



CAD PROJEKT K&A

Operation manual

Operations performed on the elements

CAD Kitchens 8.0, CAD Decor 4.0, CAD Decor PRO 4.0

INTRODUCTION

The manual describes the basic operations that can be performed on elements in CAD Kitchens. CAD Decor and CAD Decor Pro.

We hope that you will find our software both pleasant and productive to work with. Best regards, the CAD Projekt K&A team

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Basic operations on elements

To access the popup menu (Illustration 1), which allows you to perform basic element operations quickly and efficiently, select the object (by left-clicking [LPM] on the object) and then right-click preferably on the blank part of the workspace. Options for element operations can also be found on the 'Modify' toolbar at the top of the screen (Illustration 2). Some of the functionality can be found in the Palette tool panel (Illustration 3).

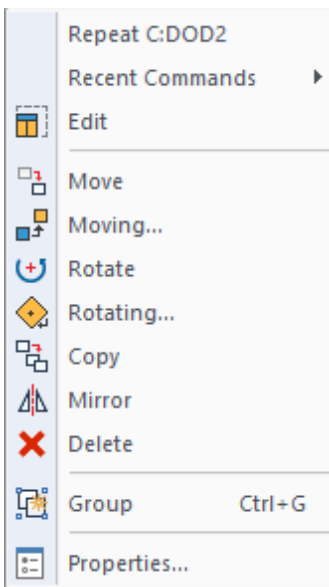


Illustration 1 Pull-down menu



Illustration 2 The "Modify" toolbar

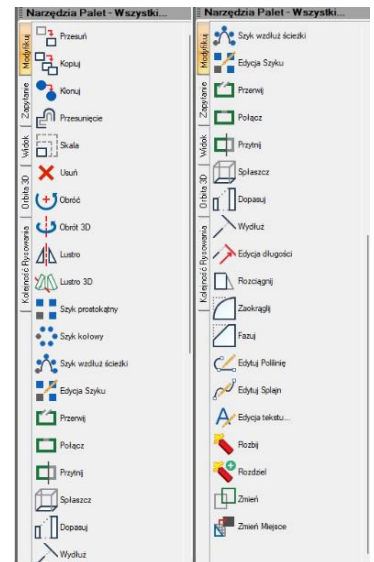




Illustration 3 Panel , "Palette Tools on the Modify tab".

1. Edit

The objects that can be edited in the programme are: walls, windows, doors, openings, free-formed elements, columns and furniture elements. To edit an object, select it, call up the pop-up menu with the right mouse button and select 'Edit' . Editing allows you, among other things, to change the measurements. The editing window for the object in question will reopen.


2. Move

To move an object, select it and choose the "Move" command from the drop-down menu (under the right mouse button). Then select a point on the object with the cursor, based on which the object is to be moved. Next point at the location where the object is to be moved. The object is moved to the desired position.


This function can also be accessed by clicking the icon  on the toolbar. Select the object to be moved, then move the cursor to the point on the object from which the object is to be moved, and click where the object is to be positioned.

This function can also be invoked by clicking on the icon on the toolbar.


3. Moving...

To move an object using this option, select the object, choose the " **Moving...**" command from the drop-down menu. and in the "Move" window that appears, set the parameters for the move. These options can also be invoked by selecting the icon  from the top panel. A detailed description of the functions of this window is provided below.

The 'XYZ' tab (Illustration 4) is used to move objects in a specific axis by the defined value:

- select one of the three user coordinate axes (X, Y, Z) or the "2 points" option, then use the slider bar to indicate the distance (or enter the value manually);
- click the "Move" button to move the object;
- to confirm, select the "Move" button;
- to exit the window without making changes to the project, click "Close" or .

The „Indicate” button is used to move objects to any point:

- select the " Indicate" button and mark a point on the object to be placed in the selected location;
- indicate with a second click the new location of this point;
- in the "distance" field, the value of the move in the selected axis will appear in millimetres;
- to exit the window without making changes to the project, click "Close" or .

