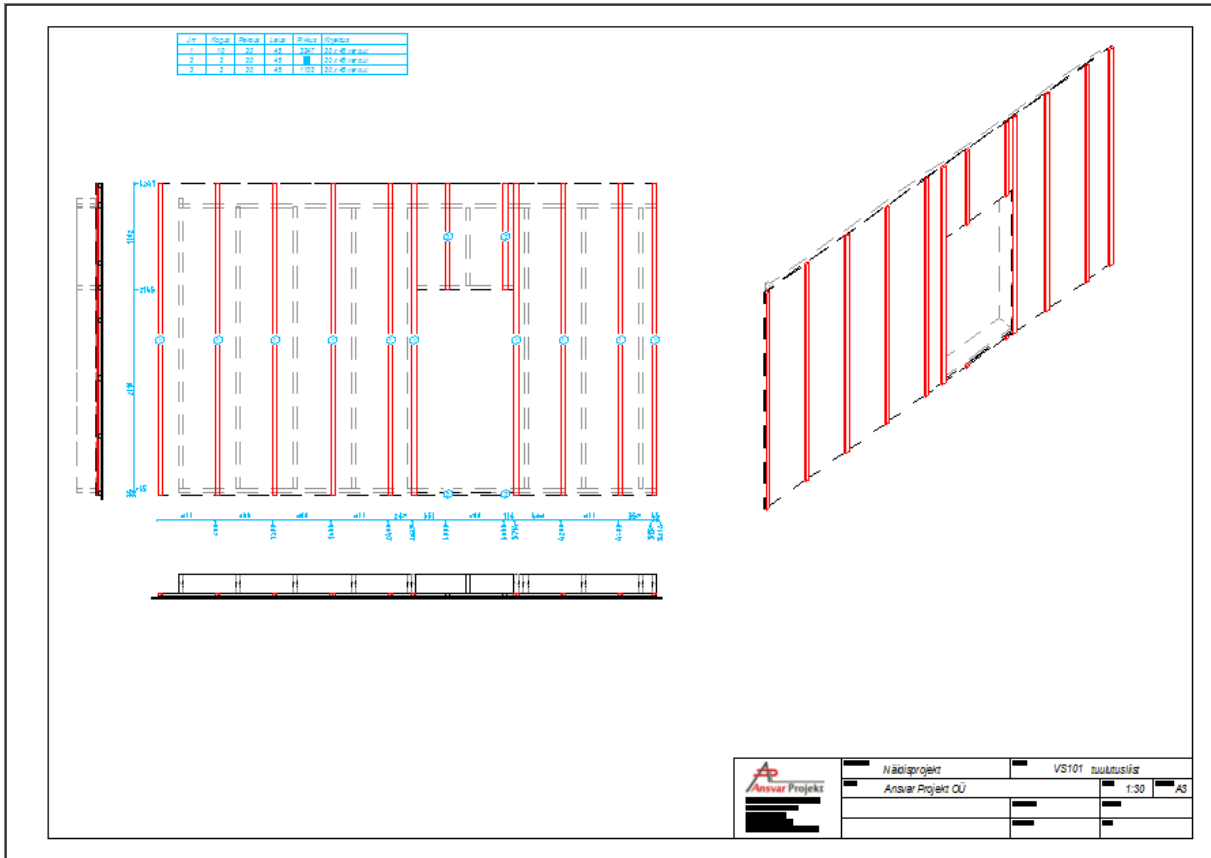
Click *Save & Close*, then in the *Page Setup* window select the newly created *mono-layer2.ctb* under *Plot Styles table* and tick *Display plot styles*. If the changes do not appear, run the command *REGENALL*. Now our vented battens are displayed in red.



Colors can also be applied to dimension lines and tables (set *Color* to *Use object color*). In addition to color, you can also define the *Linetype* and *Lineweight*. This makes it possible to display the frame (color code 32) and wind barrier board (color code 3) with, for example, a thin dotted line. Additionally, rear layers can be displayed in shades of grey to improve intelligibility.

