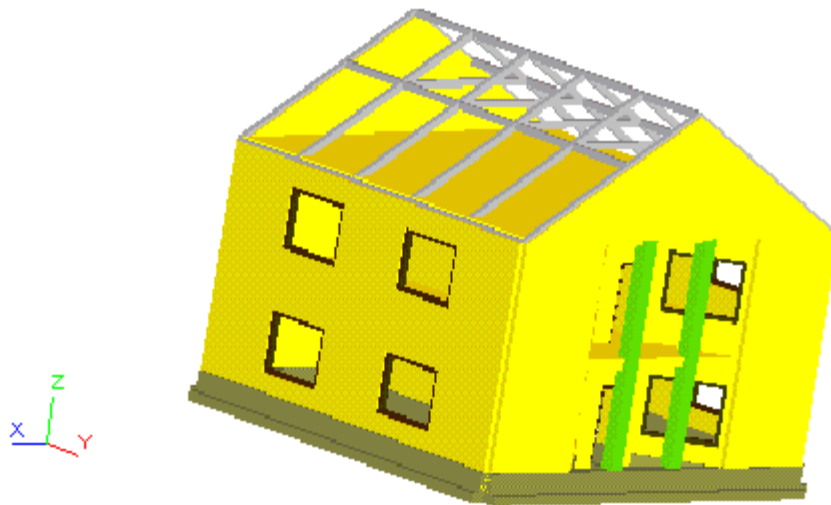


# 1. EXAMPLE OF LOAD DEFINITION IN THE CBS Pro PROGRAM


## 1.1. Introduction

The example below presents possibilities of load definition in the **CBS Pro** program. It also illustrates new capabilities of **CBS Pro** version 20.1. To make definition of a geometrical model easier, the example is based on a simple structure of a small building with wooden rafter framing.



The following rules apply to the example below:








- any icon symbol means 'press the relevant icon with the left mouse button',
- {x,x y,y} means 'using the mouse cursor indicate the point with the coordinates X=x,x Y=y,y' (the value specified may be approximate if it refers to a structure snap point),
- **d** stands for 'enter the 'd' text to the field indicated in the text'
- **d** stands for 'enter the 'd' text directly from the keyboard' (without reference to an edit field)
- (←), (↑), (→), (↓) stands for 'press the relevant arrow key on the keyboard'
- (←)+(↑) stands for 'press simultaneously two arrows on the keyboard'
- **Enter, Ctrl, Delete, ESC** mean 'press the button **Enter, Ctrl, Delete, ESC**, respectively on the keyboard'; the '+' sign indicates that pressing of the above-mentioned key on the keyboard is linked with pressing of another key that follows after the '+' sign
- LMC, RMC: abbreviations for the **Left Mouse button Click** and the **Right Mouse button Click**
- the following units are applied in the example: structure dimension [m], section dimension [cm], angle [Deg] (default units may be changed by the user in the **Preferences** dialog box on the **Units** tab - available in the **Tools / Preferences** menu).

To start work in the **CBS Pro** program, the user should press the  icon on the computer desktop or select the **CBS Pro** command from the START menu.







NOTE: The **CBS Pro** program **version 20.1** may be run in two different configurations: with load module or without this module. To check the current program configuration, the user should select the *Preferences* option from the *Tools* menu and next, in the **Preferences** dialog box move to the *Configuration* tab. To perform the example below correctly, the option *Geometrical model with loads* has to be chosen. If different option is selected (only geometrical modeler), then the icon *Geometrical model with loads* should be pressed. To update the configuration, the program has to be closed and then restarted. If the *Geometrical model with loads* option is not active, then the user should run the installation program again and using the Modify mode – should install the load module. Detailed information concerning this can be found in the **CBS Pro** program help (Program Installation / Installation Program).

## 1.2. Definition of Sections and Materials



 (Section Database – the Properties toolbar)	Opens the <b>Section Database</b> dialog box which enables definition of new sections.
LMC on the <i>Rectangular</i> option in the tree in the left part of the dialog box	Selects the section type – rectangular sections. The active section type becomes highlighted.
 (Add section)	Adds a new rectangular section.
In the <i>b</i> field enter value <b>15.0</b> and in the <i>h</i> field <b>17.5</b>	Defines section dimensions.
LMC on the option in the tree in the left part of the dialog box with a default section name	Sets the current section.
Again LMC on the same option in the tree	Activates edition of the section name.
In the active field enter <b>R15*17.5</b> <b>Enter</b>	Changes the section name.
 (Add section)	Adds a new rectangular section.
In the <i>b</i> field enter value <b>15.0</b> , in the <i>h</i> field <b>15.0</b>	Defines section dimensions.
 (Add section)	Adds a new rectangular section.
In the <i>b</i> field enter value <b>35.0</b> , in the <i>h</i> field <b>35.0</b>	Defines section dimensions.
LMC on the <i>T-sections</i> option in the tree in the left part of the dialog box	Selects the section type – T-sections. The active section type becomes highlighted.
 (Add section)	Adds a new T-section.
In the <i>b</i> field enter value <b>35.0</b> , in the <i>h</i> field <b>75.0</b> , in the <i>bf</i> field <b>75.0</b> and in the <i>hf</i> field <b>25.0</b>	Defines section dimensions.
LMC on the <i>Walls (slabs)</i> option in the tree in the left part of the dialog box	Selects the section type – sections for walls and slabs. The active section type becomes highlighted.
 (Add section)	Adds a new section for walls or slabs.
In the <i>b</i> field enter value <b>35.0</b>	Defines section thickness.
LMC on the <i>Rectangular openings</i> option in the tree in the left part of the dialog box	Selects the section type – rectangular openings. The active section type becomes highlighted.
 (Add section)	Adds a new rectangular opening.



In the <i>l</i> field enter the value <b>90.0</b> and in the <i>h</i> field <b>210.0</b>	Defines opening dimensions.
 (Add section)	Adds a new rectangular opening.
In the <i>l</i> field enter the value <b>180</b> and in the <i>h</i> field <b>150</b>	Defines opening dimensions.
LMC on the <b>OK</b> button	Closes the dialog box and accepts the operations performed.
 (Material Database – the Properties dialog box)	Opens the <b>Material database</b> dialog box which enables definition of new materials.
LMC on the <i>Layered material</i> option in the tree in the left part of the dialog box	Selects the material type – layered material. The active material type becomes highlighted.
 (Add material)	Adds a new layered material.
From the list in the <i>Material</i> field in the first table row select <i>Cement mortar</i>	Defines first material layer. Non-structural material.
To the <i>Thickness</i> field in the same row enter value 5 cm.	Defines thickness of the first material layer.
From the list in the <i>Material</i> field in the second table row select <i>Foamed polystyrene</i>	Defines second material layer. Non-structural material.
To the <i>Thickness</i> field in the same row enter value 10 cm	Defines thickness of the second material layer.
From the list in the <i>Material</i> field in the third table row select <i>Concrete</i>	Defines third material layer. Structural material.
To the <i>Thickness</i> field in the same row enter the value 25 cm	Defines thickness of the third material layer.
LMC on the option in the tree in the left part of the dialog box with a default material name	Sets the current material.
Again LMC on the same option in the tree	Activates edition of the material name.
To the active field enter: <b>SLAB_L</b> <b>Enter</b>	Changes name of the material
 (Add material)	Adds a new layered material.
From the list in the <i>Material</i> field in the first table row select <i>Foamed polystyrene</i>	Defines first layer of the material. Non-structural material.