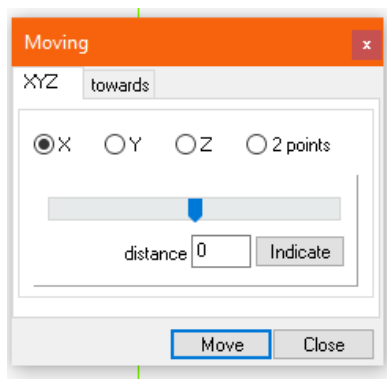


Illustration 4 "Moving..." window - "XYZ" tab

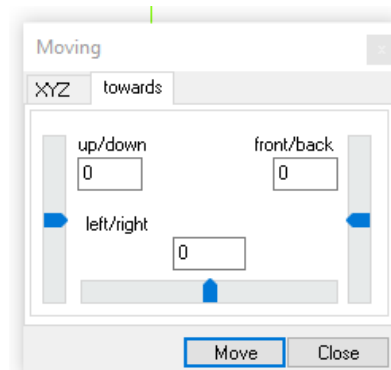




Illustration 5 "Moving" window - "towards" tab

The tab " towards " (Illustration 5) allows you to move the object in any direction. In this case, the XYZ coordinate axis is not taken into account, but the front side of the object being moved. Thus, if the object is rotated relative to the XYZ axis, the displacement planes change.

To move an item using this option, please:

- select a specific movement direction (up/down, front/back, left/right);
- specify the movement distance with the slider bar (value can be entered manually);
- monitor the accuracy of the settings on an ongoing preview in the project;
- Press the "Move" button after the object is in the right position,
- press the "Move" button once the object is in the correct position,
- to exit the window without making changes to the project, click "Close" or .

4. Rotate

Rotation using this option is always in the Z-axis. To rotate an element, select it and choose the **"Rotate"** function from the drop-down menu or select the icon  from the top panel. Then indicate the point (on or off the object) defining the axis (centre) of rotation and, by moving the mouse, determine its angle (Illustration 6). Clicking again with the left mouse button (LPM) completes the operation.

The angle of rotation can also be entered on the Command Bar after indicating the centre point of rotation and confirming with **[Enter]**.

The rotation function can also be found on the Tool Palette.

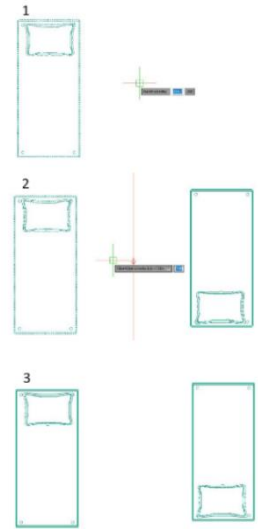



Illustration 6 Rotating an element. 1) Start 2) Define the angle of rotation 3) View after rotation including the original position of the element

5. Rotating...

When this function is selected from the pop-up menu, the **'Rotating...'** window opens, which is divided into two tabs: 2D and 3D (Illustration 7 and 8). It allows objects to be rotated in two or three dimensions.

The function can also be called up by clicking the icon , **"Rotating..."** on the toolbar in the top menu.

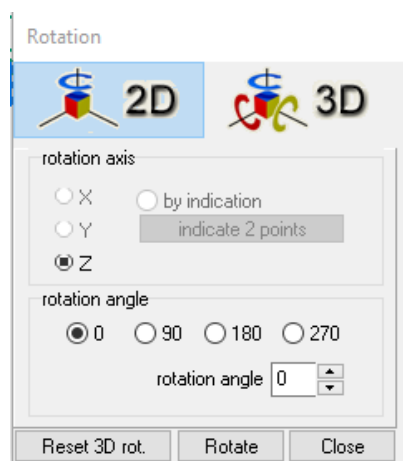


Illustration 7 - Window "Rotation" 2D tab

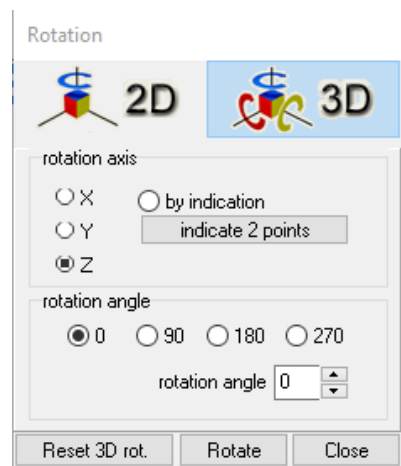


Illustration 8 - Window "Rotation" tab 3D

2D rotation - only relative to the Z axis (i.e. vertical):

- in the **"Axis rotation"** field, enter the angle by which the object is to be rotated;
- the outline of the object to be rotated appears on the screen;
- click on the **"Rotate"** button to confirm the operation;
- blocks rotate relative to their centre and linear elements rotate relative to point 0, 0, 0.