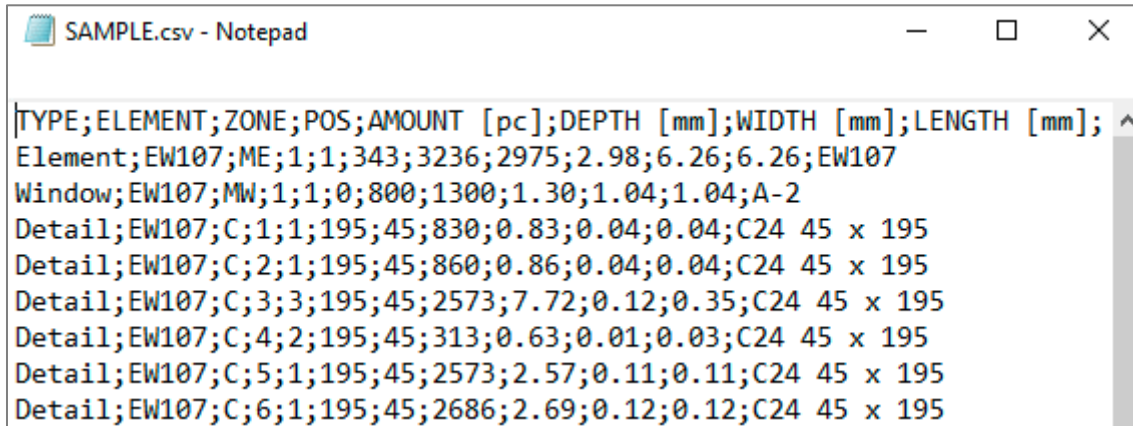


The result is a clear and accurate drawing.



4.7. Opening a CSV file in Excel

Using the `AEM_Export` command and selecting CSV (Comma-Separated Values) as the output format generates a text file:



```

TYPE;ELEMENT;ZONE;POS;AMOUNT [pc];DEPTH [mm];WIDTH [mm];LENGTH [mm];
Element;EW107;ME;1;1;343;3236;2975;2.98;6.26;6.26;EW107
Window;EW107;MW;1;1;0;800;1300;1.30;1.04;1.04;A-2
Detail;EW107;C;1;1;195;45;830;0.83;0.04;0.04;C24 45 x 195
Detail;EW107;C;2;1;195;45;860;0.86;0.04;0.04;C24 45 x 195
Detail;EW107;C;3;3;195;45;2573;7.72;0.12;0.35;C24 45 x 195
Detail;EW107;C;4;2;195;45;313;0.63;0.01;0.03;C24 45 x 195
Detail;EW107;C;5;1;195;45;2573;2.57;0.11;0.11;C24 45 x 195
Detail;EW107;C;6;1;195;45;2686;2.69;0.12;0.12;C24 45 x 195
    
```

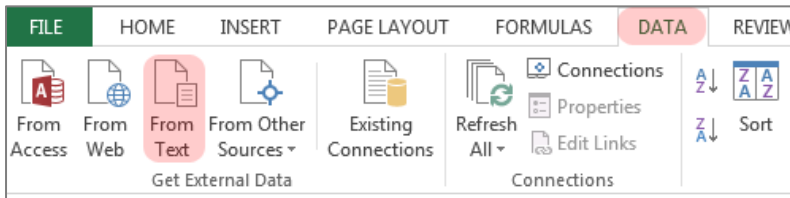
CSV files can be opened directly in Excel; however, this may cause some data to be changed into dates, etc.

Different versions of Microsoft Office handle CSV files differently. The examples given here are based on Office 2016 and 2013. An additional advantage of CSV files is that Excel saves import settings, which means that in the future, the files can be imported into Excel with a single press of a button.

