CAD PROJEKT K&A

features description

CAD Decor 2.X

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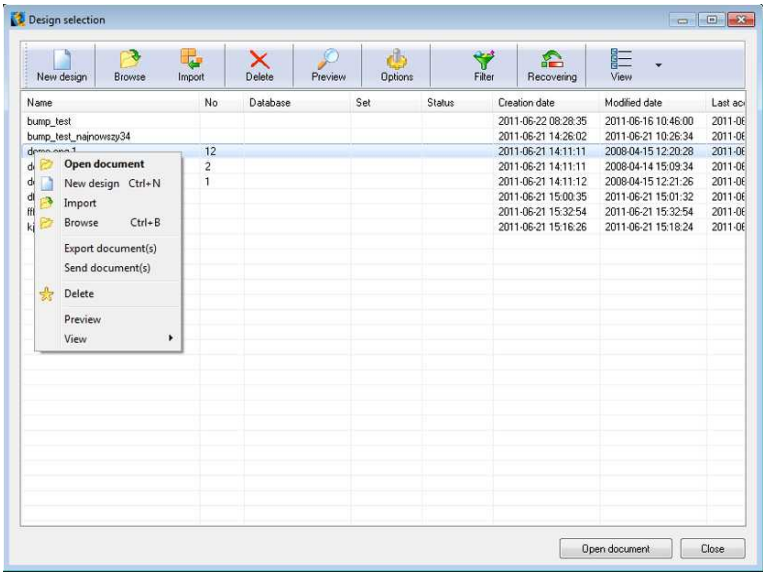
PROJECTS MANAGER

After running the program the window with the list of projects displays. In this window you can:



Project selection window

- create a new project or delete an existing one,
- open an existing project, selecting it from the list of projects available in the currently used directory,
- open a project in another location, e. g. on a portable disk,
- import a project from another location,
- preview projects,
- define the directory in which projects are to be saved,
- set up the frequency of auto-saving function operation, which protects you from losing unsaved information e.g. in case of power failure,
- search for a project using an advanced filter, on the basis of various criteria such as order number, project's name, creation or modification date, designer or customer details,
- recover a project damaged by power failure or program error (in the state from the last auto-save),
- adjust the view of the projects list – you can chose a table or icons, show only last or all projects etc.),
- export selected projects (packed to ZIP archive) to any location or send them by e-mail.

BASIC OPERATIONS ON ELEMENTS

Standard manipulations that can be performed on elements in the project are:

- **editing** – the following objects in the project can be edited: walls, windows, doors, additional elements in walls (orifices, niches, protrusions), any elements created by the user, posts, elements from equipment and furniture libraries. Edition functions enables the user to change object's dimensions, to scale it, or to exchange it for a different one,
- **moving** – by indicating 2 points with a cursor – the start and the target one, or by giving parameters in one of the axes X Y or Z,
- **deleting** objects,
- **copying** objects – unlimited number of times; the copies can be placed in any location, indicated with the cursor or based on a distance entered from the keyboard,
- **rotating** – by any angle; rotation in 2D only by Z axis or in 3D by any of the three dimensions X, Y or Z, and also by indicating 2 points and specifying an angle,
- **mirroring** – creating a mirror reflection of an element on the basis of indicated rotation plane; this function is very useful while drawing complicated shapes for templates for user's elements,
- **grouping** – joining a few objects in one set, what makes it possible to operate on many objects simultaneously,
- **ungrouping** - and separating grouped objects so they again can be edited independently,
- **offsetting** – creates proportional lines, parallel to the existing object, that are drawn on the indicated side (left, right or both) and in the given distance from the original element,
- **trimming** – enables to cut off and trim parts of elements – lines, arcs, circles, polylines, which are crossed by other lines, arcs and so on, to create new shapes,
  exploding – enables to divide objects (figures, polylines, blocks) into their components (single segments or surfaces).

ADVANCED OPERATIONS ON ELEMENTS

Some more sophisticated functions, that can be used to modify objects, are:

- **editing length** – quickly and easily modifies the length of already drawn line, based on various criteria: by indication, proportionally, overall or by adding a segment of an indicated length; this function is especially useful when correcting lines drawn at an angle other than multiples of 90^{o},
- **filleting** – connecting 2 entities with an arc of a specified radius to create and rounded edge; you can filler pairs of line segments, straight polylines, segments, arcs, circles, rays and infinite lines,
- **aligning** – you can align selected entities with other entities in 3D space – simply select the entities you want to align and specify 1, 2 or 3 pairs of points to be put together,
- **arraying** – copying entities in a rectangular or circular patterns (arrays); for a rectangular array the number of copies in the array is controlled by specifying the number of rows and columns and distances between them; for a circular array you control the number of copies that compose the array and whether to rotate the copies,
- **arraying in 3D** – copying and arranging selected entities in 3-dimensional pattern, rectangular or circular; in a rectangular array you can decide on number of rows, columns and levels (and distances between them), and in circular array you specify the axis around which to array entities, the number of copies and the angle subtended by the resulting array.

DRAWING AND EDITING WALLS

There are 4 ways of creating the walls of the room available in the program:

1. Walls Wizard

- there are 4 ready templates to choose from, which can be modified by changing dimensions of particular wall segments, as well and the height of the room, thickness of the walls and the rotation angle of the whole room,
- introduced changes can be viewed on the preview on the right-hand side of the window,
- if any of the walls is not to be inserted in the project, it can be deleted by a single click on it in the preview.

2. Draw walls option

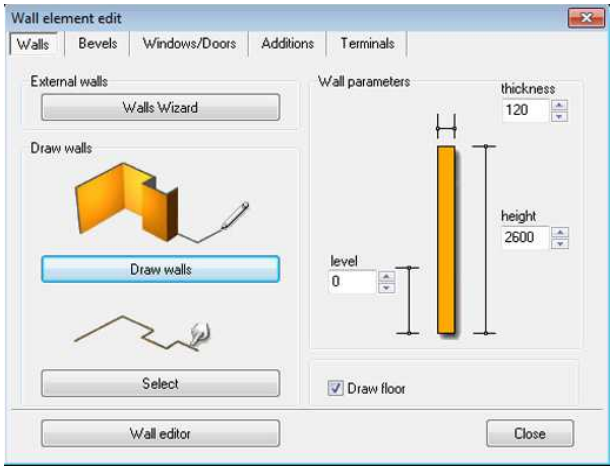
- you can create the outline of the room all by yourself: first in the **Walls Wizard** set the thickness and height of the wall, click the **Advanced** button and then **Draw walls** button; to start drawing the walls you have to indicate the direction by moving the cursor ((notice: always draw clockwise!) and then define the length of each wall segment, until the whole contour is ready,
- the length of each segment can be defined by clicking the left button of the mouse or by entering it on the Command Bar (the second option is recommended because it is easier and precise),
- the consequent segments can be drawn at any angle (under the condition of switching of the orthogonal mode or giving a proper keyboard command).

3. Indicate option

- to be able to use this option first you have to draw the outline (path) for walls using the **Draw path** tool,
- drawing proceed in the same way as described above – by clicking the left mouse button or typing keyboard commands you draw consequent segments of any length and at any angle,
- the program creates the walls of a defined thickness and height and a floor (if this option was chosen)
- this technique is especially useful when the modification of previously drawn walls shape is necessary.

4. Walls editor

- allows to freely modify existing walls at any stage of work, including drawing a completely new outline,
- to choose the wall for edition simply click on it (marked wall changes its colour to navy blue and in its corner a red and a green mark appears),
- there are the following options to users disposition:
  - changing parameters of walls – their height and thickness,
  - changing the distance between the partition walls and floor,
  - joining segments by inserting a new segment between them,
  - deleting existing segments,
  - adding new segments at a specified angle and of a given length,
  - inserting niches (4 types to choose from), giving the parameters of the niche and the distance from the corner of the wall); new segments will be added and it is also possible to insert a platform into a niche,
  - cutting a corner - perpendicularly or obliquely, rotating the wall in relation to another, to which it borders on, at any angle, dividing the wall to 2 or 3 segments from which each one can be divided again,
  - creating partition walls of a defined angle and length, with an option of adding new segments,
  - inserting windows and doors,
  - inserting additional elements of walls such as recesses, orifices or protrusions of various shapes, e. g. round, triangular or rhomboidal.



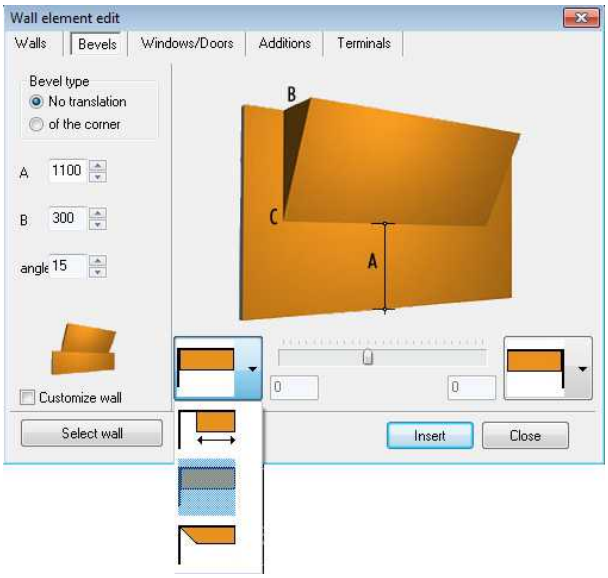
Edition of elements of walls window

INSERTING AND EDITING ELEMENTS OF WALLS

The following wall elements can be added to the created rooms:

Bevels

- options: bevels of walls or corners,
- a possibility of defining bevel's parameters,
- in the case of wall bevel, if it is only placed on some part of the wall, the distance from the corner can be freely defined,
- an option of selection of the type of bevel's ending is also available – a straight ending (adjacent to the corner or not) or a diagonal ending,
- windows can be inserted in bevels – to do so it is necessary to mark the option **Adjust the wall** while inserting a bevel (thanks to this the background will be visible in the window, and not the edges of the wall),
- bevels cannot be edited, so if you happen to insert it incorrectly, you have to deleted it and insert the new one (please note that the height of the wall on which you placed the bevel might have changed).