3D rotation - in 3 dimensions - X, Y or Z (Illustration 9):

- runs on the same principle as 2D rotation;
- in addition, a "by indication" option is available:
 - requires the selection of the "indicate 2 points" button;
 - then clicks on the start and end points of the axis of rotation;

- the " **rotation angle** " must then be determined - by selecting one of the options : 0, 90, 190, 270,; using the arrows or typing the value from the keyboard; click "**Rotate**" to confirm;
- to return to the starting point, select "**Reset 3D rot.**";
- to exit the window without saving the changes, click "**Close**".

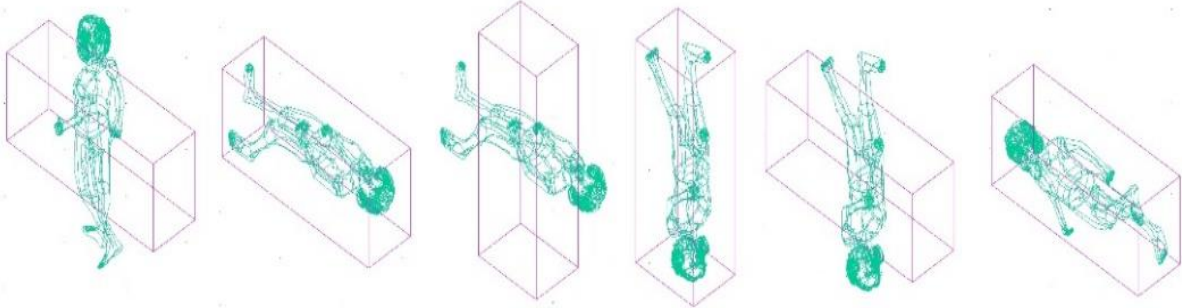



Illustration 9 3D rotation - examples

6. Copy

To copy a chosen object, select it and click on the "**Copy**" option or select the icon  from the top panel . Then specify on the copied item the point based on which the copying is to take place and select the place where it is to be placed.

This function works similarly to the "**Moving...**" command, except that after its application, any number of new objects identical to the original being copied will appear in the project.

The insertion of successive copies will be completed when **PPM** (right mouse button) or the **[Enter]** or **[Esc]** key is pressed. The copied items can be placed equally spaced by entering the desired offset distance from the original in the command bar, e.g. 1050 mm offset for the first copy, 2100 mm (Illustration 10).

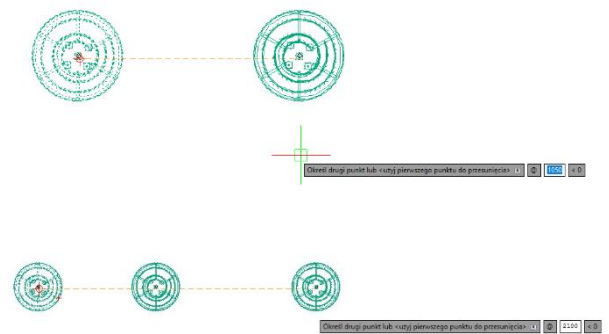



Illustration 10 Copying an element - ceiling lamp

7. Mirror

This function is used to mirror elements. In order to use it, you need to:

- select the element to be reflected,
- click on the "**Mirror**" option from the drop-down menu or select the icon  from the top toolbar. This function can also be invoked by typing the *mirror* command from the keyboard and confirming it with the **[Enter]** key;
- indicate the two points belonging to the reflection plane: left-click on the first point (this defines the distance of the copy from the original) - when you move the mouse, the line of the reflection plane and the outline of the mirror copy will appear, then left-click on the second point of the plane (Illustration 11);
- to complete the operation, click the right mouse button or confirm with **[Enter]**.