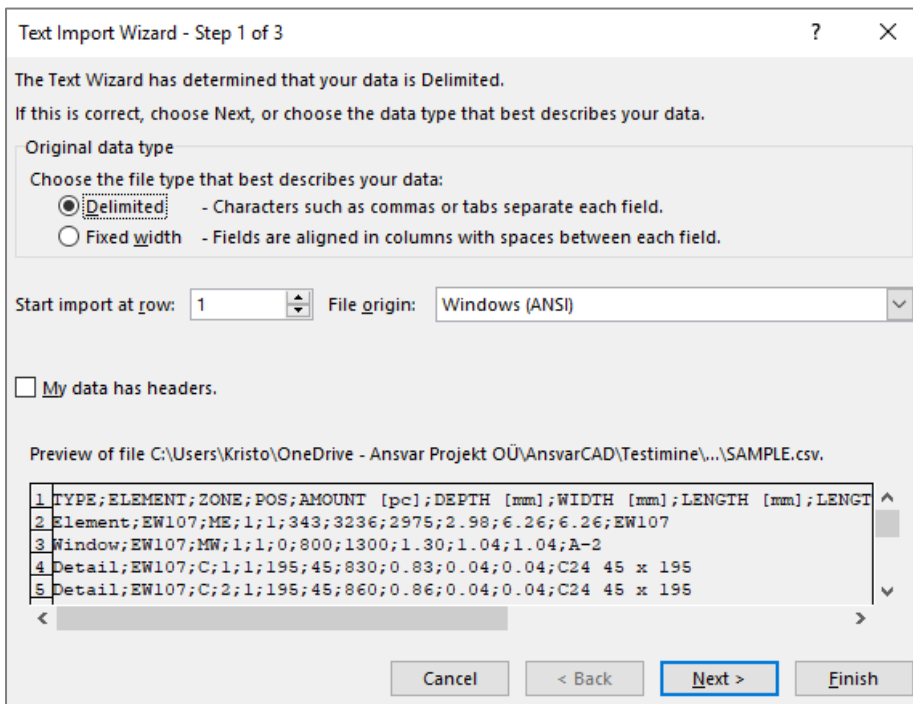
4.7.1. Excel 2013

To open a CSV file in Excel in Office 2013 and older versions, proceed as follows:

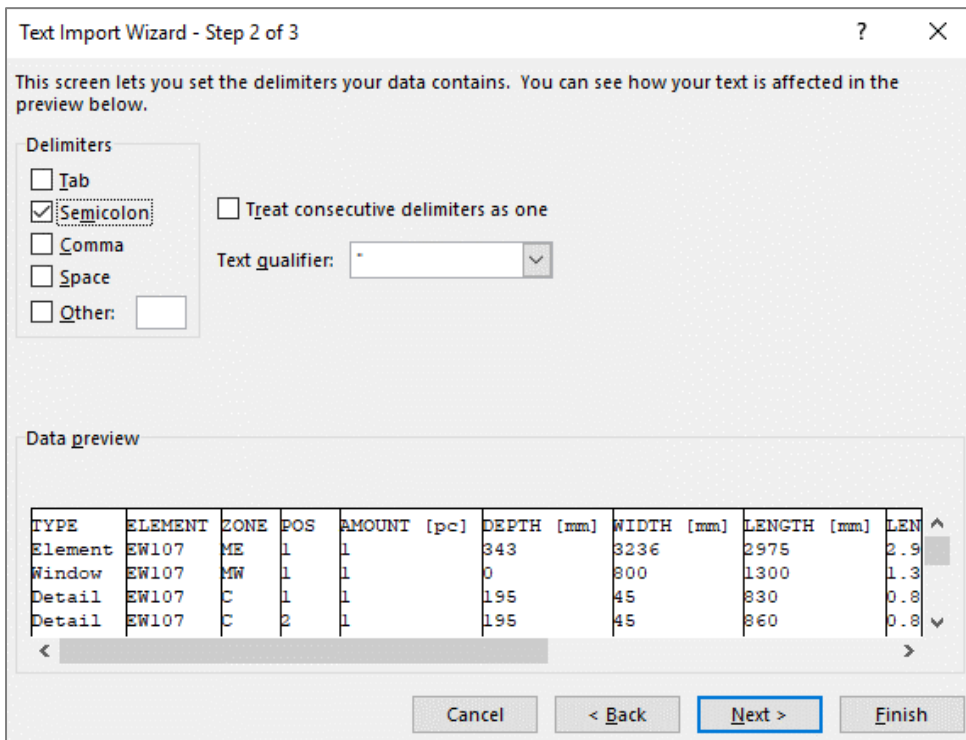
1. Open a blank Excel file.
2. Enter the *DATA* menu and select *From Text*.