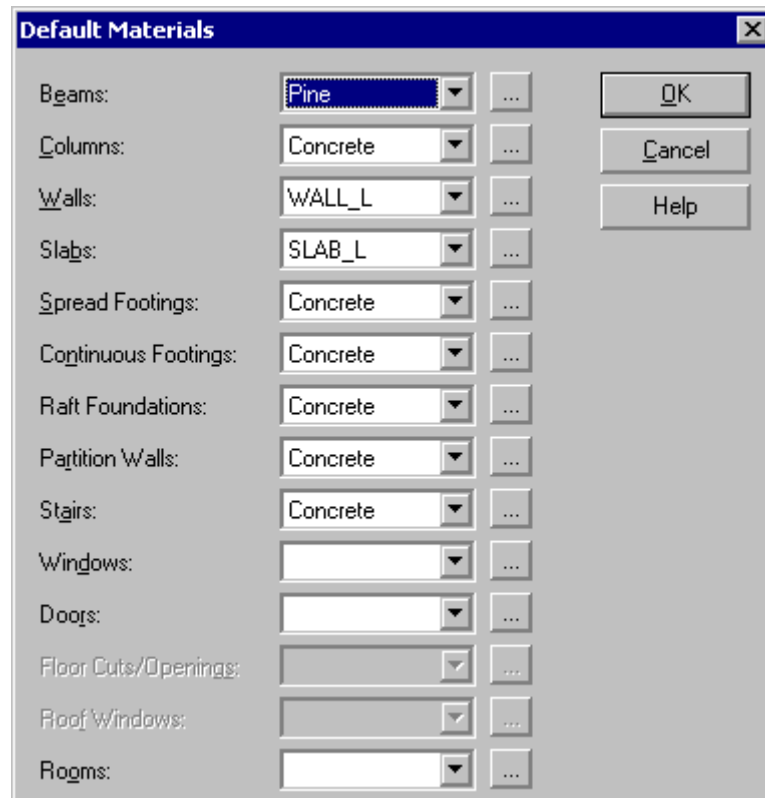
To the <i>Thickness</i> field in the same row enter value 5 cm	Defines thickness of the first material layer.
From the list in the <i>Material</i> field in the second table row select <i>Concrete</i>	Defines second layer of the material. Non-structural material.
To the <i>Thickness</i> field in the same row enter value 25 cm	Defines thickness of the second material layer.
LMC on the option in the tree in the left part of the dialog box with a default material name	Sets the current material.
Again LMC on the same option in the tree	Activates edition of the material name.
To the active field enter <b>WALL_L</b> <b>Enter</b>	Changes name of the material.
LMC on the <b>OK</b> button	Closes the dialog box and accepts the operations performed.



### 1.3. Generation of the Structure Model

 (Default Sections - the Properties toolbar)	Opens the <b>Default Sections</b> dialog box where default sections for newly-defined elements can be determined.
From the <i>Beams</i> list select section R15*17.5	Sets the R15*17.5 section as a default one for newly-defined beams.
From the <i>Columns</i> list select section R35*35	Sets the R35*35 section as a default one for newly-defined columns.
From the <i>Continuous Footings</i> list select section T75*25	Sets the T75*25 section as a default one for newly-defined continuous footings.
From the <i>Windows</i> list select section RH180*150	Sets the RH180*150 rectangular opening as a default one for newly-defined windows.
From the <i>Doors</i> list select section RH90*210	Sets the RH90*210 rectangular opening as a default one for newly-defined doors.
LMC on the <b>OK</b> button	Closes the dialog box and accepts the operations performed.
 (Default Materials - the Properties toolbar)	Opens the <b>Default Materials</b> dialog where default materials for newly-defined elements can be determined.
From the <i>Beams</i> list select material <i>Pine</i>	Sets the <i>Pine</i> material as a default one for newly-defined beams.
From the <i>Columns</i> list select material <i>Concrete</i>	Sets the <i>Concrete</i> material as a default one for newly-defined columns.