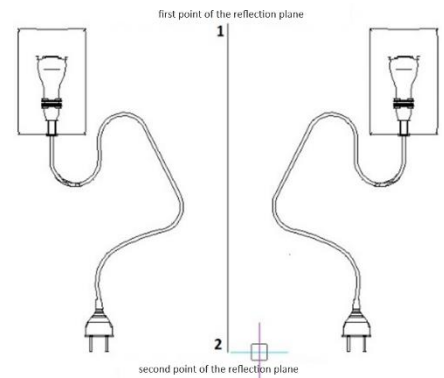



Illustration 11 Effect of the "Mirror" function

The Mirror option can be selected from the „ Tool Palette " panel.

8. Offset

This function allows objects to be moved, including the proportional displacement of objects that are parallel to those that have already been drawn (Illustration 12).

It is also to be found on the „Palette Tools" panel. The procedure for using the "**Offset**" function is as follows:

- after selecting the "**Offset**" icon , the programme will ask you to enter the distance between the original and the parallel object - enter the selected value from the keyboard and confirm it with **[Enter]** or indicate it with two left mouse clicks;
- then specify (by clicking) the element to be reflected;
- click again to specify the side from which the parallel line is to be reflected (if it is to be reflected from both sides, type **B** (Both) in the Command Bar and confirm **[Enter]**);
- function is active until the **[Esc]** key is pressed, so that when an object is inserted, the next element to be offset and the side from which the parallel contour is to be laid can be indicated immediately.

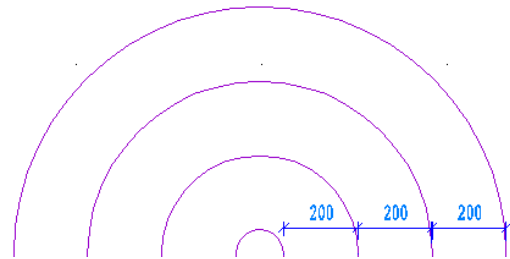


Illustration 12 example of the use of the "Offset" function.

If the parallel line to be reflected is to pass through a specific point, after selecting the "**Offset**" icon, type **T** ("Through") on the Command Bar (Illustration 13), confirm with **[Enter]**, select the element to be reflected and then click on the point through which the new line is to pass, after which another element can be selected.




Illustration 13 Command Bar for the „Offset" function

9. Trim

This function allows you to trim parts of lines, arcs, circles, polylines that intersect with other objects (Illustration 14). The **Trim** option is also found on the „**Palette Tool**" panel.

The procedure for using the function is as follows:

- after selecting the "**Trim**" icon , you need to identify the elements based on which the trimming is to take place - press **[Enter]** to point to all of them in the project;
- the program will then ask you to identify the elements to be trimmed;
- to finish trimming, press **[Esc]**.

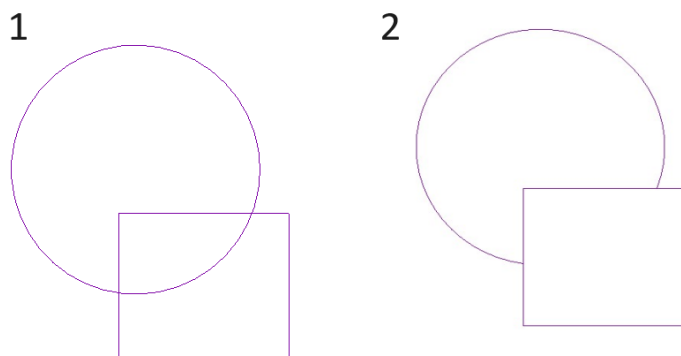


Illustration 14 Example of using the "Trim" function


10. Explode

This is a function that allows elements (figures, polylines, blocks) to be broken down into their constituent elements (individual segments, surfaces). The table below shows examples of objects subjected to exploding and the effects of this function (Illustration 15).







Some blocks (e.g. kitchen cabinets) need to be broken down repeatedly until individual surfaces are obtained.

NOTE: Please note, however, that broken objects may become invisible in the visualisation.


The procedure for dealing with this function is as follows:

- after pointing to the object you want to explode (by clicking or selecting with an area), select the **Explode** icon  or type the Explode command from the keyboard and press **[Enter]**;



- this is a one-time operation, so if you have more than one object to explode, select them all at once, or repeat the operation after the first one has been exploded.