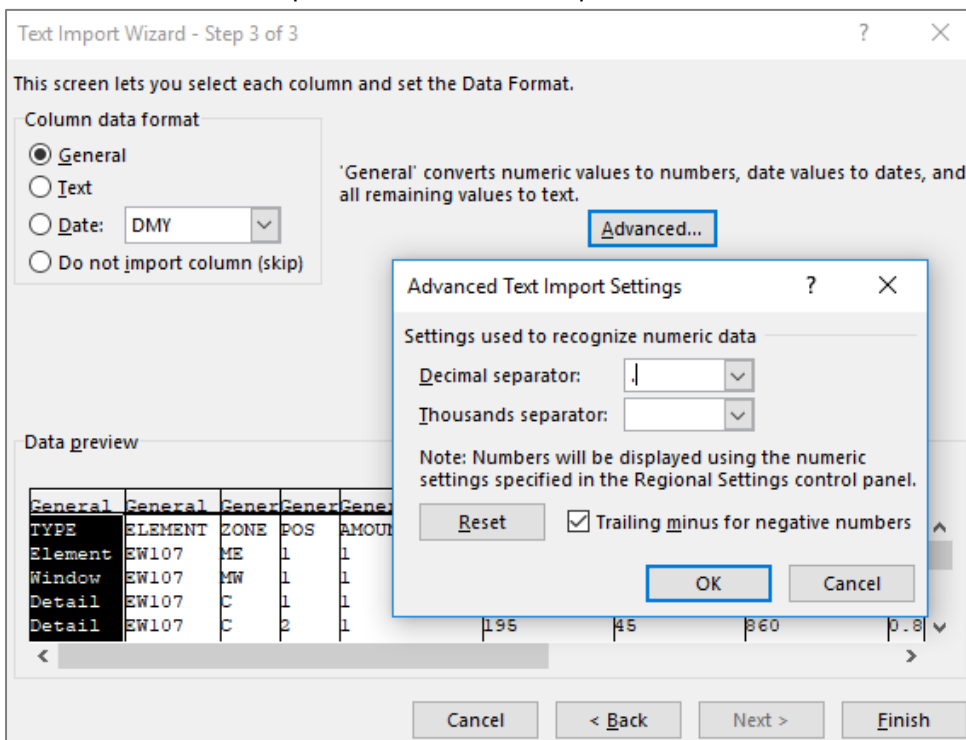
3. In the window that opens, select the CSV file.
4. This will open a window titled *Text Import Wizard – Step 1 of 3*:
Original data type->Delimited,
File origin->Windows (ANSI).
 Click *Next*.



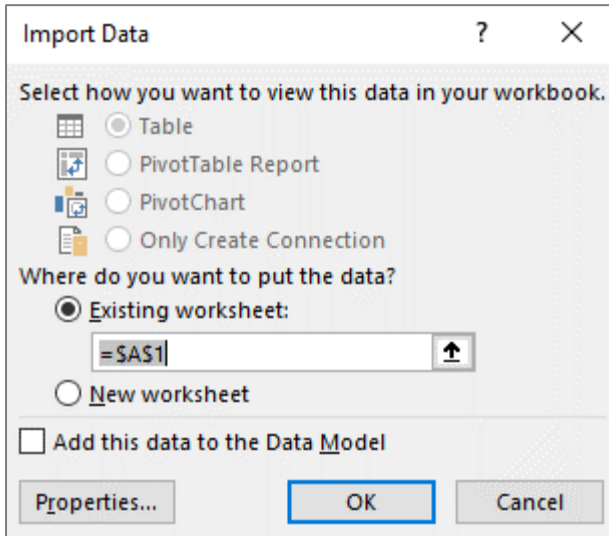
- In the next window, under *Delimiters*, tick *Semicolon* to indicate that columns are separated by a semicolon in the text file. After making the selection, you will see under *Data preview* that the table will be generated correctly. Click *Next*.