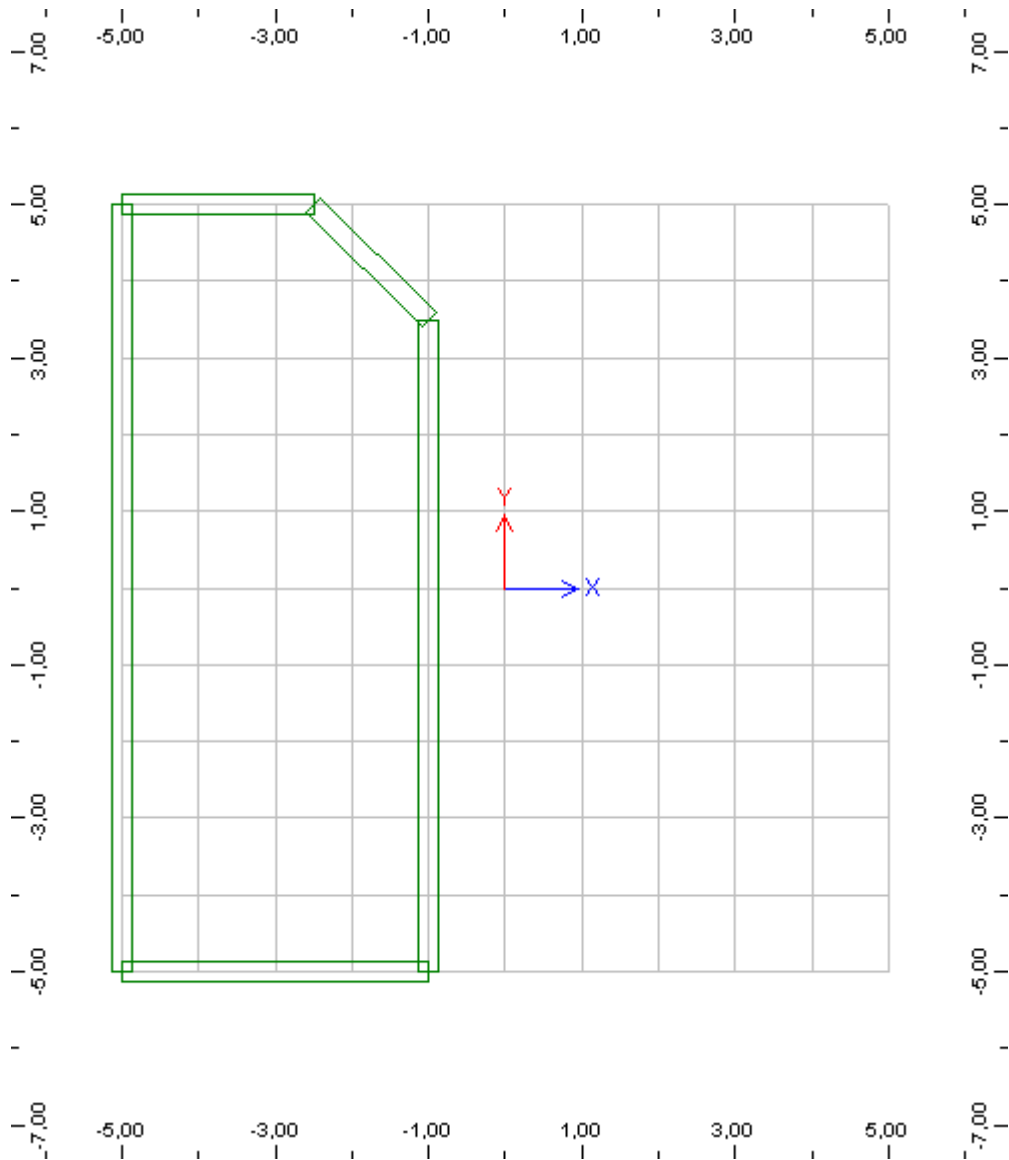






From the <i>Walls</i> list select material <i>WALL_L</i>	Sets the <i>WALL_L</i> material as a default one for newly-defined walls.
From the <i>Slabs</i> list select material <i>SLAB_L</i>	Sets the <i>SLAB_L</i> material as a default one for newly-defined slabs.
LMC on the <b>OK</b> button	Closes the dialog box and accepts the operations performed.




 (Wall – the Objects toolbar)	Switches on the option of wall definition.
 (Drag – the Edit - Modes toolbar)	Switches on the option enabling definition of objects as a chain – polyline.
<b>-5.0</b> <b>Enter</b>	Enters the beginning point of the wall chain. <i>NOTE: The option displays the dialog box into which relative coordinates may be entered from the keyboard.</i>
(↑) <b>10.0</b>	Enters the next point of the wall chain.
(→) <b>2.5</b>	Enters the next point of the wall chain.
(→)+(↓) <b>1.5</b>	Enters the next point of the wall chain.
(↓) <b>8.5</b>	Enters the next point of the wall chain.

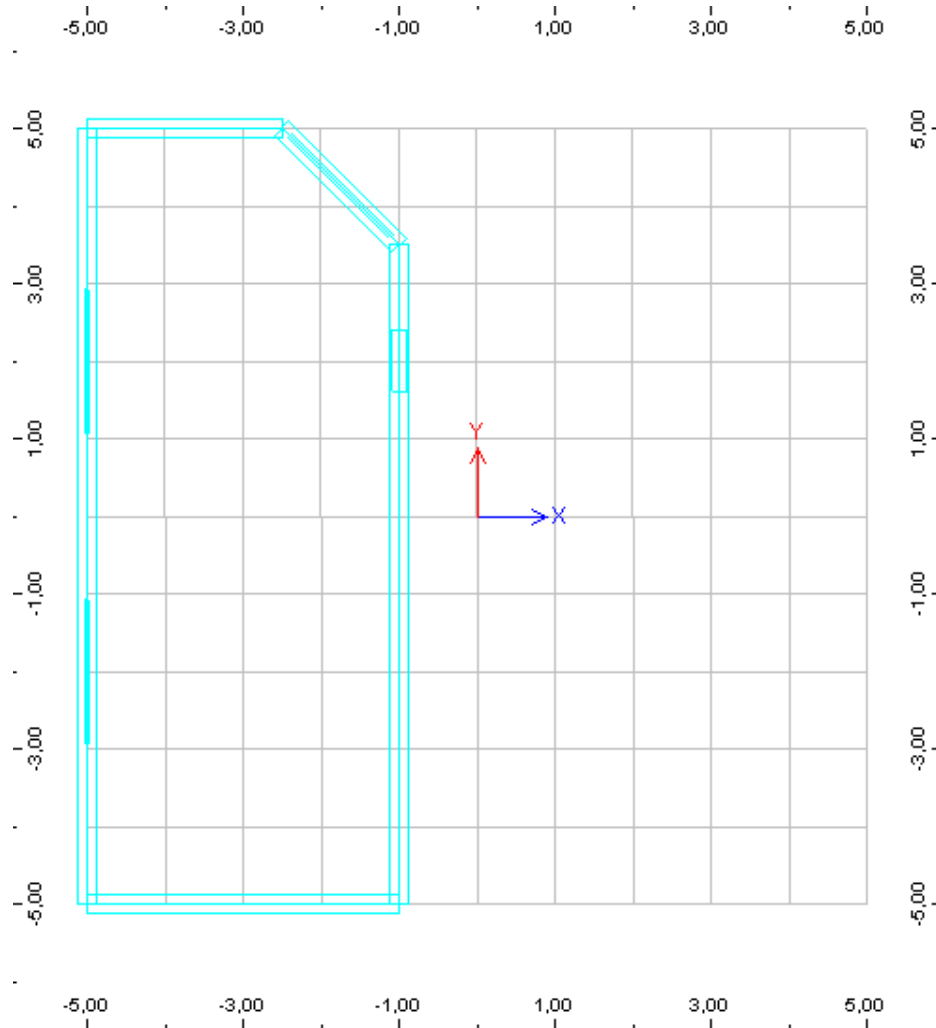
<p>(←) <b>4.0</b></p>	<p>Enters the next point of the wall chain.</p>
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


 (Snap Cursor to Object Ends – the Snap toolbar)	<p>Switches on the option which snaps the cursor to object ends.</p>
 (Snap Cursor to Object Centers – the Snap toolbar)	<p>Switches on the option which snaps the cursor to object centers.</p>
 (Door – the Objects toolbar)	<p>Starts definition of a door.</p>
<p>LMC on the grid node with coordinates: {-1.0 2.0}</p>	<p>Defines a door.</p>
 (Window – the Objects toolbar)	<p>Starts definition of windows.</p>