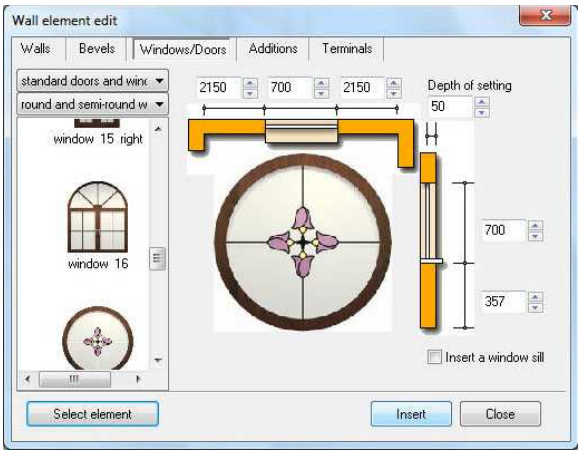


Bevels tab in **Edition of elements of walls** window

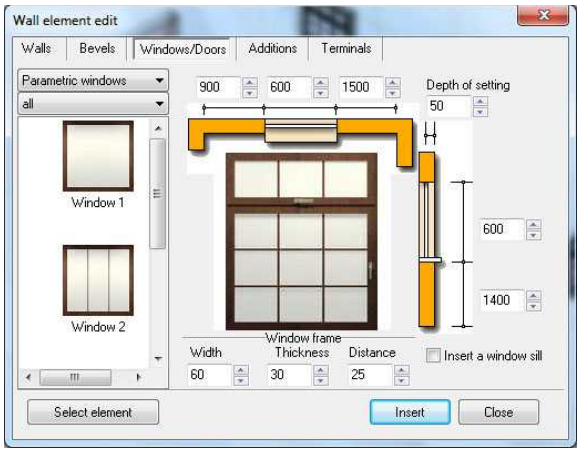
Windows and doors

- insertion of doors and windows is performed analogically to described above insertion of bevels,

- first you have to choose an element from the database, and then indicate where the window or door is to be inserted (it can be inserted in either wall or bevel),
- there is also a possibility to insert windows by the means of a parametric method,
- it is easy to select a suitable element with a filter, which enables the user to view only one type of elements at time – e. g. only single or double windows or door opening inwards or outwards,
- the filter also allows to choose between standard doors and windows or parametric windows,
- after selecting a model of a window or door, you have to define its parameters:
  - the distance from the corner of the wall (left or right),
  - the width of a door or window,
  - the distance from the floor to the windowsill (or the level on which the door is to be placed at),
  - the depth of the embedment the door or window in the wall,
  - the depth of the windowsill (if the option **Insert a windowsill** was chosen),
- while inserting parametric windows, the following parameters should be defined:
  - the number of vertical and horizontal bars and their width,
  - the size and location of the window and the depth of its embedment in the wall,
  - the width, thickness and offset of the window frame,
  - the depth of the windowsill (if the option **Insert a windowsill** is chosen),
- during defining the parameters, the schematic preview of the element is visible in the project to make it easier to properly adjust dimensions and position of the object,
- if you try to place the element in a location already occupied by a different object, then you will be informed by the program about the collision,
- inserting objects can be centered vertically and horizontally (this option is available after left-clicking on the preview and only during inserting – and not when editing the object).



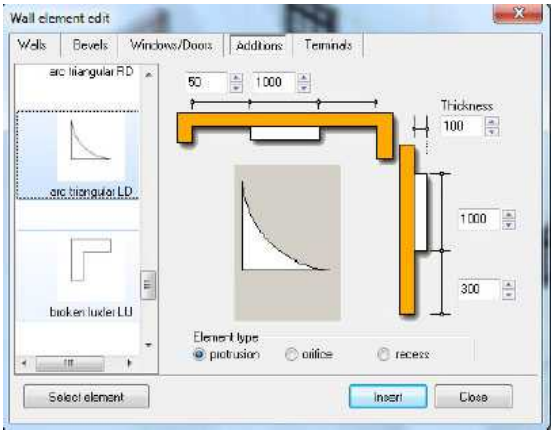
Standard doors and windows



Parametric doors and windows

Additional elements

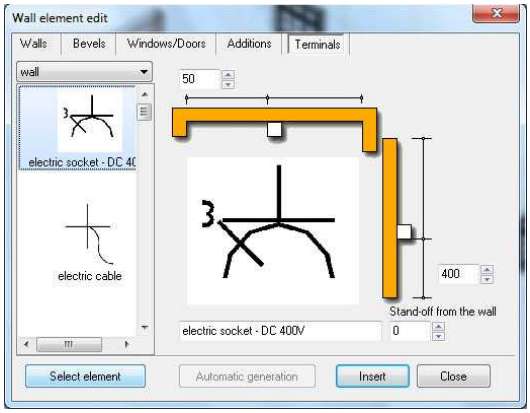
- inserting of additional elements does not differ from inserting windows and doors,
- you have to choose the shape of the element and indicate a location (a wall or a bevel) where it should be inserted,
- additionally you can choose the type of the element (a protrusion has defined depth and protrude inside the room, an orifice goes straight through the wall and a niche goes inside the wall but its depth is smaller than the depth of the wall),
- then define the parameters accordingly to individual preferences or needs.



Additions tab

Terminals

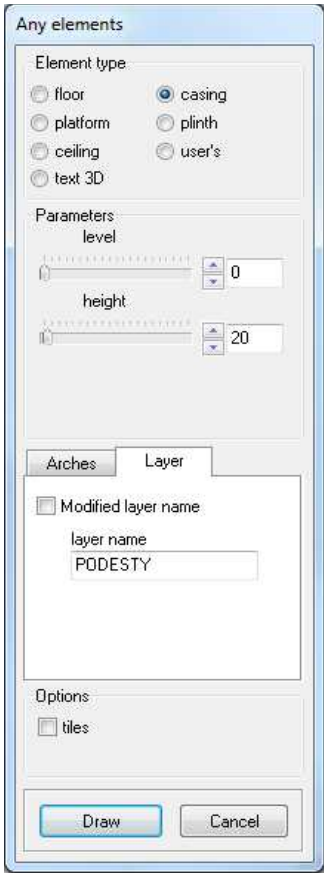
- the mechanism of inserting them is analogical to the ones described above,
- terminals are clearly divided into 2 groups – wall and floor ones,
- they are particularly useful when a detailed technical documentation of the project is created,
- windows, doors, additions and terminals inserted to the project, can be edited and freely modified.



Terminals tab

ANY ELEMENTS

- objects described as **Any elements** are created on the basis of templates drawn by the user with the use of all available drawing tools,
- these elements can have shapes and parameters freely defined by the user,
- they can be edited, copied, rotated and moved in space,
- dependent only on user imagination – these elements can have any number of orifices and the most unusual contours,
- there is 7 types of elements available:
  - **floor** – flat element, used mainly to create floors of a specified shape; an option of auto-generation of the floor in the exact shape of the room is also available,
  - **platform** – a block with side walls, a top and a bottom; used to create partition walls of irregular shape or with orifices, platforms, steps, suspended ceilings, untypical worktops etc.,
  - **casing** – a flat element consisting only from side walls, similar to a floor but in a vertical position, the casing may be created from just one segment of the polyline,
  - **plinth** – a block created from only one segment of the polyline or a frame or ring created from a closed contour,
  - **ceiling** – a flat element analogical to the floor but placed 2600 mm above the floor level,
  - **text 3D** – 3-dimensional letters,
  - **user's** – your own element, created from 3D surfaces, you can draw using '3dface' command.



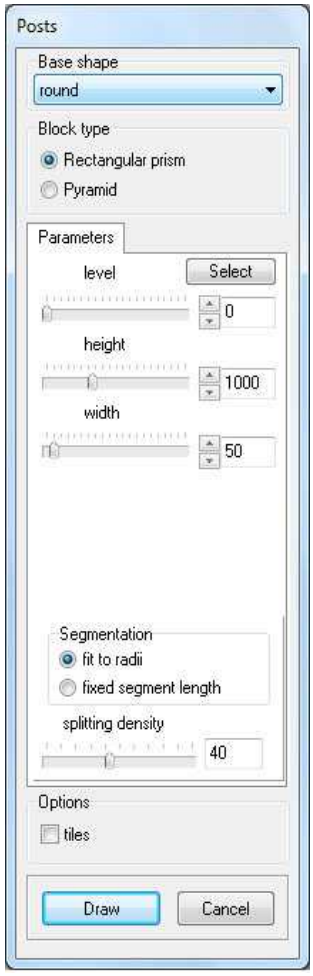
Any elements window

Additional options

- **layer** – enables the user to save the object on a different layer than the one currently used (this option is available for all types of elements),
- **arcs** – an option connected with another option – **Tiles**, which enables the user to define the number and size of rectangular segments consisting the arc; dependent on user's settings, the cylindrical block can be covered with the whole or cut tiles; in addition, the user has a possibility to cover the arc with a texture without dividing it into segments – the block with be smooth; this option is available for platforms, casings and plinths,
- **profile** – enables the user to shape any edge of the object on the basis of previously drawn path; option available for platforms and plinths.

POSTS

- a function of dynamic 3D modeling enabling creation of basic cuboids and pyramids, only by defining a location point and block's parameters; available types of the base:
  - **circular** – the base is a circle in which the diameter is equal to the width of the block,
  - **triangular** – the base is an isosceles triangle, and the width is equal to the triangle side,
  - **square** – the base is a square and the width is equal to the side of the square,
  - **rectangular** – the base is a rectangular; this type is useful for creating partition walls or suspended ceilings,
  - **hexagonal** – the base is a hexagon, the width is equal to the length of the diagonal of the figure,
  - **arc** – the base is a segment of ¼ of a circle, based in ½ of a square; this block is useful for building concave arc walls; the width is equal to the radius of the segment,
  - **arc wall** – the base is made by 2 segments of circles of different radii, but the same gape angle, placed parallel to one another; useful for creating concave or convex arc walls, also between corners of an angle different then 90^{o},
- dependent on the chosen type of the block, the user can define various parameters of the blocks: their height, width, level, length, radius, thickness, angle and target point for a top of the pyramid,
- for cuboid posts, like for other elements created by the user, there is a possibility of placing tiles on them and dividing cylindrical elements into segments,
- optionally, for cuboid posts, there is also a possibility of excluding them from the valuation – in this case the post will be omitted in the cost estimation of the project.