- In the next window, you can select which columns will be imported and which will not. Click *Advanced...* and enter a period in the *Decimal separator* field. Then click *OK* and *Finish*.



7. Lastly, select the cell to be used as the starting point of the table and click **OK**.



8. After a bit of formatting you will then have a correctly generated table.

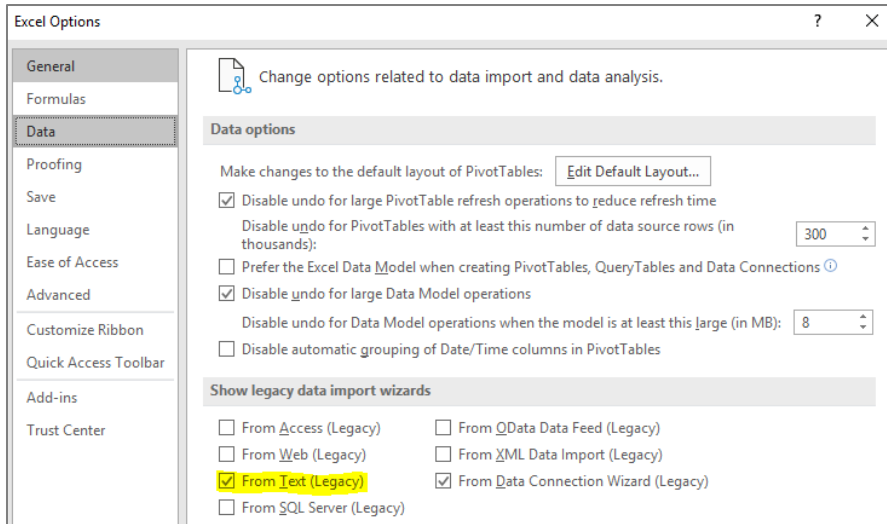
	A	B	C	D	E	F	G	H	I	J	K	L
	TYPE	ELEMENT	ZONE	POS	AMOUNT [pc]	DEPTH [mm]	WIDTH [mm]	LENGTH [mm]	LENGTH [SUM mm]	AREA [m2/pc]	AREA [SUM m2]	DESCRIPTION
1												
2	Element	EW107	ME	1	1	343	3236	2975	2,98	6,26	6,26	EW107
3	Window	EW107	MW	1	1	0	800	1300	1,3	1,04	1,04	A-2
4	Detail	EW107	C	1	1	195	45	830	0,83	0,04	0,04	C24 45 x 195
5	Detail	EW107	C	2	1	195	45	860	0,86	0,04	0,04	C24 45 x 195
6	Detail	EW107	C	3	3	195	45	2573	7,72	0,12	0,35	C24 45 x 195
7	Detail	EW107	C	4	2	195	45	313	0,63	0,01	0,03	C24 45 x 195
8	Detail	EW107	C	5	1	195	45	2573	2,57	0,11	0,11	C24 45 x 195
9	Detail	EW107	C	6	1	195	45	2686	2,69	0,12	0,12	C24 45 x 195
10	Detail	EW107	C	7	2	195	45	2686	5,37	0,12	0,24	C24 45 x 195
11	Detail	EW107	C	8	1	195	45	2573	2,57	0,12	0,12	C24 45 x 195
12	Detail	EW107	C	9	1	195	45	2573	2,57	0,12	0,12	C24 45 x 195
13	Detail	EW107	C	10	1	195	45	830	0,83	0,04	0,04	C24 45 x 195
14	Detail	EW107	C	11	1	195	45	2686	2,69	0,12	0,12	C24 45 x 195
15	Detail	EW107	C	12	1	195	45	2758	2,76	0,12	0,12	C24 45 x 195
16	Detail	EW107	Li1	1	2	45	45	910	1,82	0,04	0,08	45 x 45 in
17	Detail	EW107	Li1	2	1	45	95	2686	2,69	0,26	0,26	45 x 95 in
18	Detail	EW107	Li1	3	3	45	45	2686	8,06	0,12	0,36	45 x 45 in
19	Detail	EW107	Li1	4	2	45	45	1108	2,22	0,05	0,1	45 x 45 in