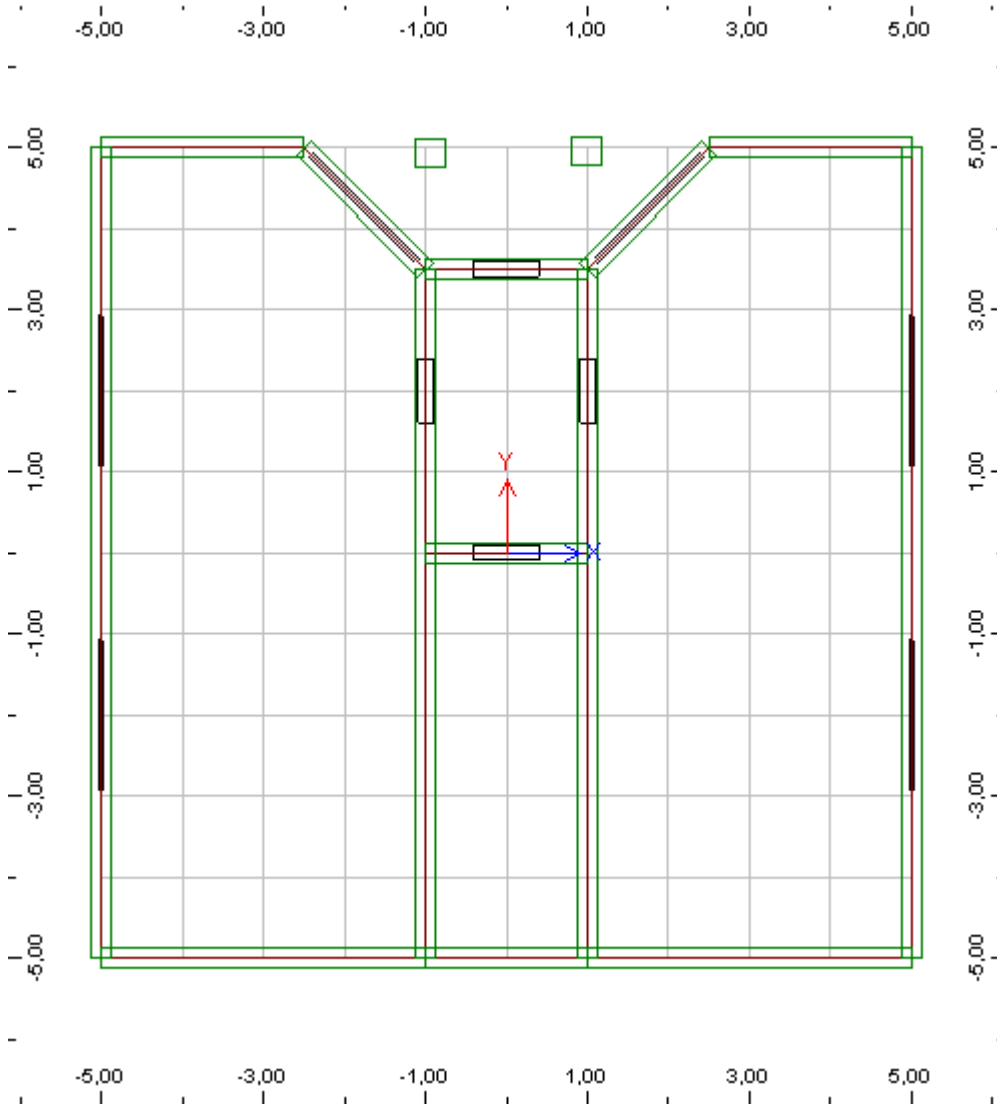
LMC on the grid nodes with coordinates: {-5.0 2.0}; {-5.0 -2.0}	Defines two windows.
LMC in the middle of the slanting wall	Defines a window.
 (Select - the Objects toolbar)	Switches on the option allowing element selection.
LMC in the top left corner of the screen showing a structure view and next, holding the left mouse button pressed, move the cursor to the bottom right part of the screen so that the selection rectangle contains all the defined elements	Selects objects. <i>NOTE: The user may use the Ctrl+A key shortcut – selection of all elements.</i>






 (Vertical Mirror – the Edit toolbar)	Switches on the option making mirror reflection with respect to axis.
LMC on the grid node with coordinates: {0.0 5.0}	Defines the symmetry axis for vertical mirror.
 (Column – the Objects toolbar)	Switches on the option of column definition.