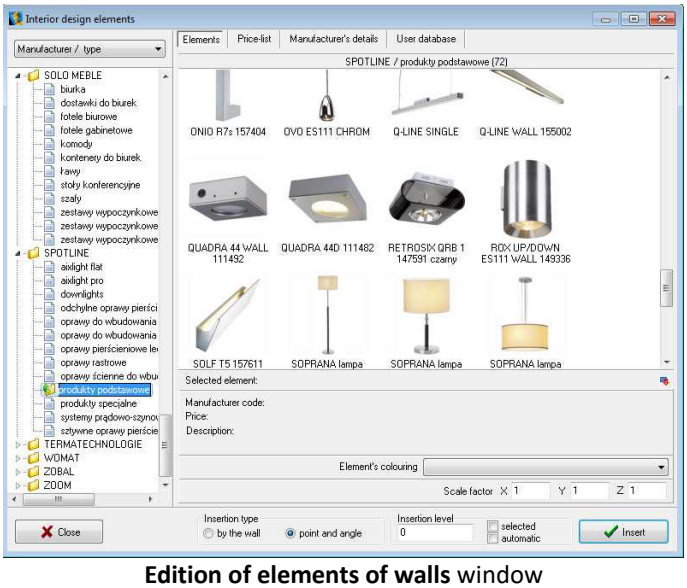


Posts window

3D ELEMENTS

Inserting 3D models

- you can use multiple 3D objects from producers' and universal databases, included in the program as well as from your own individual **User Database**, such as: furnishings and equipment, fittings and ceramics, lighting, radiators, additional decorative elements, accessories and others,
- an easy way of searching for the suitable model – using **producer & type, producer & set** or **type of the object** categories,
- each model in the database is assigned its preview (picture file), producer code, name, description and price (accordingly to producer's price-list),

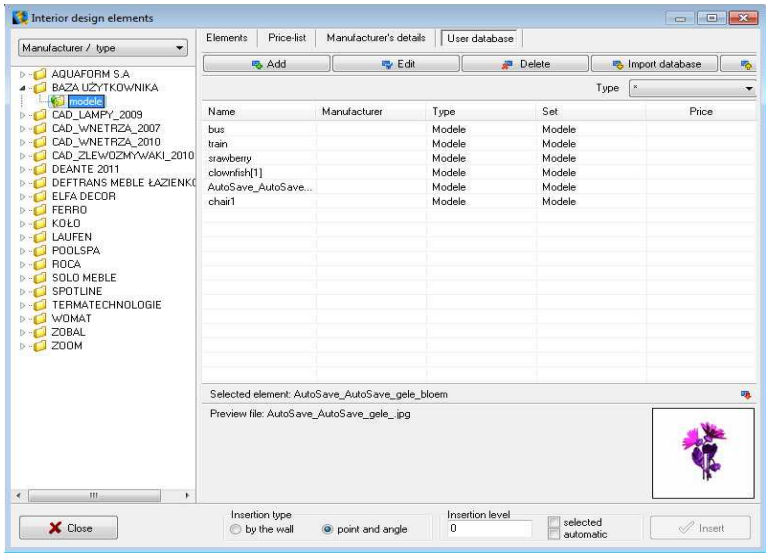


Edition of elements of walls window

- the way the model is to be inserted in the project can be chosen:
  - **by the wall** – the object will be suspended on the wall or put right against it,
  - **point and angle** – placing an object in any point and at any angle, indicated by mouse clicking and movement,
  - **insertion level** – defining the height on which the object is to be inserted (additionally you can choose **indicated** – when the objects is to be placed on another object or **automatic** – when the default level is to be used, e. g. in case of ceiling or wall lamps, mirrors, batteries or sinks),
- you can get contact information about the given producer in the **Producer details** tab,
- each object in every database has some parameters attributed, but you can freely modify them accordingly to your needs by scaling them or changing the default parameters,
- elements inserted in the project can be viewed in visualization.

User Database of 3D models

- you have a possibility to create your own database of 3D models,
- they can be created in CAD Decor, CAD Kitchens, CAD Decor Pro or any other CAD program, or downloaded from the Internet,
- thanks to the new module – **Converter 3D** – files in many popular formats can be used, such as: DWG, DXF, SKP, PLY, STL, OBJ, LWO, OFF, DAE, CTM and 3DS,
- **Converter 3D** closely cooperates with the **User Database**, by converting above format to CAD Projekt's format DWX,

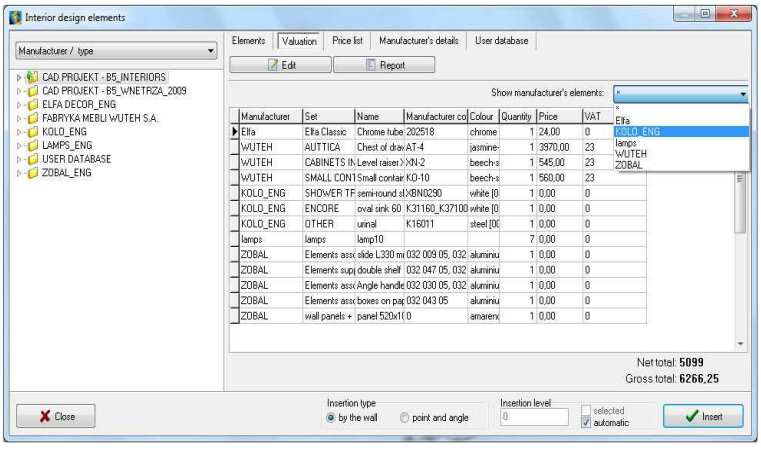


Edition of elements of walls window - **User Database** tab

- while adding a new element to the base, you should specify its name, producer, category, set, price, tax, margin, discount, insertion level, colour and load the preview file,
- you can edit all positions in your base and change their details,
- each model can be assigned a colour (texture) and properties (light emission, glass or gloss effect, reflections) and its dimensions can be changed,
- models added to the base can be used is the project straight away.

3D elements valuation

- all objects used in the project are automatically added to the summary report, and the user can check the cost and change the prices of chosen elements in any moment,
- in the summary report the following information is provided: producer's name, set to which the model belongs, producers code, colour, quantity, price and tax, and the overall net and gross price of the equipment used in the project,
- the summary report is constantly updated – each newly inserted model is added to it automatically,



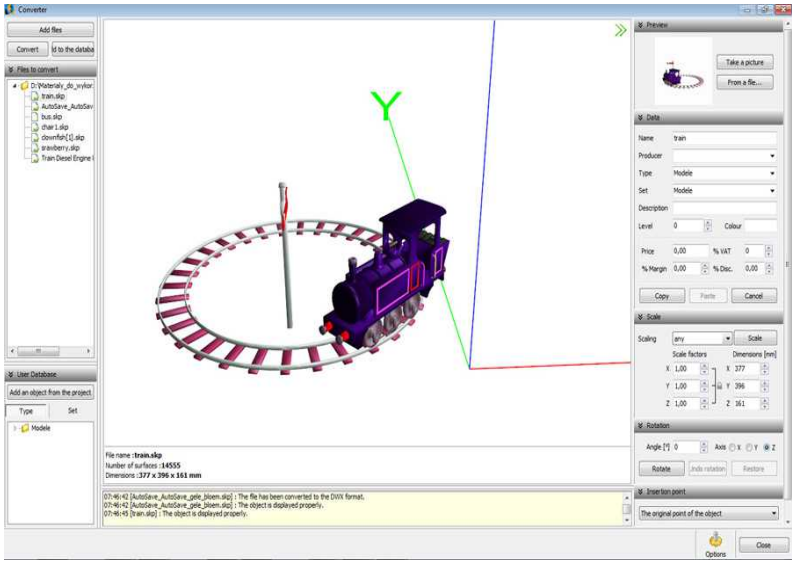
Valuation of interior design elements

- prices, tax rates, discounts and margins can be freely modified,

- the user can preview and edit prices of all elements in the database,
- changes can be applied to one chosen element or globally to whole groups of elements,
- the summary report can be saved as HTML file or printed.

CONVERTER 3D

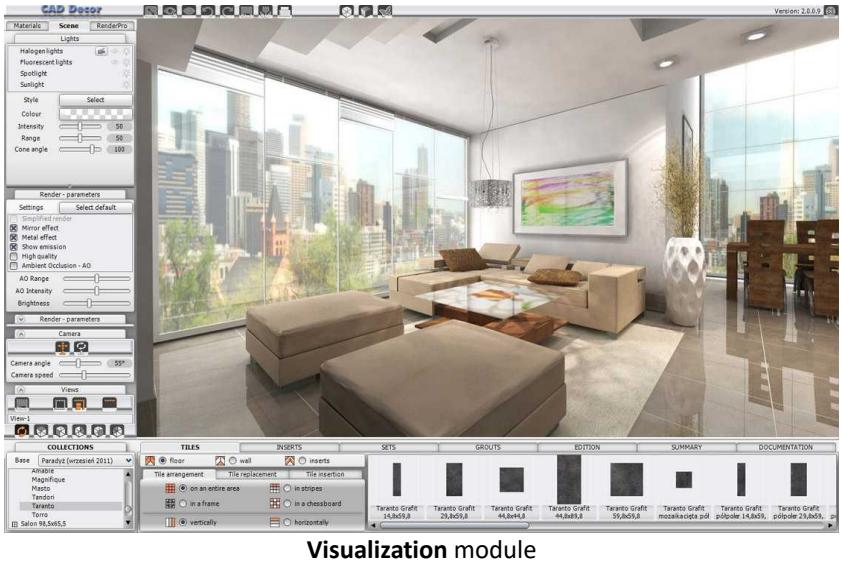
- this new module enables the users of our programs to convert files in many formats to CAD Projekt's format – DWX,
- this gives them great flexibility in using many models created in other applications in creating their own **User Database** of 3D models,
- you can covert files in the following formats:
  - **DWG** - an AutoCAD format; it was read by our programs before but only in a form of a 3DFace file – and now also 3DSolids can be used (the only condition is using the dot4cad work environment – option unavailable in BricsCAD),
  - **DXF** – very popular format by Autodesk, read by AutoCAD and 3D Studio and many others,
  - **3DS** - format used by 3D Studio Max i many other programs,
  - **SKP** - format used by Google Sketch Up,
  - **PLY, STL** – standard formats used in many programs for creating 3D graphics,
  - **OBJ, LWO, OFF** - standard formats used in many 3D computer graphics programs,
  - **CTM** - format used by Open CTM,
- converted models can be freely scaled (either proportionally or independently in all 3 dimensions) and minimize their grid density, if the number of surfaces from which they constitute of is too big,
- after the conversion models can be added to the **User Database** and used in the current project,
- **Converter 3D** ensures great freedom in creating the project space with original, unique and interesting models.