4.7.2. Excel 2016

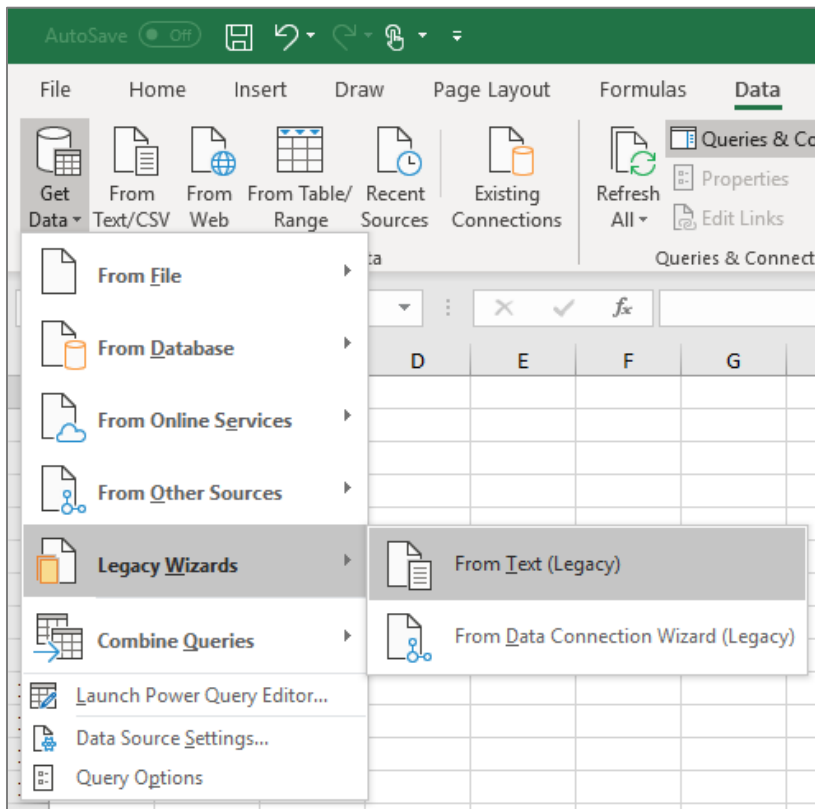
In Excel 2016, the data import system is different. However, it is still possible to use the method applicable to 2013 and older versions. To activate it, select

File -> Options. In the window that opens, select:

Data -> From Text (Legacy)



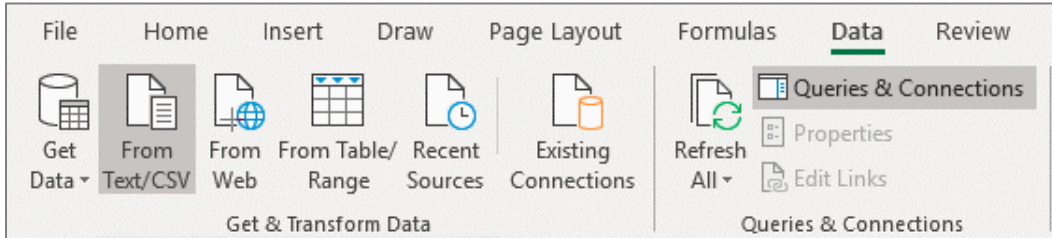
Now you can access the menu option *Data -> Get Data -> Legacy Wizards -> From Text (Legacy)*.