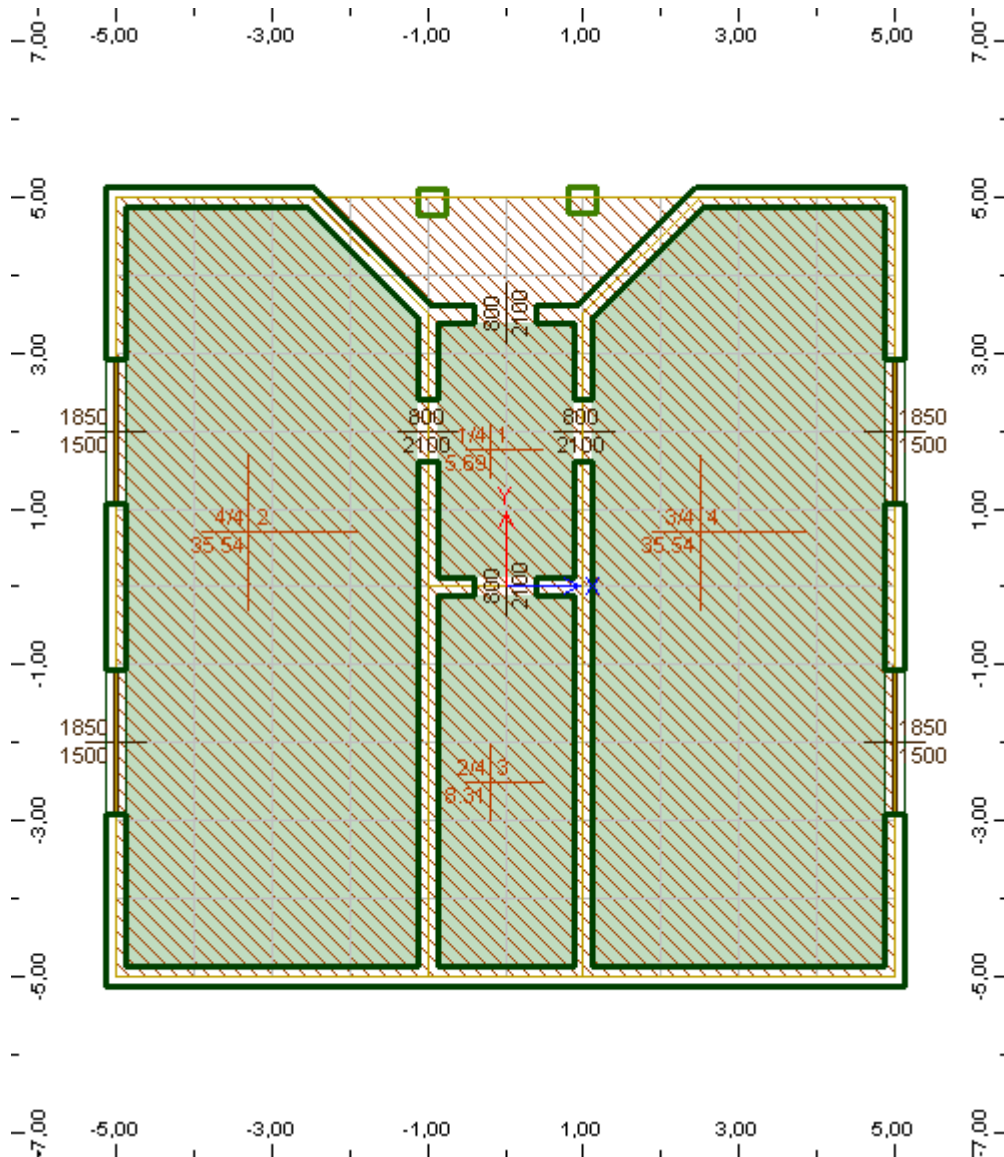


LMC on the grid nodes with the coordinates: {-1.0 5.0} and next, {1.0 5.0}	Defines columns.
 (Wall - the Objects toolbar)	Switches on the option of wall definition.
 (Drag – the Edit - Modes toolbar)	Switches on the option allowing definition of objects as a chain – polyline.
LMC on the grid nodes with coordinates {-1.0 -5.0} and next, on {1.0 -5.0} <b>Esc</b>	Defines a wall.
LMC on the grid node with coordinates {-1.0 0.0} and next, on {1.0 0.0} <b>Esc</b>	Defines the next wall.
LMC on the point of intersection between the left slanting wall and the wall parallel to Y axis {-1.0 3.5} and next, LMC on the point of intersection between the right slanting wall and the wall parallel to Y axis {1.0 3.5}	Defines the next wall.
 (Door - the Objects toolbar)	Starts definition of a door.
LMC in the middle of the previously defined wall {0.0 3.5}	Defines a door.
LMC on the grid node with coordinates: {0.0 0.0}	Defines a door.






 (Slab - the Objects toolbar)	Switches on the mode of slab definition.
 (Add Specially - the Objects toolbar)	Switches on the special mode of slab definition.
LMC within the large room on the left, e.g. on the point { -3,0 0,0}	Defines a floor slab.
LMC within the large room on the right, e.g. on the point { 3,0 0,0}	Defines a floor slab.
LKM within the smaller room positioned under X axis, e.g. on the point { 0,0 -2,0}	Defines a floor slab.
 (Add Specially - the Objects toolbar)	Switches off the special mode of slab definition.



<p>Starting with the grid node of the coordinates <math>\{-1.0\ 0.0\}</math> LMC - clockwise - on the points with the following coordinates: <math>\{-1.0\ 3.5\}</math> <math>\{-2.5\ 5.0\}</math> <math>\{2.5\ 5.0\}</math> <math>\{1.0\ 3.5\}</math> <math>\{1.0\ 0.0\}</math> <math>\{-1.0\ 0.0\}</math></p>	<p>Defines a slab – the user creates contour of the slab comprising the smaller room positioned above X axis and the balcony.</p>
<p>From the <i>View</i> menu select the <i>Architectural View</i> option</p>	<p>Changes the mode of element presentation (the option is active after starting up the program). <i>NOTE: The option is also available through the F10 key shortcut.</i></p>

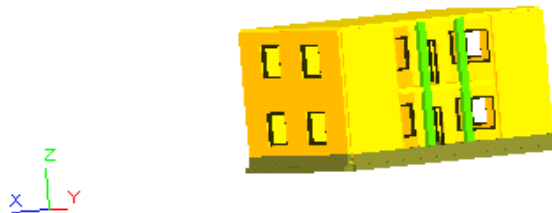



<p>From the <i>View</i> menu select the <i>Structural View</i> option</p>	<p>Changes the mode of element presentation. <i>NOTE: The option is also available through the F9 key shortcut.</i></p>
<p>From the <i>Story</i> menu choose the <i>Copy</i> option</p>	<p>Opens the dialog box for copying stories.</p>









Into the <i>to:</i> field enter value <b>1</b>	Determines the number and positions of copied stories.
LMC on the <b>OK</b> button	Performs the copy operation. Closes the dialog box.
From the <i>Story no.</i> list on the <i>Story</i> toolbar select the story <b>0</b>	Changes the current story.
 (Continuous Footing – the Objects toolbar)	Switches on the mode of continuous footing definition.
 (Drag – the Edit – Modes toolbar)	Switches on the option enabling definition of objects as a chain – polyline.
LMC – four times – on the grid nodes with coordinates {-5.0 -5.0}, {-5.0 5.0}, {5.0 5.0}, {5.0 -5.0}	Defines outer continuous footings.
 (Drag – the Edit – Modes toolbar)	Switches on the option enabling definition of objects as a chain – polyline.
LMC on the grid node with coordinates {-5.0 -5.0}	Completes definition of outer continuous footings.
LMC on the grid node with coordinates {-1.0 -5.0 } and next, LMC on the point of intersection between the left slanting wall and the wall parallel to Y axis {-1.0 3.5}	Definition of inner continuous footing.
LMC on the point of intersection between the left slanting wall and the wall parallel to Y axis {-1.0 3.5}, next, LMC on the point of intersection between the left slanting wall and the outer wall parallel to X axis {-2.5 5.0}	Definition of inner continuous footing.
LMC on the grid node with coordinates {1.0 -5.0} and next, LMC on the point of intersection between the right slanting wall and the wall parallel to Y axis {1.0 3.5}	Definition of inner continuous footing.
LMC on the point of intersection between the right slanting wall and the wall parallel to Y axis {1.0 3.5}, next, LMC on the point of intersection between the right slanting wall and the outer wall parallel to X axis {2.5 5.0}	Definition of inner continuous footing.
LMC on the bottom right window of the program presenting 3D view of the structure	Changes the active program window.

<p> (3D (Whole Building)) – the 3D View toolbar</p>	<p>Switches on 3D view of the entire structure.  <i>Note: If an operating system other than Windows NT is used and DirectX v.8 or higher is installed on the computer, then by using  (3D Model with Rendering – the 3D View toolbar) the user may switch on a view showing filled surfaces with shadows.</i></p>
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<p>LMC on the left main program window</p>	<p>Changes the active program window.</p>
<p>From the <i>Story no.:</i> list on the <i>Story</i> toolbar select story 1</p>	<p>Changes the current story.</p>
<p>From the <i>View</i> menu choose the <i>Display</i> option</p>	<p>Opens the <b>Display</b> dialog box.  <i>NOTE: The Display option is also available in the context menu.</i></p>
<p>LMC on the <b>None</b> button</p>	<p>Switches off display of all elements.</p>
<p>On the <i>Objects</i> tab LMC on the <i>Beams</i> option</p>	<p>Switches on display of beams.</p>
<p>LMC on the <b>Apply</b> button</p>	<p>Confirms selection and closes the dialog box.</p>
<p> (<i>Beam – the Objects toolbar</i>)</p>	<p>Switches on the option of beam definition.</p>
<p>LMC on the grid node with the coordinates {0.0 -5.0} and next, on {0.0 5.0}</p>	<p>Defines the roof ridge beam.</p>
<p>LMC on the grid node with the coordinates {0.0 -5.0} and next, on {-5.0 -5.0}</p>	<p>Defines outer rafters.</p>
<p>LMC on the grid node with the coordinates {0.0 -5.0} and next, on {5.0 -5.0}</p>	<p>Defines outer rafters.</p>
<p>LMC on the grid node with the coordinates {0.0 5.0} and next, on {-5.0 5.0}</p>	<p>Defines outer rafters.</p>