Converter 3D'window

VISUALIZATION

Visualization (in other words: interactive viewfinder environment, rendering module) is this part of the program in which the realistic view of the project is created. In this module the most important processes take place, as far as the project's look is concerned: applying textures and paints to various surfaces, attributing properties to objects (such as colours, transparency, gloss, reflections), as well as designing and valuating arrangements of ceramic tiles, setting the parameters of light sources and



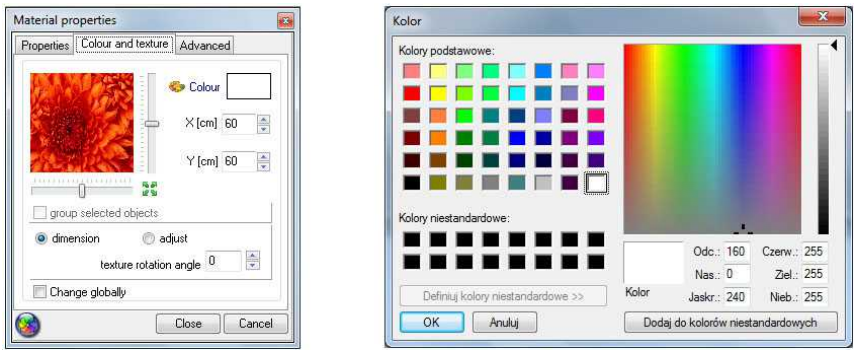
Visualization module

rendering. At the earlier stages designer's attention was focused on shapes and precise arrangement of objects in the project. Now the emphasis is placed on colours and materials and on careful selection of lighting, which influence on the look and atmosphere of the interior cannot be overestimated. It is also vital to properly set all rendering options, to obtain optimal visual effects.

MATERIALS, TEXTURES, COLORS

- you can use the textures we prepared for you or create your own database of materials, adding catalogued picture files in the following formats: JPG, PNG, BMP or GIF,
- adding catalogues with your own materials is quick and easy – just find a proper catalogue with pictures on the computer disk and open it – your textures will display in the **Materials Groups**, and the previews of each texture will be displayed in **Materials** panel,
- the number of textures shown at one time can be regulated – from 1 to 6 columns,
- textures can be applied to any surfaces: floors (wooden panels, carpets), walls (wallpapers), any elements created by the user (such as platforms, posts, casings, worktops, cornices and skirting boards) and to all the objects from 3D models databases,
- applying textures is done by a very simple 'drag & drop' method,
- textures already applied to the objects can be freely modified, inter alia: their size can be changed – e. g. adjusted to the size of the object, and their rotation angle can be freely set,
- thanks to the **Bump Mapping** effect textures which are not plane seem to be 3-dimensional – you can clearly see all patterns, protrusions and recesses, grooves and roughness, what makes them look far more decorative and realistic,
- objects in the project, apart from being covered with textures, can be attributed colours, selected by the user from the colour palette,
- what is more, they can be assigned various properties, described in the next point.

Materials tab



Edition of texture settings and colour selection

DEFINING THE PROPERTIES OF OBJECTS

Properties of interior equipment and decorative elements can be freely adjusted to user's needs. They are all visible after switching on the lights and make the objects look naturally. Effects that can be attributed are described below:

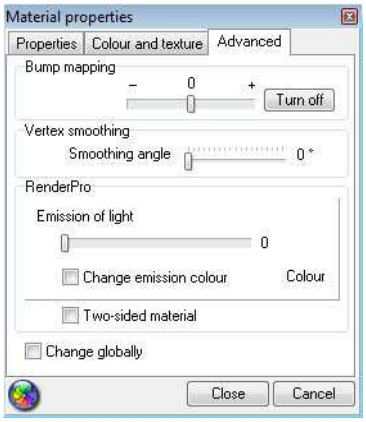
Basic properties

- **emission** – effect of self-glowing – maximum setting makes the objects look snow-white and imitate the emission of their own light; this property can be attributed to any entities; to make it visible click **Show emission** in the **Scene** tab and switch on the lights,
- **gloss** – this effect is used for polished, smooth surfaces such as plastic, wood, furniture polish; results in an illusion of light reflection similar to that on a porous plastic in real world,
- **glass** – an effect of transparency – maximum setting makes the object invisible, until the lights are on,
- **reflections** – range from subtle reflections to a full mirror effect, enables to create mirrors and metal objects – to make it visible select the option **Mirror** or **Metal effect** in the **Scene** tab; available are a few types of reflections:
  - **general reflections** – for elements of irregular shapes or cylindrical, imitating metal, e. g. chrome table legs, batteries, silver jars, metal pots,
  - **horizontal reflections** – for horizontal surfaces such as lacquered floors, worktops, coffee tables,
  - **vertical reflections** – for vertical surfaces, e. g. mirrors mounted on walls, cabinets fronts,
  - blurred reflections – this is an additional effect, which is available after selecting horizontal or vertical reflections – moving the slider to the right will make the reflections look blurred – like in the steamy mirror or cloudy glass.

Properties tab

Advanced properties

- **bump mapping** – a method of texturing small spatial objects, which consists of imitating little surface irregularities in order to achieve a natural distribution of light and shadow on the surface,
- **light emission*** – advanced light emission (in Watts per m^2); in opposite to the basic emission, the object will really emit its own light, and not only imitate it, and by doing so it will influence the light distribution and look of the entire room,
- **change of emission colour*** – the light emitted by the objects can have any colour,
- **two-sided material*** – for models, which are drawn with singular faces, but are supposed to present exactly the same properties on each side (e. g. on the top and on the bottom side), such as window blinds; it is useful also with models that have been incorrectly drawn and have inverted faces, and by some reason cannot be repaired by the means of **Scene repair** function,
- **change globally** – enables to introduce changes to all objects of one type at the same time,
- **show lights** – switches on the lights in visualization without closing the dialog box **Entities properties**, what enables the user to check the results of introduced changes for a currently edited object.



Advanced tab

(* - options marked by a star are available only with an additional module of Professional Rendering)

DESIGNING WITH CERAMIC TILES

This additional module offers multiple features of applying, editing and valuating ceramic tiles. Thanks to that the user can quickly design impressive arrangements, using floor and wall tiles together with inserts and decorations. You can use all kinds of wall and floor coverings available in our producer databases or added yourself to your **User Database** in **Tiles Database Editor.** Options of projecting with ceramic tiles are available on the bottom panel in visualization window, in which there are 8 tabs:

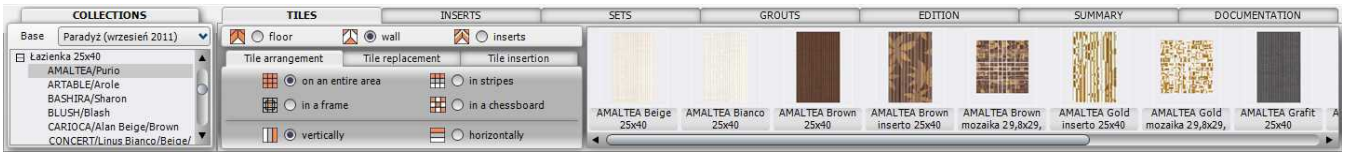
1. Collections

- here you can select producer's database which is to be used in your project, as well as **User Database,**
- in the list of producers you can see their company names and dates of last actualization of the database,
- after clicking on the selected base the list of available types of collections will appear (e. g. bathroom 30x50, floor 10x10),
- after clicking on the name of a collection, in the right field of the panel previews of all tiles in this collection will be displayed, grouped into 3 categories – floor, wall and decorative tiles.

Collections tab

2. Tiles

- enables application of tiles to various surfaces – floors, walls, steps, partition walls, platforms, casings,
- tiles are divided into 3 groups – **floor**, **wall** and **decorative** tiles,
- applying tiles is proceeded in the same way as applying textures – by using the 'drag & drop' method,
- tiles can be placed on surfaces in 4 ways:
  - **on entire area** – both vertically or horizontally,
  - **in stripes** – the offset from the grout can be defined (in millimeters) as well as the number of rows and the width of a single row,
  - **in a frame** – the tiles will be placed on the borders of the area; it is possible to set up the offset from the grout (in mm) and the width of the frame,
  - **in a chessboard** – tiles will be placed on an entire area alternately; this function requires that some tiles are already placed on the area, and that they are of the same size as the ones to be applied in a chessboard pattern,
- exchanging tiles in a project may be proceeded in 3 different ways:
  - **singly** – exchanges only 1 tile, indicated by the mouse cursor – the new tile should be dragged & dropped,
  - **on an area** – exchanges all tiles identical in regards to size on the selected area (e. g. arranged in a chessboard pattern),
  - **in the whole project** – this function is very useful when the user wants to exchange the whole collection to gain a completely new look of the room, and at the same time keeping the patterns of tiles already arranged; after moving a new tile to any area in the project, all tiles of the given type in the project will be replaced,
- the function **insert a tile** enables creation of tiles arrangements and applying so called 'inserts' – single tiles placed in any locations and at any angles; the user has to indicate the point, which will be the axis of tile rotation, and then an angle, by which the tile is to be rotated.



Tiles tab

3. Decorations

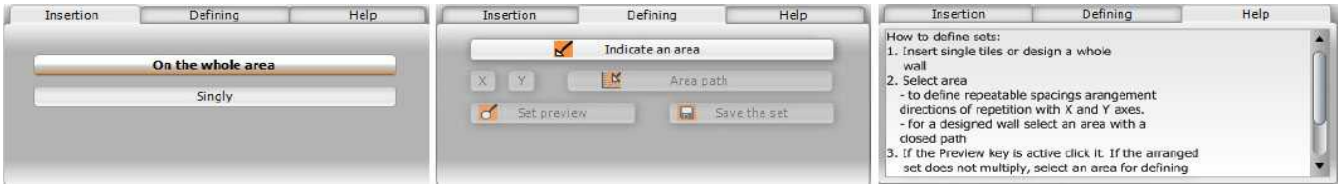
- options of advanced application of decorative tiles (decors),
- decors can be placed above or below the grout,

Decorations tab

- when placing a stripe of decors on the area, the user can either decide to move other tiles up or down (option **no cutting**) or cut them to adjust the strip (option **cut tiles**),
- there are 4 options of applying decorative tiles available:
- **stripes** – in a straight line, possibly through the whole wall, even if it means it will go across a few separate areas (option: **through the entire area**),
- **frame** – the decors will be placed on the borders of an indicated area,
- **frame + corners** – can be used with collections which consists corner tiles for decorative frames,
- **path** – after the user draws a path on tiles, this option becomes active and enables to place the tiles on that path, even in a irregular shape.