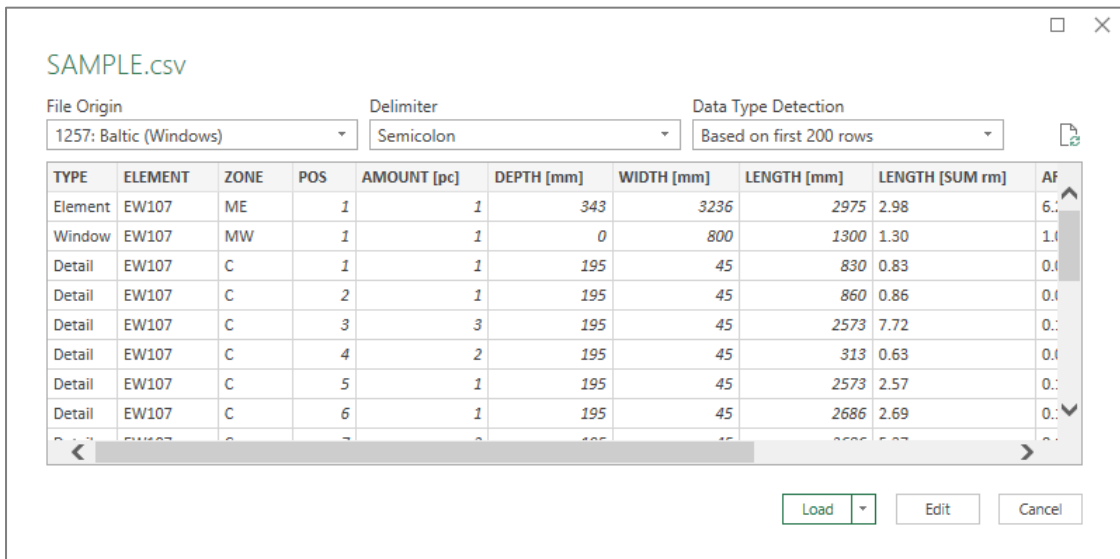
For the next steps, see 4.7.1. Excel 2013. *Data -> Queries & Connections* lists any previous queries so that if the CSV file is modified, you can perform the same import automatically.

To use the new data import function of Excel 2016, proceed as follows:

1. Open a blank Excel file.
2. Enter the *DATA* menu and select *From Text/CSV*.



3. Select the CSV file.
4. In the window that opens, select:
File Origin -> Windows, Delimiter -> Semicolon.
 Clicking *Edit* offers a variety of options for editing the data prior to importing.
 To complete the import, click *Load*.



5. Result:

	A	B	C	D	E	F	G	H	I	J	K	L
	TYPE	ELEMENT	ZONE	POS	AMOUNT [pc]	DEPTH [mm]	WIDTH [mm]	LENGTH [mm]	LENGTH [SUM rm]	AREA [m2/pc]	AREA [SUM m2]	DESCRIPTION
1												
2	Element	EW107	ME	1	1	343	3236	2975	2.98	6.26	6.26	EW107
3	Window	EW107	MW	1	1	0	800	1300	1.30	1.04	1.04	A-2
4	Detail	EW107	C	1	1	195	45	830	0.83	0.04	0.04	C24 45 x 195
5	Detail	EW107	C	2	1	195	45	860	0.86	0.04	0.04	C24 45 x 195
6	Detail	EW107	C	3	3	195	45	2573	7.72	0.12	0.35	C24 45 x 195
7	Detail	EW107	C	4	2	195	45	313	0.63	0.01	0.03	C24 45 x 195
8	Detail	EW107	C	5	1	195	45	2573	2.57	0.11	0.11	C24 45 x 195
9	Detail	EW107	C	6	1	195	45	2686	2.69	0.12	0.12	C24 45 x 195
10	Detail	EW107	C	7	2	195	45	2686	5.37	0.12	0.24	C24 45 x 195

All completed data loadings are listed under *Data -> Queries & Connections*, where you can both edit and/or rerun them.