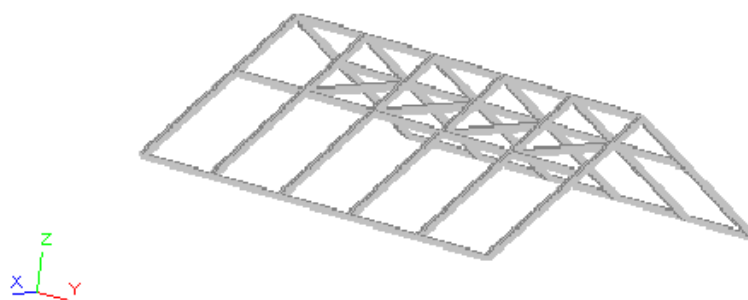
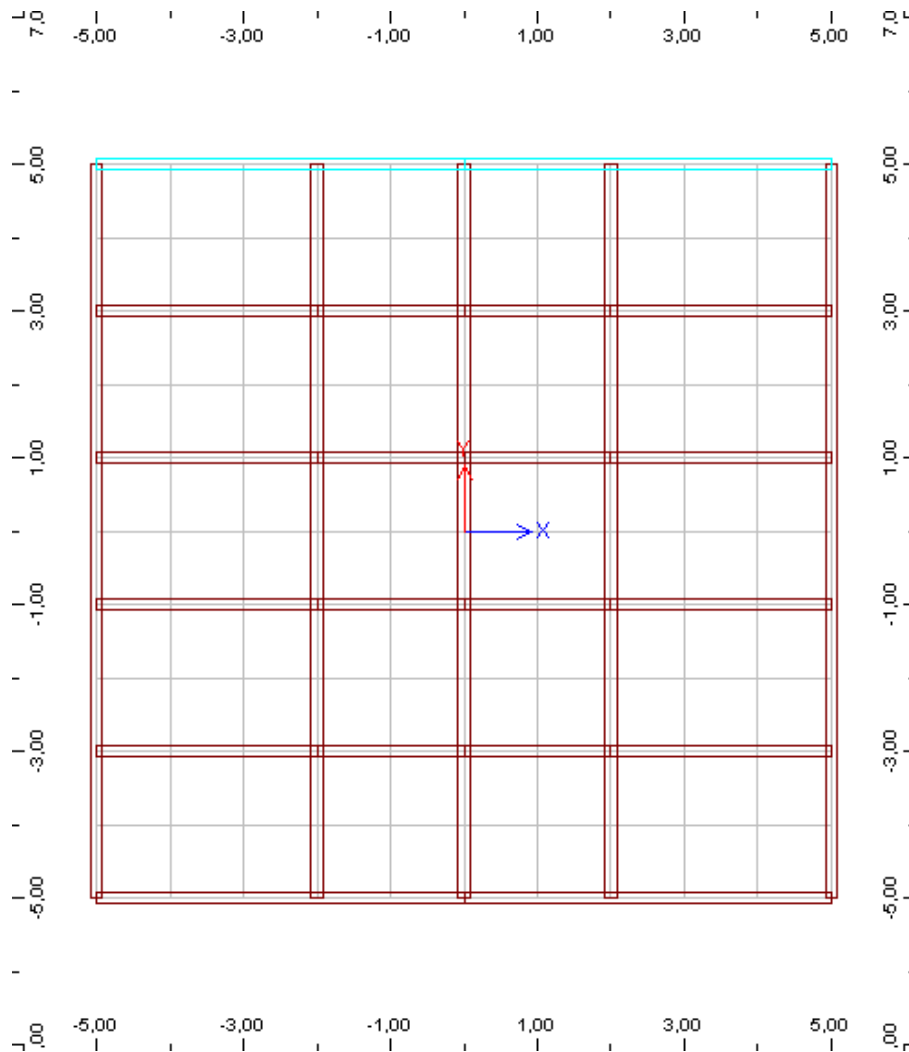
LMC on the grid node with the coordinates {0.0 5.0} and next, on {5.0 5.0}	Defines outer rafters.
LMC on the grid node with the coordinates {-5.0 -5.0} and next, on {-5.0 5.0}	Defines outer ground beams.
LMC on the grid node with the coordinates {5.0 -5.0} and next, on {5.0 5.0}	Defines outer ground beams.
LMC anywhere in the graphical viewer	Switches off selection of elements.
 (Select – the Objects toolbar)	Switches on the option enabling selection of elements. <i>Note: The Select option is also available in the context menu.</i>
Holding the <b>Ctrl</b> key pressed – LMC on the two earlier-defined ground beams	Selects objects. <i>Note: The user may also select these objects by making several successive window selections holding the <b>Ctrl</b> key pressed.</i>
 (Properties - the Objects toolbar)	Opens the dialog box with object properties.
From the <i>Section</i> list select <i>P15*15</i>	Changes beam section from 15x17.5 to 15x15 [cm].
<b>Enter</b>	Confirms changes and closes the dialog box. <i>Note: If the  option on the bar in the properties dialog box is not switched on, then the dialog box does not close automatically after pressing <b>Enter</b>.</i>
 (Select – the Objects toolbar)	Switches on the option enabling element selection. <i>Note: The Select option is also available in the context menu.</i>
LMC on the roof ridge beam	Selects objects.
 (Translate – the Edit toolbar)	Opens the <b>Translation</b> dialog box.
Into the <i>z=</i> field enter value <b>3.0</b>	Defines translation vector.
LMC on the <i>Fit adjoining elements</i> option	Switches on the option which ensures that neighboring elements are fitted to each other.
LMC on the <b>Apply</b> button	Performs the operation of translation.
LMC on the <b>Close</b> button	Closes the dialog box for definition of grids and axes.
 (Beam - the Objects toolbar)	Switches on the option of beam definition.
From the list on the <i>Properties</i> toolbar choose the section <i>P15*17.5</i>	Changes section for newly-defined beams.