Illustration	Description
	Polylines with line thickness > 0 are broken down into lines and arcs with zero line thickness..
	The polylines are broken down into separate sections (lines and arcs).
	Multiple lines are broken into two separate lines, which are further broken into fragments.
	Rectangles and other figures that are drawn using polylines will be broken down into individual, separate sections. .
	The hatched figures are divided into separate sections. Each hatched line becomes a separate element.
 <p data-bbox="256 1077 392 1104">figury wyjściowe</p> <p data-bbox="464 1077 600 1104">figury wynikowe</p> <p data-bbox="245 1115 632 1142">Illustration 15 Examples of exploded objects</p>	Blocks are broken down into individual components .

11.Delete

This function is used to delete objects from the project. To delete an object, select it and choose the 'Delete' icon  from the drop down menu or the top menu. This also works if you press the [Delete] key on your keyboard after selecting an object.

12.Undo/ Redo

This function undoes or restores the last action performed in the program. The icons   are located in the top menu of the program. The function can be invoked by entering the commands on the Command Bar: [Ctrl]+Z - undoes the last action (in the environment to the beginning, in the visualisation to the last 20) or [Ctrl]+Y which recovers the undone action.

The " Tool Palettes " function

The **Tool Palette** panel contains many of the functions for modifying elements.

This panel is hidden by default - to access it, right click (PPM) in the grey box next to the toolbars and select ' **Tool Palette** ' from the drop down list (Illustration 16).

Some of the functions that can be found on the panel in the Modify tab are described below.

The functions available on the „ **Tool Palette** " panel are described both in this manual and in the manual for operations on elements.

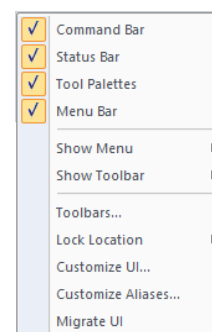




Illustration 16 Activation of the „Palette Tools" Panel


1. Clone

The function is available in the "**Tool Palettes**" panel under the icon . It is used to clone an existing object. To use it, select the icon from the „**Tool Palettes**" bar and then select the element to be cloned. Then specify the insertion point, the X and Y scale factor and the rotation angle of the block.


2. Scale

Resizing an object at a specific scale. To rescale an object, select the icon  from the panel „**Tool Palettes**" then select the object on which the operation is to be performed, finally select the scale and then confirm using **[Enter]**.


3. Break

The tool enables the creation of gaps in a line. To use this function, select the icon  and then choose the points that will define the extent of the cut-out. It is important to note that this function does not interrupt the drawn walls.

4. Join

Reverse tool from **Break**. Allows you to merge broken lines. To use this function, select the icon , and then indicate the objects to be merged.


5. Extend

This function allows you to lengthen a line or polyline until it intersects with another object. To use the function, select the 'Extend' icon  from the '**Tool Palettes**' panel. Then, choose the object or point to which the line should be extended and confirm it by pressing **[Enter]** or the right mouse button. Finally, select the line to be extended using the left mouse button.

The function can be terminated by selecting **[Enter]**, **[ESC]**, or clicking the right mouse button.

6. Stretch

This function enables the stretching or movement of objects, such as figures created from polylines, arcs, and dimension lines.

To stretch one side of an element, select the '**Stretch**' icon  from the '**Tool Palettes**' panel. Then, select the two edges of the side to be stretched (right to left selection) and confirm with **[Enter]** or **PPM** (right mouse button). The side can be stretched by a specific distance or by moving the mouse until the desired effect is achieved.

When the entire element is selected, the function operates in the same manner as '**Moving...**'

Additionally, the **Stretch** option is available when selecting an object and hovering the mouse over a rectangle or square. This option allows for proportional stretching of the object.

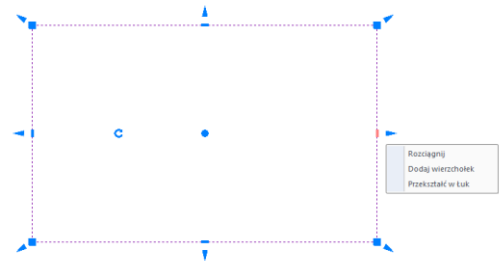



Illustration 17 Stretch option for the drawing.