4. Sets

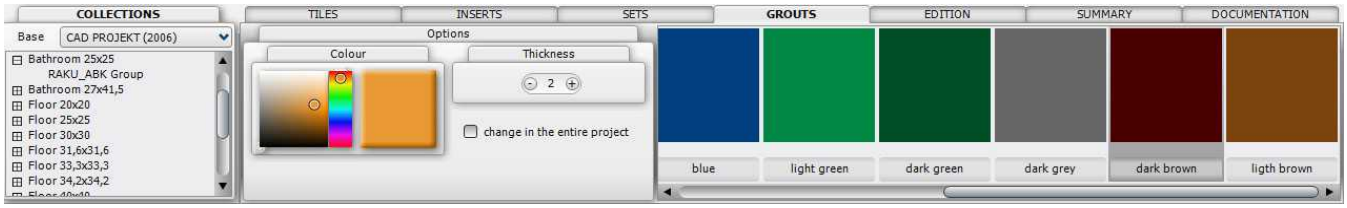
- the user can create individual compositions of tiles, consisting of a few different pieces, so called 'sets',
- it is necessary to plan the set logically in such a way, that the pattern is repetitive (vertically, horizontally or diagonally),
- projected set can be saved and attributed a name and collection, to which it is to be added,
- before saving, the user can check the preview of the set to make sure that the tiles have been planned correctly,
- saved set is available in the **Sets** tab after selecting the collection to which it has been attributed, and it can be used for unlimited number of times,
- sometimes producers provide their own ready-to-use tiles arrangements – in such case the tab will be marked with this sign: 



Sets tab – three sections

5. Grouts

- it is possible to edit width and colour of the grout,
- applying grouts is proceeded by the means of 'drag & drop' method,
- it is possible to introduce changes simultaneously for all tiles is the project (by choosing **change in the entire project** option),

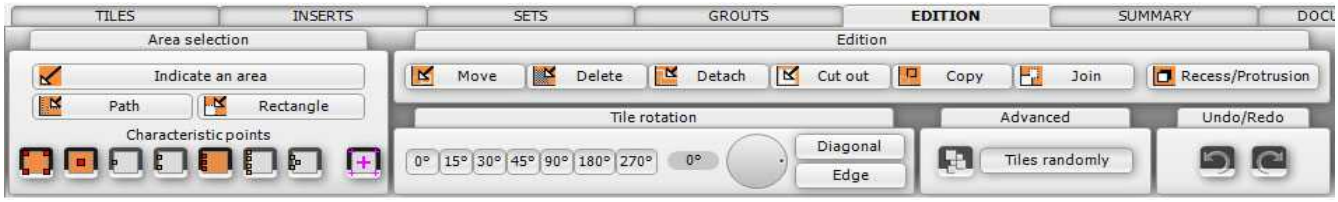


Grouts tab

6. Edition

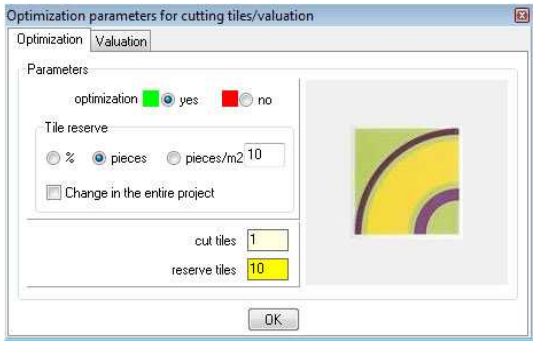
- there is a few options of edition of areas covered by tiles available in this tab:
  - **rotation** of an entire area by any angle,
  - **random placement** of tiles – to avoid repetition of identical tiles with an irregular patter, e. g. mosaics,
  - **moving** the whole area covered with tiles, e. g. to place grouts evenly,
  - **deleting tiles** – in 3 ways: all tiles from a selected area, all the tiles from the selected object (e. g. wall), all the tiles from the entire project,
  - **drawing a path** on the tiles to create a freely complicated outline and then divide a new area on which new tiles can be placed,
  - **copying tiles** from one area to another,
  - **joining** the areas previously divided and covered with different tiles,

- there is also a function of **Wall edition**, available in the context menu, which enables the user to prolong or shorten a selected wall segment (e. g. a partition wall) by any distance (also by multiple single tile length) without loosing all already applied tiles.



Edition tab

7. Summary tab



Tiles optimization settings

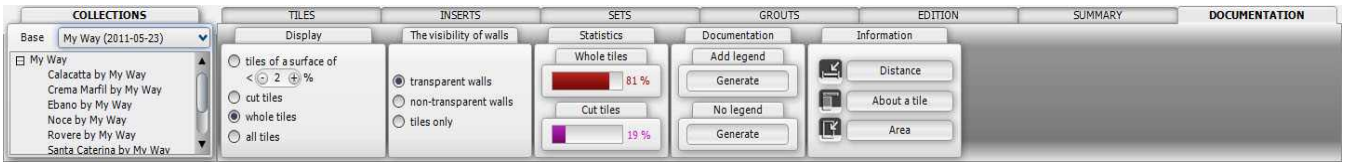
- consists all details regarding tiles used in the current project:
- a name of the collection from which the tiles come from,
  - dimensions of the used tiles (whole, cut and spare),
  - area covered with tiles in m^2, which can be used for creating a preliminary cost estimation for tilers,
  - the amount of waste in m^2,
  - the amount of tiles and units, in which they are sold,
  - net and gross prices, the number of packages and overall weight of all used tiles,
- after marking any position in the summary the area in the project covered by this tile will be highlighted,
- unique feature of **Optimization** enables to use the waste of a cut tile in another place in the project (usually floor and wall tiles are optimized by default),
- the number of spare tiles can be established on the basis of a percentage value, pieces or pieces per square meter, and the added spare supply will be included in the summary,
- the summary can be printed in two ways (in both cases it is necessary to enter or change details regarding the project and the studio):
  - in a graphic form – given details and logo will be presented, as well as tiles previews and details, along with their amount, prices, net and gross value of the whole order, overall area covered with tiles and overall weight of tiles,
  - in a form of a text file – a text file will be generated that will include all above information in the text form.

Summary tab

8. Documentation tab

- displays areas covered with tiles in a few ways – shows areas covered by tiles smaller than x% or all cut tiles or all whole tiles or all tiles used in the project, or show them without tiles,
- project can be displayed in 3 ways:
  - **transparent walls** - also the tiles that normally would be invisible, because they would be covered by some walls, would be displayed – walls are hidden,
  - **opaque walls** – only these tiles can be seen, which are not covered by any walls – walls are not hidden,
  - **only tiles** – the walls of the room and all other elements of the project are hidden, leaving only, the net of tiles,
- **statistics** option provides the user with information about a percentage of whole and cut tiles in the project,

- **documentation** (with or without a legend) exports a pattern of tiles to the CAD environment, where dimensions and descriptions can be added and a technical drawing for tilers can be created,
- it is also possible to:
  - **measure the distance** between any 2 points (in millimeters and the distance in each dimension - axis X, Y and Z),
  - **display a label** for each tile, informing from which collection it comes from, and go to that collection by the means of a hyperlink if needed,
  - **get the information** about the size of the area covered by the particular tiles.

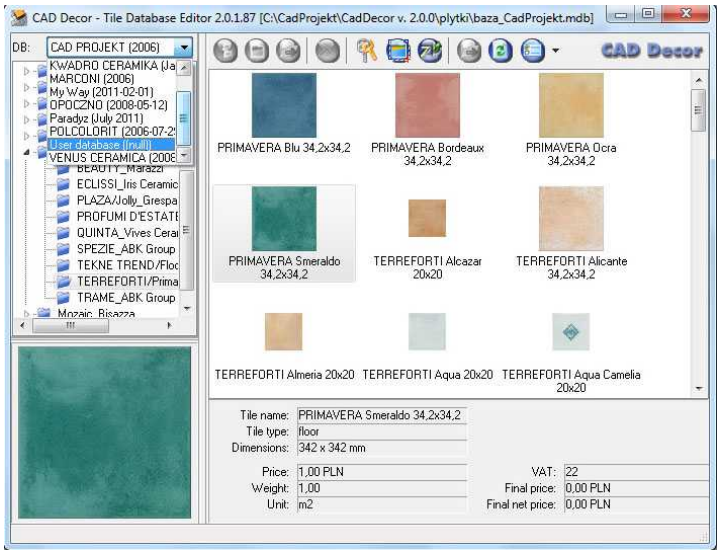


Documentation tab

TILES DATABASE EDITOR

Tiles producers' databases

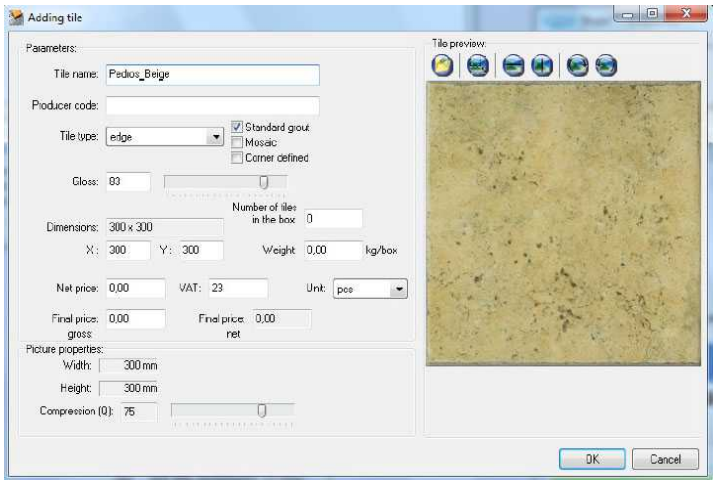
- **Tiles Database Editor** enables users to edit prices in producers' databases,
- a broad range of producers' databases are available in CAD Decor, both Polish and foreign, and they are constantly updated,
- each database is divided in a way that ensures an easy operation – they are divided in collections (e. g. kitchen, bathroom), sizes (10x10, 33,3x33,3), types of products (clinker, gres, mosaics) and technique (glazed, glossy, matte, hand-painted).