LMC on the grid node with the coordinates {2.0 4.0} and next, on {2.0 -4.0}	Defines purlins.
LMC on the grid node with the coordinates {-2.0 4.0} and next, on {-2.0 -4.0}	Defines purlins.
 (Select – the Objects toolbar)	Switches on the option enabling selection of elements. <i>Note: The Select option is also available in the context menu.</i>
Holding the <b>Ctrl</b> key pressed – LMC on four outer rafters one by one	Selects objects. <i>Note: The user may also select these objects by making several successive window selections holding the <b>Ctrl</b> key pressed.</i>
 (Extend – the Edit modes)	Switches on the option enabling elongation of elements.
LMC on two purlins one by one	Elongates purlins so that they reach rafters with automatic fitting of elements in 3D space.
 (Beam – the Objects toolbar)	Switches on the option of beam definition.
LMC on the grid node with the coordinates {-3.0 3.0} and next, on {3.0 3.0}	Defines a collar beam.
 (Select – the Objects toolbar)	Switches on the option of element selection. <i>Note: The Select option is also available in the context menu.</i>
Holding the <b>Ctrl</b> key pressed – LMC on both purlins one by one	Selects objects. <i>Note: The user may also select these objects by making several successive window selections holding the <b>Ctrl</b> key pressed.</i>
 (Cut Off - the Edit toolbars)	Switches on the option enabling trimming elements.
LMC one by one on points near both ends of the collar beam	Trims both ends of the collar beam so that they fit purlins with automatic fitting of elements in 3D space.
 (Select – the Objects toolbar)	Switches on the option enabling selection of elements. <i>Note: The Select option is also available in the context menu.</i>
LMC on the collar beam	Selects objects.
 (Translate – the Edit toolbar)	Opens the <b>Translation</b> dialog box.
LMC on the grid node with the coordinates {0.0 3,0} and next, on {0.0 1.0}	Defines the translation vector graphically.
LMC on the Copy option	Switches on the copying option.











Into the <i>Number of repetitions</i> field enter <b>3</b>	Determines the number of repetitions for the copy operation.
LMC on the <b>Apply</b> button	Performs the copy operation.
LMC on the <b>Close</b> button	Closes the dialog box for definition of grids and axes.
 (Select – the Objects toolbar)	Switches on the option enabling selection of elements. <i>Note: The Select option is also available in the context menu.</i>
Holding the <b>Ctrl</b> key pressed – LMC one by one on two outer rafters positioned in the top part of the screen	Selects objects. <i>Note: The user may also select these objects by making several successive window selections holding the <b>Ctrl</b> key pressed.</i>
 (Translate – the Edit toolbar)	Opens the <b>Translation</b> dialog box.
LMC on the grid node with the coordinates {0.0 3.0} and next, on {0.0 1.0}	Defines the translation vector graphically.
LMC on the <i>Copy</i> option	Switches on the copying option.
Into the <i>Number of repetitions</i> field enter <b>4</b>	Determines the number of repetitions for the copy operation.
LMC on the <b>Apply</b> button	Performs the copy operation.
LMC on the <b>Close</b> button	Closes the dialog box for definition of grids and axes.
From the <i>View</i> menu select the <i>Synchronize Views</i> option	Switches on the work mode (structural / architectural) synchronization and display in all the layouts.

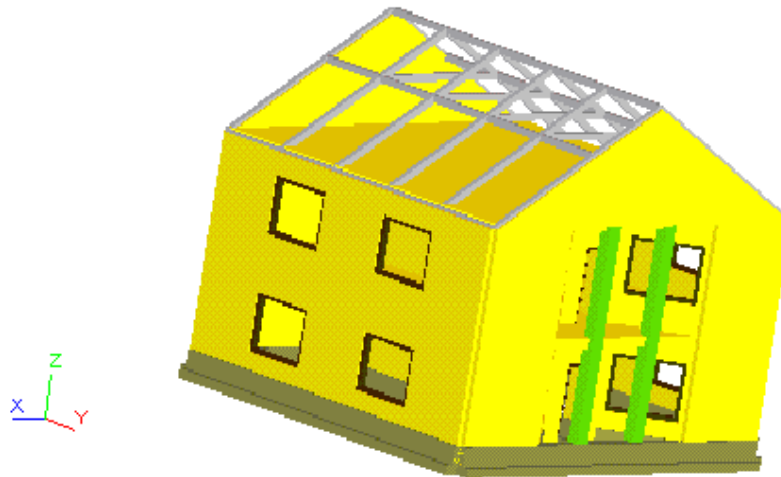


 (Wall – the Objects toolbar)	Switches on the option of wall definition.
LMC on the grid node with the coordinates {-5.0 4.0} and next, LMC on the grid node with the coordinates {5.0 4.0}	Defines a gable wall.




Answer 'yes' to the question that appears on the screen asking whether wall display should be restored	Restores display of walls. <i>Note: The Display option is available in the context menu and in the main program menu: View / Display.</i>
 (Select – the Objects toolbar)	Switches on the option enabling selection of elements. <i>Note: The Select option is also available in the context menu.</i>
LMC on the newly-defined gable wall	Selects objects.
 (Translate – the Edit toolbar)	Opens the <b>Translation</b> dialog box.
Into the z= field enter value <b>3.0</b>	Defines translation vector.
LMC on the <b>Apply</b> button	Performs the operation of translation.
LMC on the <b>Close</b> button	Closes the dialog box for definition of grids and axes.
 (Properties – the Objects toolbar)	Opens the dialog box with object properties.
LMC on the <i>Position</i> tab	Changes the tab in the <i>Object Properties</i> dialog box.
 (Detailed Wall Presentation - the Object Properties dialog box)	Changes wall presentation from the simplified description to the detailed one
LMC on the third row of the table with wall coordinates	Activates the row describing third characteristic point of the wall.
 (Delete Row – the Object Properties dialog box)	Deletes the third characteristic point of the wall.
LMC on the table field in the x[m] column in the third row	Activates the edit field. Its color changes to green, the value may be modified.
Into the active field enter <b>0.0</b>	Changes position of the third characteristic point of the gable wall.
<b>Enter</b>	Accepts changes and closes the dialog box. <i>Note: If the  option on the bar in the properties dialog box is not switched on, then the dialog box does not close automatically after pressing <b>Enter</b>.</i>
 (Translate – the Edit toolbar)	Opens the <b>Translation</b> dialog box.
 (on the bar in the Object Properties dialog box)	Switches off the option that closes the dialog box automatically once the operation is performed.
LMC on the grid node with the coordinates {0.0 4.0} and next, on {0.0 -5.0}	Defines translation vector graphically.
LMC on the Copy field	Switches on the copying option.




LMC on the <b>Apply</b> button	Performs the operation of translation.
LMC on the <i>Copy</i> field	Switches off the copying option.
Into the <i>y=</i> field enter the value <b>1.0</b>	Defines translation vector.
LMC on the <b>Apply</b> button	Performs the operation of translation.
LMC on the <b>Close</b> button	Closes the <b>Translation</b> dialog box.
From the <i>View</i> menu choose the <i>Display</i> option	Opens the <b>Display</b> dialog box. <i>NOTE: The Display</i> option is also available in the context menu.
LMC on the <b>All</b> button	Switches on display of all objects.
LMC on the <b>Apply</b> button	Accepts selection and closes the dialog box.