7. Change

This tool can modify the properties of objects. To use it, select the '**Replace**' icon  from the '**Tools Palette**' panel. Select the object, then press the **P** key to access the properties menu. This menu allows you to make changes to the object in the environment.

If you select the **Change** option without entering **W**, you can reinsert the object.

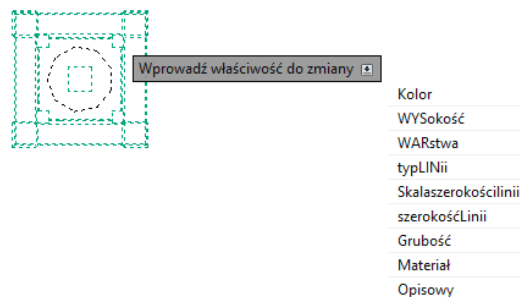


Illustration 18 Properties drop-down menu

Other features

1. Group/Ungroup

Grouping elements is the process of combining entities that occur together (e.g. a table and chairs) into a single set. This function allows for multiple objects to be selected simultaneously with a single mouse click, enabling operations such as copying or moving. To group elements, select all objects that are to be included in the group and choose the **'Group'** option from the drop-down menu.

To ungroup objects that have been grouped, click on any element within the group and select the **'Ungroup'** option.

These commands are also available via keyboard shortcuts: use **[Ctrl + G]** to group objects and **[Ctrl + U]** to ungroup them.

2. Properties

To view the properties of a selected object, click on the object with the right mouse button and select Properties from the list.

Opening the item properties window by selecting **'Properties'** from the context menu will display information about the selected object. The list of properties can vary depending on the type of object.

In the first window from the top, you can see what the element is made of (line/arc/ polyline and others).

The **General** tab provides basic information about the object, including its color, layer, line composition, and visibility settings. Its color, information about the lines it is made of and whether the element is to be visible - this information can be changed. Additionally, the tab indicates the layer on which the element is located.

Details of the object's location are displayed on the **Geometry** tab.

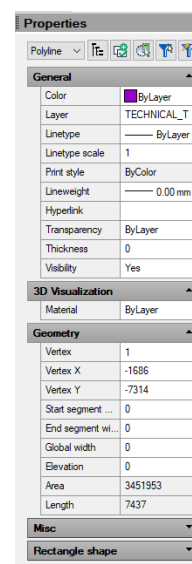


Illustration 19 Properties panel

3. „Entity properties" bar in the tool menu

The **'Entity Properties'** bar (Illustration 16), located under the top menu toolbars, also allows you to edit the properties of objects. This bar enables you to manage the properties of the layer on which the element has been drawn.



Illustration 20 "Entity properties" bar



In the .4CAD environment, layers correspond to the transparent overlays used in manual drawing. Layers can be used to organise different parts of a drawing, for example, if the model you are drawing is made up of different materials, such as wood, glass and metal, the different elements should be drawn on different layers. Every element drawn in the .4CAD environment belongs to a layer, and The current layer is assigned to the element currently being drawn.

Individual layer lines can be managed by adjusting their visibility, colour, line type, and thickness. They can also be turned on or off, which makes them invisible in the project and on the printout, but they can still be edited and affect the display and printout of visible layers. Additionally, layers can be frozen and unfrozen, which makes them invisible in the project and on the printout and prevents them from being edited. Frozen layers will not obscure other layers. However, the current layer cannot be frozen. Locked and unlocked layers are available in the software. A locked layer is visible but cannot be edited, which protects against accidental modification of the illustration.

Changes to some of the layer settings of the selected element can be made on the fly using the **Entity Properties** bar, while setting the properties of all layers is done in **IntelliCAD's Layer Explorer**.

Left-clicking on an element will display information on which layer it is currently assigned to in the bar panels below. The following parameters can be modified as required.