Edition of tiles producers' databases

User Database of tiles

- the main functionality of the **Tiles Database Editor** is creating the individual **User Database** of tiles and other coverings,
- while creating an own database in the first place user has to add a new collection, and then add an unlimited number of tiles to it, together with their graphic previews and all necessary data, such us: tile's name, producer's code, tile's type (wall, floor, edge), grouts, corner (option available only when the collection includes edge tiles), gloss level (in a scale from 1 to 100), dimensions (in mm), the amount of tiles in the box (optionally), weight (kg per box - optionally), net price, tax rate, gross price, unit (pieces or m^2),
- all information given during adding the tile to the base will be used in the project summary,
- tiles added to the **User Database** are available in the program straight away after reloading the base. They can be used in the current project and in the future.



Adding tiles to the **User Database**

PAINTS

- paints module is available for free together with CAD Decor, CAD Kitchens and CAD Decor Pro programs,
- it enables the user to choose paints and other coatings for interior and exterior surfaces and to use them in the project,
- applying paints takes place in visualization and is possible at any stage of creation of the project,
- paints, alike textures and tiles, are applied to selected surfaces by using the 'drag & drop' method,
- for your disposition there is a broad product offer by a renowned producer of decorative paints and other coatings – Tikkurila,
- you can choose between: enamels (alkyd, water-based, floor), paints (latex, emulsions, white and colour) lacquers (acrylic, floor, urethane-alkyd), stains and structural plasters,
- an option of an advanced product selection based on various criteria – product type (paint, undercoat, lacquer etc.), destination (material, to which the paint will be applied – wood, metal, walls or floors), key-word (e. g. acrylic lacquer, emulsion) or family of products (*Feelings*, *Optiva*, *Pure White* **etc.**.),
- selected products can be applied directly to the project or saved in an individual palette, to be easy to find in the future,
- there is a short characteristic of each product available directly in the program, as well as a full, detailed technical description in PDF format for downloading on the producer's website, which the user can access by the means of provided hyperlink,

Paints module

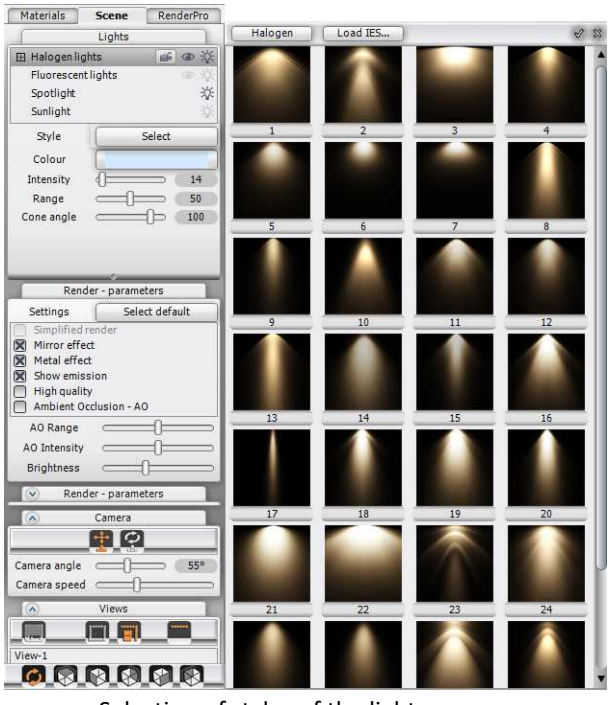
- each new coating is automatically included in the summary, which contains all data necessary to prepare and order (name, date, personal details and address of the client, details of the company realizing the project, names and codes of the products, previews of colours, painted area, number of coatings, the necessary amount of paint, number of packages, and optionally – net and gross prices).

MANAGING THE LIGHITNG

The light in the project is a very important factor and decorative element, because this is mainly thanks to it the project looks realistically. In CAD Decor there are 5 types of light sources:

1. Halogen lights

- they emit spot light. Parameters available for edition:
  - light style – you can choose a shape of a generated light spot e.g. on the lighten up wall nearby, in other words – a style of light distribution of the given light source; they help to create realistic effects of lighting; there are 32 different styles (IES files) available on the basic level (with an additional module of Professional Rendering you can add your own IES files – downloaded from the Internet or created by yourself),
  - **light colour** – the colour of the light can be freely modified,
  - **light intensity** – defines the brightness of the light,
  - **light range** – defines how far the light emitted by



Selection of styles of the light sources

the edited source will reach,
  - **light cone width** – defines the range of the beam of light,
- the light emitted by halogens emphasizes the **Bump Mapping** effect (e. g. a beam of light thrown by the wall lamp to the wallpaper nicely accents its spatial patterns).

2. Fluorescent lights

- they emit linear light; parameters available for edition are: **light colour (**the light may be attributed any tint available in the palette) and **light intensity** (light sources may emit light with various intensity – the higher intensity, the more powerful is the source and the brighter light).

3. Spotlight

- an additional light source in the project, used for lighting up the scene before other light sources (physically existing) are inserted and adjusted, e. g. while applying textures; can be also used to emphasize the **Bump Mapping** effect while creating illustrations of the project,
- parameters available for edition: **light colour, intensity, position** (the spotlight can be freely moved in the project space in 3 dimensions – represented by axes X, Y, Z).

4. Sunlight

- it is an intensive light penetrating orifices and glass elements, and blocked by opaque elements – it the same way as it is in real word; it gets into the room through windows, holes, glass doors; it can be used for emphasizing all visual advantages of the design and making it look more naturally,
- parameters available for edition: **colour** (a pale shade of yellow is recommended for daylight), **intensity**, **height over the horizon** (you can place it in zenith position or just over the horizon, as it was rising or setting), **direction** (defines from what part of the world the light enters the room), **size** (defines the width of the beam of the sunlight – when the wall is long and there is many windows in it, it is recommended to make the beam wider.

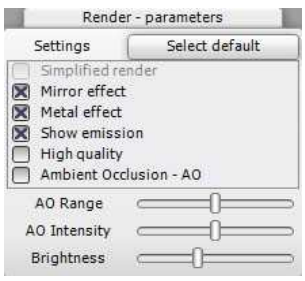
5. Emissive objects

- function available only with the **Professional Rendering Module,**
- all objects and materials that has been attributed an advanced light emission, produce a real light that diffuses in the space and influences the overall distribution of light in the room;
- defining and regulating these light sources is available in the **Advanced** tab in **Material properties** dialog box;
- additionally it is possible to change the percentage of intensity of emission for all emissive objects at once, using the **GI Emission** slider in **RenderPro** tab (this option is available only with the additional **Professional Rendering Module**),
- light sources such as halogen and fluorescent lights are inserted to the project by the user, using suitable elements from universal databases of 3D models by CAD Projekt or lighting producers' databases. Despite of light sources added to the project by the user there are also 4 default halogen lights in the ceilings, a spotlight and a sunlight, from which none has a physically existing source.

STANDARD RENDERING

The basic level of rendering, in other words – the quality of imaging. Determines the quality, contrast and depth of the image, that is displayed after the lights in the project are switched on. This is why the proper setting of lighting parameters is so important.

Thanks to innovative solutions applied in our software, based on the latest achievements in the field of computer 3D graphics, in particular algorithms of calculating the scene illumination, even with the smallest effort the results of visualization are really impressive.



Control panel
Render – parameters

STANDARD RENDER FEATURES

Simplified render

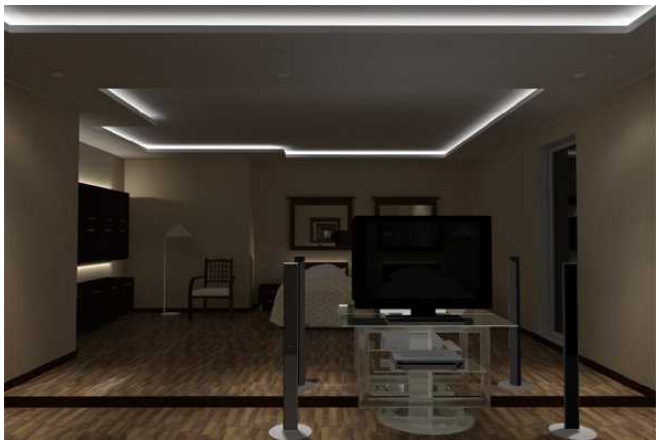
- more economical version of render, uses less memory,
- useful particularly with computers with weaker performance, with less processing power,
- shorter time of achieving the final effect,
- worse appearance of the shadows – less realistic, more sharp, 'angular' and 'serrated',
- less visible **Bump mapping** – flattened and devoid of shades.

Visualization with the simplified rendering

Visualization with the standard rendering

Mirror effect

- displays attributed properties of vertical reflections for objects imitating mirrors – all effects visible after the lights are switched on.



Mirror effect – notice: in this example a function of **Raytracing** has been used, available only in the additional module of Professional Rendering

Metal effect

- displays attributed properties of general reflections for objects imitating metal when the lights are switched on.

Metal effect – example 1

Metal effect – example 2

Emission presentation

- displays attributed properties of own light emission,
- there are 2 kinds of emission available – **basic** and **advanced**; the first one is available for everyone and makes the objects glow (but they do not emit the real light); the second one is available only with an additional module of Professional Rendering and gives an effect or a real light emission,
- the **Show emission** function displays the **basic emission** and operates in the same way as glow effect (called also: light bloom), this is creates an impression of the object glowing brightly with an intensive, white light,
- as a result, objects which have been attributed the basic emission are surrounded by a halo that, looks as they were emitting light.

Show emission function operation (glow effect) - Halogens with basic emission - 1

Show emission function operation (glow effect) - Halogens with basic emission - 2

High quality

- improves the quality of obtained effects of visualization, if only the processing power of the computer allows it,
- most significant changes regard the quality of shadows in the project,
- they become softer and natural, and more gradual – like in the real world,
- the operation of this function has been illustrated below – please note how the look of the shadow on the washbasin has improved.

High quality option **s**witched off

High quality option switched on

Bump mapping

- it is a specialist method of texturing, simulating even the smallest unevenness of the surface of objects,
- gives an effect of a totally realistic look of the visualized surfaces, e. g. ceramic tiles, wood, printed wallpapers,
- thanks to **Bump Mapping** all protuberances of textures and tiles gain natural gloss and roughness.