The following functions are available in the Entity properties bar:

-  **„Set Layer by Entity”** - changes the current layer to match the layer of the specified object;
-  **„Explore Layer...”** - clicking this button will open IntelliCAD's 'Layer Explorer' window (Illustration 21), allowing the user to modify all layer attributes in the project;

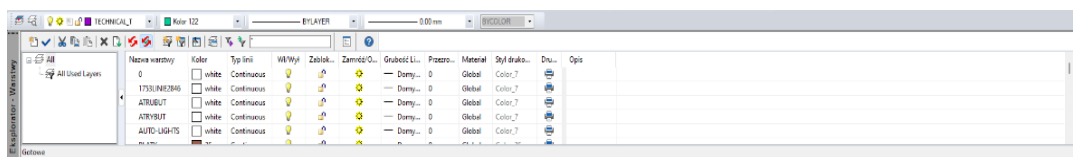




Illustration 21 IntelliCAD Layer Explorer

-  **„Change layer field”** -allows you to assign the drawn element to the selected layer;
-  **„Change colour field”** - allows the colour of layers to be changed . To change the colour of a layer, select the object and choose a colour from the drop-down list or select your own by clicking on 'Select colour...'. This will open a new 'Color' window with three tabs (Illustration 22) that allow you to select the colour precisely;

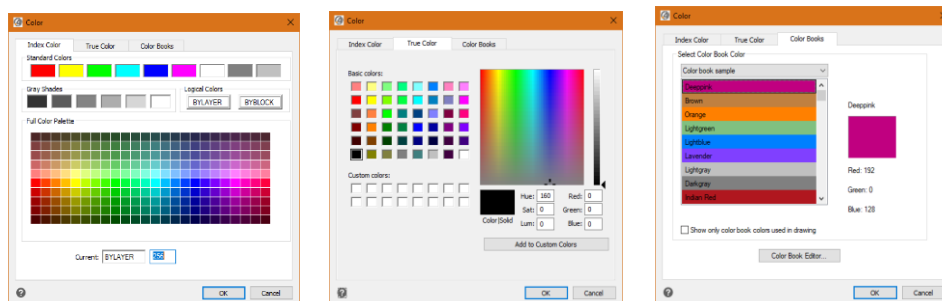
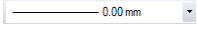


Illustration 22 Layer colour selection: Colour Index , True Colour, Colour Books

-  **„Line type change field”** - Allows you to change the line style of an object. There are several styles to choose from;

-  „**Line thickness variation field**” - this feature allows the user to adjust the thickness of a line, for example to make it easier to see on a printout or to comply with illustration standards. Adjusting the line thickness will be immediately visible. To hide the line thickness, access the View Panel in the Top Menu, then go to Display Options and uncheck the Display liveweights option.

4. Customize UI

The program allows the user to customise the appearance of the interface. New toolbars can be added that are not visible in the top menu toolbars. This can be done using the 'Customise UI' option. Detailed instructions can be found in [the tutorial video](#).

Additional information

1. Instructional videos

- Playlist „First Steps"
- Playlist CAD Operations
- Rounding and chamfering corners
- Creating an array in a 2D environment
- Trimming drawn elements
- Breaking down 3D models
- Advanced features of the program, expansion of the user interface
- Playlist , "Free Elements"

2. Shortcuts and commands

The document compares keyboard shortcuts in the .4CAD and visualization environments and lists the most frequently used commands in versions up to 3.Xi/7.X and version 4.X/8.X (both 34 and 64 bit versions of the environment). Find the document at: <https://www.cadprojekt.com.pl/zasoby/pdf/opisy-techniczne/shortcuts-4-0-8-0-eng.pdf>

This document provides an overview of keyboard shortcuts and commonly used commands in the .4CAD environment for visualization. The shortcuts and commands can be issued using either the mouse or keyboard. It can be accessed at: <https://www.cadprojekt.com.pl/zasoby/pdf/opisy-techniczne/shortcuts-4-0-8-0-64bit-eng.pdf>

In the above list, LPM and RMB stand for left and right mouse buttons, respectively. A command notation with a + sign (e.g. [Ctrl] + [Z]) indicates that both keys should be pressed simultaneously, while a notation with a >> symbol (e.g. [E] >> [Enter] or [Space]) means that you should first type E and then press [Enter] or the space bar.

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We would like to inform you that we provide training in the use of our programs. For more information, please visit our website: <https://www.en.cadprojekt.com.pl/trainings/>

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