Bump mapping – example 1

Bump mapping – example 2

Vertex smoothing

- this feature can be used for additional processing of 3D models in visualization,
- it smooths curves of selected objects, which were drawn in a way not ensuring a proper look of oval elements, or which lost their ideal shape during the conversion and grid minimization,
- thanks to this option, is it possible to significantly diminish or totally remove sharp edges or corners in places, where objects should be smooth and rounded.

Before using the function of **Vertex smoothing**

After using the function of **Vertex smoothing**

Ambient occlusion

- a special method of shading spatial objects, consisting of calculation of the degree in which the given fragment of the object's surface is exposed to the ambient (diffused) light in the room,
- gives the extra depth and perspective to the scene, increasing a reality of its look,
- this option is responsible for a naturally looking shadows and shades, especially in the corners of the room and between the walls and the ceiling,
- the level of the **Ambient occlusion** can be regulated:
  - **AO Range** - changes the scope of the shadows created by ambient occlusion – when set to the minimum the shadows occupy the smallest space, and at maximum – stretch on a much wider area,
  - **AO Intensity –** regulates the strength of the shadows – at minimum they are pale and delicate, at maximum – dark and expressive,
  - **Brightness –** defines the level of a general illumination in the scene and the contrast between bright and dark objects,

About 55% of **Ambient** light

Ambient occlusion effect added

Presentation of the project - creating illustrations, animations and videos

Presentation panel

- our software offers some very attractive ways of presenting the results of your work to the clients – as illustrations (JPG, PNG or stereoscopic pictures – JPS file format), simple animations played in **Export 3D** module (3DE file format) or as real videos (AVI file format),
- when the arrangement of the room is completed, and all textures, materials, paints and coverings are applied and all properties and effect are attributed to selected objects, and most of all – when the settings of lighting and render are established in the most visually attractive way, then the user can create any number of illustrations of the project, e.g. in various views and proposed alternative colour versions,
- illustrations can be saved in various resolutions, up to double Full HD,
- the project in visualization can be also saved as a simple animation, which can be then played in **Export3D** module.
- you can record and save videos of any length, created on the basis of a freely defined path of the camera, that freely floats in the space which rendered in real time,
- the camera can be set at angle and its speed can be changed during recording (pausing is necessary),
- you can choose from many levels of resolution for your video – from the screen one up to Full HD,
- you can also change the number of frames per second and select an appropriate codec,
- in the result video the camera moves around the room with various speed and changes the view angle freely, and the scene in which it moves is rendered in the real time,
  videos can be presented in the **CAD Gallery** – a small application that can be run on customer's computer, as well as in any media-player supporting AVI files.

PROFESSIONAL RENDERING – additional module

The module of Professional Rendering is a modern tool for a very advanced visualization. Its main task to ensure a perfect quality of the visualization in a relatively short time. The shortening of the time necessary for proceeding all calculation was possible thanks to cooperation of the graphic card processor (GPU) and a multicore nature of a modern processor (CPU). Two main processes proceeded by this module are: Radiosity – in other words Global Illumination algorithm, and **Raytracing** – a method of calculating the reflections and refractions of light rays.

ADVANCED RENDER FEATURES

Radiosity

- **Radiosity** is the main **Global Illumination** algorithm,
- calculates data and estimates the overall distribution of light in 3D scenes (indirect light),

- it takes into consideration reflection and absorption of light by different objects and colours,
- parameters of **Global Illumination** calculated this way are remembered by the program and used for visualization in a real time,
- improves the efficiency of the rendering and enables to attain a natural look of the scene,
- effects are independent of the position of the observer,
- the calculation process has two stages – in the first one the program prepares data for analysis, in the second one – displays the calculated illumination of the visualization in cycles (their interval can be adjusted by the user from 0 to 20 seconds),
- the final look is obtained by the gradual improvement of the rendered scene.

1. A scene with a direct light – in order to gain a better visibility it is slightly brightened
2. A scene with both direct and indirect lighting. It is well noticeable that the light reflects from the worktop and from the bottoms of the cabinets
3. A scene with both direct and indirect lighting after 60 second. It is well noticeable the 'stains' on the ceiling has been replaced by the shadows coming from cabinets. These shadows were generated thanks to the analyze of the reflected light

Scene diagnostics and repair

- every scene undergoing the calculations has to be first properly prepared,
- this feature is designed especially for this – it repairs errors in the scene, this is reversed surfaces of 3D models, which may cause irregularities in the light distribution – objects with reversed surfaces are always much darker than they should after switching on the lights,
- putting all surfaces in the proper order is vital for the correct light distribution calculation and because of that this function is active by default.

1. The look of the scene after activating the option **Show inverted surfaces** – wrongly drawn surfaces are marked in magenta
2. **Global Illumination** for the scene with incorrectly drawn objects – it is clearly noticeable that objects that were previously marked in magenta are now much darker than they should
3. **Global Illumination** in the repaired scene – objects properly illuminated and displayed

Global Illumination parameters

- available settings of **Global Illumination** are designed to adjust rendering to designer's preferences,
- **Global Illumination** is a lighting model in which not only the direct light emitted by the light sources is taken into account (local light), but also beams reflected by objects such as walls, floors, furniture and equipment (indirect, global light),
- using this function ensures obtaining a realistic light distribution in the room.

Global Illumination - example

GI Influence

- this function regulates the influence of the diffused light on the general light distribution,
- when the slider is moved to the left, diffused light has no influence at all,
- **Global Illumination Influence** parameter can be adjusted during the **Radiosity** calculations and after they are completed.

1. **GI influence** 0% - minimum
2. **GI influence** 50% - default
3. **GI influence** 100% - maximum

GI Contrast

- influences the way in which the number values are converted into components of RGB colours,
- the **Global Illumination Contrast** can be increased or decreased in real-time during or after the **Radiosity** calculations.

Standard contrast

Increased contrast

Ambient

- the term **Ambient** relates to the ambient light (light diffused in the scene), which illuminates the room evenly and without shadows,
- ambient adds some white colour to the scene, which makes it look brighter,
- this function is useful in the scenes that should be bright but the current settings of light sources do not allow to attain such an effect.

The glass in both windows emits light,
no other light sources in the scene

55% of **Ambient** light added,
the scene is significantly brighter

GI Colours

- regulates the coefficient of light reflected by all surfaces in the scene (in other words: decreases the level of light absorption),
- as a result the image gets brighter and at the same time there is stronger colour bleeding effect (this phenomenon takes place when the light reflects from a diffusive surface and takes over its colour),
- Global Illumination Colours function determines the intensity of which the colours spread in the scene,
- it is useful when there is a lot of dark materials used in the scene, that have a high level of absorption, and share little of their colour with the rest of the scene.

1. Basic visualization before changing the level of **GI Colours** parameter
2. **GI Colours i**ncreased by 20%
3. Well illustrated effect of colour bleeding. In this case the yellow colour is visible on a white ceiling opposite the window emitting the daylight

GI Emission

- it is a multiplier of all emissive materials in the scene,
- **Global Illumination Emission** enables the user to quickly modify the intensity of **advanced light emission** of all emissive objects at once
- the scale for this factor is from 0 to 200% (with a default level of 100%).

6 emissive objects – **GI emission** 100%
6 x 5 W = 30 W

The same 6 objects - **GI emission** 200%
6 x 10 W = 60 W

Final Gathering

- the final calculation of the distribution of light for the chosen objects,
- if some little object in the project does not look properly, it can be subjected to an additional treatment – the program will proceed some extra calculations of the amount of light beams reaching its surface,
- this option is particularly useful with objects consisting of a big number of small surfaces – they may be not properly illuminated by the indirect light,
- it is recommended also while creating illustrations of the project with blow-ups of some concrete elements of interior design.

Without the **Final Gathering**

After the **Final Gathering**

Raytracing

- it is an algorithm analyzing reflections and refractions of light rays, which reaches the observer of the scene,
- it calculates reflections and refractions generated by glass and mirror objects,
- adds to the scene those light rays, which have been omitted by **Radiosity**, which takes into account light diffused in the whole scene,
- creates lusters on metal surfaces, refractions on glass and – what is worth noticing – multiple reflections in mirrors.

Quality (Raytracing)

- there are 8 available levels of **Raytracing**: 1x1, 2x2, 1x1 AA, 2x2 AA, 3x3, 3x3 AA, 4x4 and 4x4 AA (where AA stands for anti-aliasing),
- anti-aliasing is a technique that minimizes distortion errors (aliasing), occurring while creating representations of the image of a high resolution in a lower resolution,
- 1x1 mode is usually used to quickly see the initial results of **Raytracing**,
- the level of quality of **Raytracing** depends on the processing power of the computer – the better quality the higher memory consumption and a longer time of performing the operation.

Reflections (Raytracing)

- you can decide how many rays should be taken into account by the **Raytracing** algorithm,
- the program can analyze from 1 to 10 reflected rays,
- a standard setting is 1 reflected ray for 20 refracted ones.

Refractions (Raytracing)

- here you can define how many refracted rays will be analyzed (from 0 to 20 rays),
- the level of this function greatly influence the look of transparent objects such as glass,
- the program counts how many rays go through such objects, so the more rays we decide to analyze, the more realistic will be the picture we get.

Examples of using the Raytracing function

Advanced options

- Calculation of the light distribution is done only for the corners of objects mesh,
- the mesh for walls is by default established to fit the calculations and divided into faces of 100x100 mm,
- the rest of the objects in the project is not divided automatically and they may require a modification of mesh density,
- there are 2 options of mesh modification available:
  - **adaptive mesh division** – changes the division of walls and platforms, to which other objects adjoin (e. g. kitchen cabinets) and cover some of the corners of the mesh (what artificially increases the range of the shadow); this function enables to automatically subtracts such corners from the calculation and improves the distribution of indirect shadow on the border between the wall and the object,
  - **scene mesh division** – thanks to this option you can choose by yourself the size of the mesh of the whole scene – from 40 mm to 200 mm (by default it is 100 mm) to improve the shadows distribution; the smaller is size of a single surface – the more surfaces are in the entire project, and more memory and time is needed to perform calculations.

Before the adaptive mesh division

After the adaptive mesh division – artificial shadows between the walls and the ceiling are gone

Diagnostics

There are 2 features of scene diagnostics available:

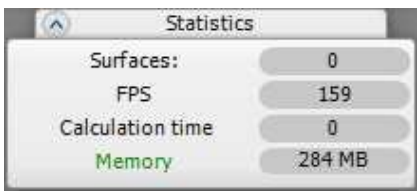
- **show emissive objects** – marks these objects which have been attributed an **advanced light emission;** function useful when the modification of the light distribution in the room is necessary and it is not clear which objects are emitting the light,
- **show inverted surfaces** – shows those surfaces which have been drawn in an inappropriate (opposite) direction, what has a negative influence on the light distribution on the object (the surfaces can be drawn clockwise or counterclockwise).

Marked emissive obcjests

The view after switching the lights on

Statistics

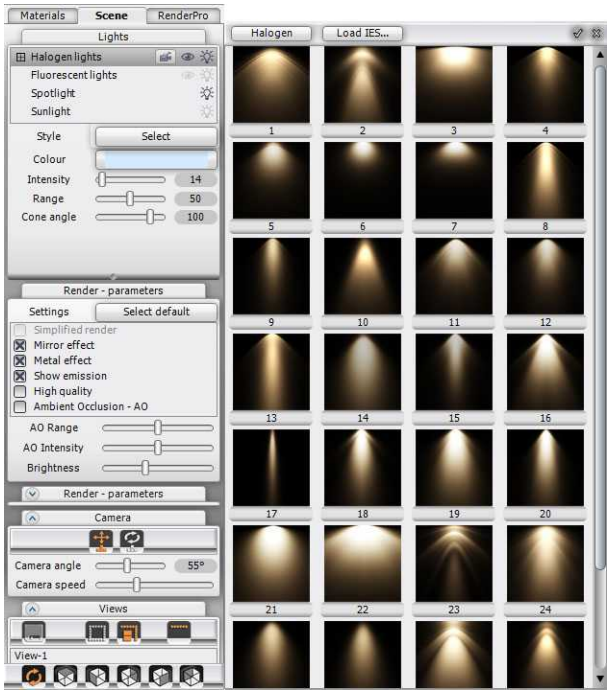
- **Surfaces** – provides an information regarding the overall number of surfaces in the project (this number changes when the mesh division is modified) - the amount of surfaces influences the time of calculations and system resources,
- **FPS** – the number of frames per second,
- **Calculation time** – the time necessary for calculation of the direct light sources, and when the Radiosity is turned on – the time from the beginning of the calculation process,
- **Memory** – the current memory consumption. Only occupied memory is shown, including CAD environment. The **Radiosity** calculations are performed in a separate process, so they are not included here. If the memory consumption is less than 1 GB the inscription **Memory** is green, and if it exceeds 1 GB - the inscription changes to red. This may mean a possible lack of memory to perform further tasks.



Statistics panel

Downloading own IES files

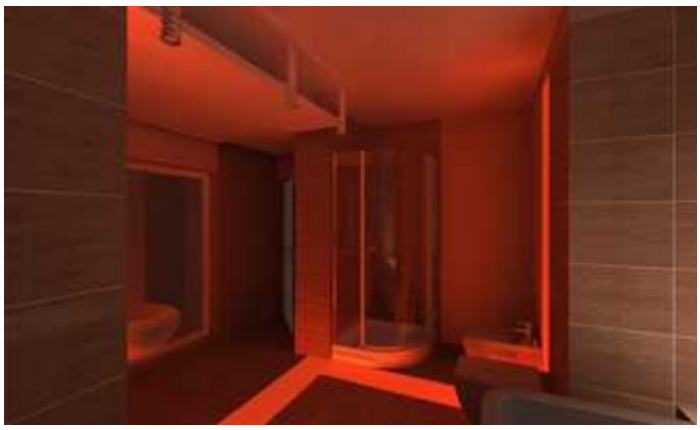
- the selection of a style of the light sources is available from the standard level of rendering,
- the style (saved in a form of an IES file) determines the way the light is distributed by a light source, e.g. a halogen),
- there are 32 ready-to-use styles for your disposition,
- if you have the **Professional Rendering Module** you can also download your own IES files, found in the Internet or created by you.



Selection of styles of the light sources

Advanced light emission

- in the **Professional Rendering Module** it is possible to attribute objects not only with a **basic light emissio**n, available on the standard level of rendering, but also with a property of an **advanced light emission,**
- the difference between them is that objects attributed with **advanced light emission** have real and visible influence on the light distribution in the entire scene,
- this feature is available in the **Material properties** dialog box – in the **Advanced** tab,


Advanced light emission in red colour

- the power of emitted light is given in Watts per m^2, so the intensity of this light depends on the size of the emissive object,
- another difference is that the light in advanced light emission can have any colour, not only white, as in basic emission – as shown in the illustration,
- for best results, attribute both kinds of light emission to the object and use the **Show emission** function in the standard rendering level, responsible for creating the glow effect.

Colour tones

- this function enables the user to quickly change the influence of the light distribution, calculated by the Radiosity process, on the overall colouring of the scene,
- changes can be introduced during or after the completion of the **Radiosity** calculations,
- the **Colour tones** are filters that change the scene exposition, so it is worth it to set the lighting parameters to match the particular filter during the **Radiosity** calculations,
- this feature gives the designer a greater flexibility in creating the final visualization.

Examples of using Colour tone filters

standard

agfa-scala-200xCDPush1

ektachrome-100-plusCD

ektachrome-400XCD

CREATING ILLUSTRATIONS, ANIMATIONS AND VIDEOS OF THE PROJECT

Our software offers some very attractive ways of presenting the results of your work to your clients on both levels of rendering – as illustrations, simple animations played in **Export 3D** module or as real videos of any length, created on the basis of defined number of frames per second, resolution and camera angle, which freely floats in the space, rendered in real time.

Presentation panel

After all the decorative works are completed, you can:

- **save the scene in visualization as JPG or PNG file** (PNG ensures a better quality), from the screen resolution up to double Full HD - 3840x2160 pixels; illustrations can be viewed in the **Gallery** module or printed,
- **save the static image to a spatial file format – JPS stereo**, which can be then presented in 3D with the special 3D screen and glasses,
- **save the visualization to 3DE file,** read by the **Export 3D** module; the whole process requires only a few mouse movements – first you have to set up the camera in the center of the room, then place the spotlight directly above or under the camera to evenly illuminating the whole scene, then click the **Scene export** button, select a proper format of the file (3DE) and choose the location where the file is to be saved; 3DE files can be viewed on any computer – it is enough to just copy the animation file and the export3D.exe file to the computer disk,
- **save the scene to the video in AVI format** – many resolutions available – up to full HD, the video is based on a freely defined path, it is possible to change the dynamics of camera movements and its angle, as well as the number of frames per second; while saving the file you can choose the suitable codec; such AVI animation can be played on any computer or television.

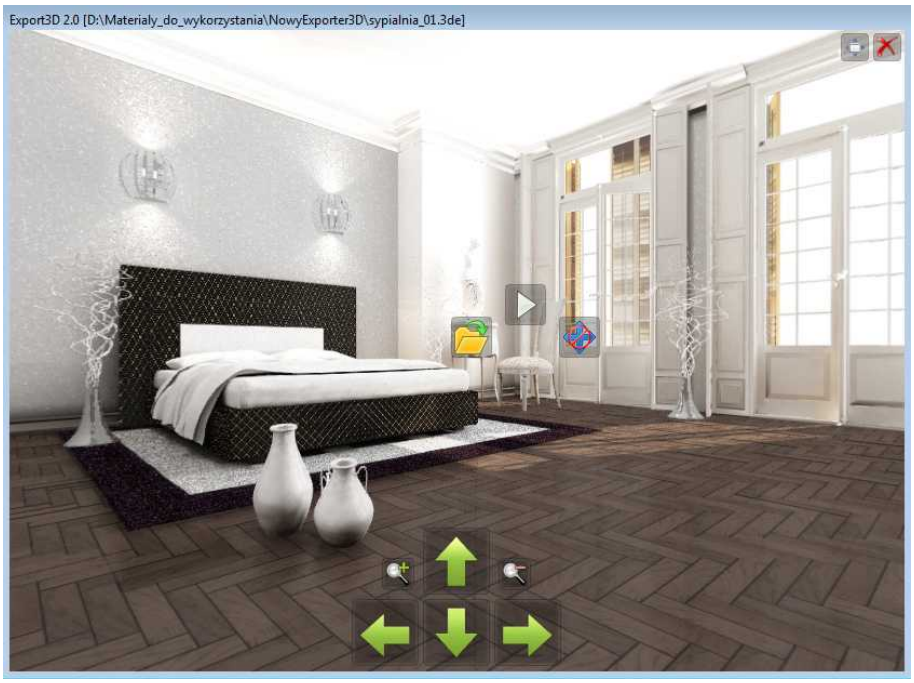
The function of recording and saving AVI films in the rendered room is available for all users of CAD Decor 2.0, CAD Decor PRO and CAD Kitchens 6.0. Control panel is available in the **RenderPro** → **Presentation** tab.

GALLERY

CAD Gallery module

- this module is available in the visualization and offers quick and easy way of viewing picture files in the following formats: BMP, JPG, PNG, TIFF i GIF, and also videos in AVI format,
- images can be grouped and saved in selected folders (also in a different file format than the original one),
- images that are no longer needed can be removed,
- after selecting a folder on the bottom of the screen a list of available images and videos will be displayed,
- it is possible to change the size of the image – with maintaining the aspect ratio or changing the width and the height independently,
- the dimensions of the currently selected image are displayed on the screen, as well as the scale in which the image is presented,
- it is possible to view images as a slide show and videos in a full-screen mode.

EXPORT 3D



Export 3D module

- an easy to operate module designed for presentation of the projects in a form of a simple 3D animations, in which a centrally placed camera revolves slowly around the room,the scene in visualization can be saved in a form of a 3DE file and then presented on any computer without installing CAD Decor or CAD Kitchens,
- the main advantages of this application is affordable hardware requirements,
- **Export 3D** can operate independently from any CAD software,
- it is a great alternative to colour printing – instead of printing illustrations of projects, the designer can present them in this interested way, and send them to the customer on DVD or via e-mail.

CAD PROJEKT K&A

CAD Projekt K&A Sp. z o.o. | ul. Rubież 46 | 61-612 Poznań
tel. +48 61 662 38 83 | fax +48 61 642 94 55
biuro@cadprojekt.com.pl | **www.cadprojekt.com.pl**