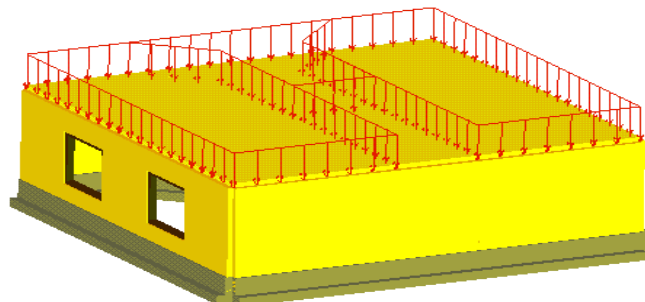


## 1.4. Definition of Loads


From the <i>Edit</i> menu select the <i>Default Values / Loads</i> option	Displays dialog box with default loads.
LMC on the <i>LIVE</i> option in the tree in the left part of the dialog box	Selects nature of a new load group - live. The active load type becomes highlighted.
 ( <i>Add</i> )	Adds a new group of live loads.
LMC on the new highlighted option in the tree in the left part of the dialog box	Activates edition of the group's name.
Into the active field enter <b>Live_building, Enter</b>	Changes name of the load group.



Into the <i>Planar</i> field in the right part of the dialog box enter <b>5.0</b>	Assigns the default value of planar loads 5.0 [kN/m <sup>2</sup> ] to the group.
Into the <i>Load factor</i> field in the right part of the dialog box enter <b>1.3</b>	Assigns load factor 1.3 to the group.
LMC on the <b>OK</b> button	Confirms changes and closes the dialog box.
From the <i>Story no.:</i> list on the <i>Story</i> toolbar select story <b>0</b>	Changes the current story.
 ( <i>Planar Load – the Loads toolbar</i> )	Chooses load type.
From the list on the <i>Loads</i> toolbar select group Live_building	Changes the current load group.
LMC - four times - within successive floor slabs beginning with the large floor on the left and next, clockwise on the points, e.g.: {-3.0 0.0} {0.0 1.0} {3.0 0.0} {0.0 -1.0}	Applies live loads to floor slabs.
 ( <i>Generate – the Loads toolbar</i> )	Generates load patterns for the defined live loads.
 ( <i>Display - the Loads toolbar</i> )	Displays dialog box with the list of current load patterns.
LMC on the first item on the list in the left part of the dialog box	Indicates the current load pattern. <i>NOTE: Load patterns are presented in 3D view.</i>
(↓)	Views successive load patterns. <i>NOTE: Load patterns are presented in 3D view.</i>
LMC on the first 3-element load pattern	Indicates the current load pattern.

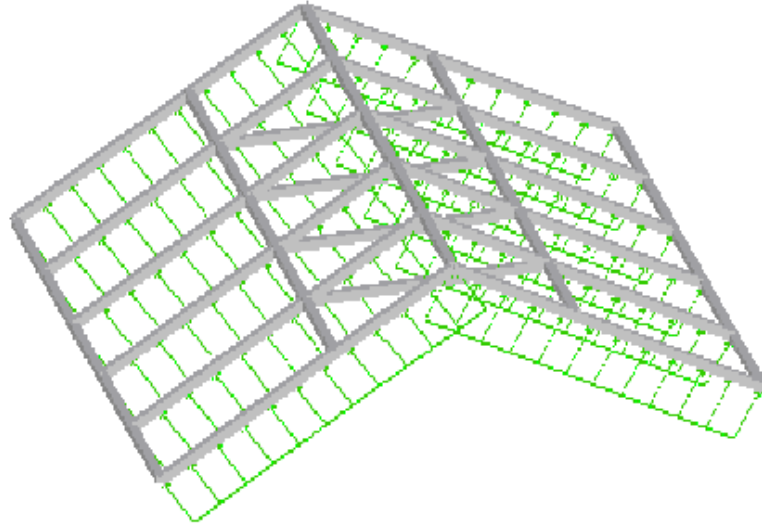





LMC on the <i>Delete pattern</i> button in the top part of the dialog box	Deletes the current load pattern.
Repeat the operation of deleting three times for all the 3-element load patterns one by one	Deletes the remaining 3-element load patterns.
LMC on the <b>Close</b> button	Closes the dialog box.
From the <i>Story no.:</i> list on the <i>Story</i> toolbar select story <b>1</b>	Changes the current story.
From the <i>View</i> menu choose the <i>Display</i> option	Opens the <b>Display</b> dialog box. <i>NOTE: The Display option is also available in the context menu.</i>
LMC on the <b>None</b> button	Switches off display of all the objects.
On the <i>Objects</i> tab - LMC on the <i>Beams</i> option	Switches on display of beams.
LMC on the <b>Apply</b> button	Confirms selection and closes the dialog box.
 (Linear Load – the <i>Objects</i> toolbar)	Selects load type.
From the list on the <i>Loads</i> toolbar choose the <i>Wind</i> group	Changes the current load group.
Into the edit field on the <i>Loads</i> toolbar enter <b>-0.75</b>	Changes the load value.
LMC - twice - on the outer rafters on the left side of the building, e.g. on points {-1.0 -5.0 } {-1.0 5.0 }	Applies wind loads to outer rafters on the left side of the building.
Into the edit field on the <i>Loads</i> toolbar enter <b>-0.5</b>	Changes the load value.
LMC - twice - on the outer rafters on the right side of the building, e.g. on points {1.0 -5.0 } {1.0 5.0 }	Applies wind loads to outer rafters on the right side of the building.
Into the edit field on the <i>Loads</i> toolbar enter <b>-1.5</b>	Changes the load value.
LMC – four times – on inner rafters on the left side of the building, e.g. on points {-4.0 -3.0 } {-4.0 -1.0} {-4.0 1,0 } {-4.0 3.0 }	Applies wind loads to inner rafters on the left side of the building.
Into the edit field on the <i>Loads</i> toolbar enter <b>-1.0</b>	Changes the load value.

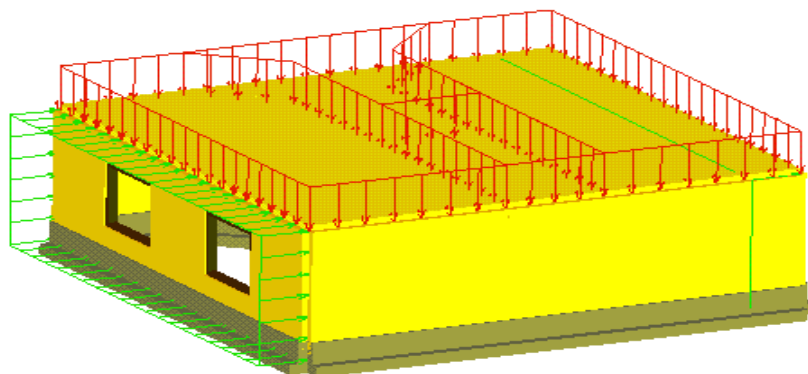


LMC – four times – on inner rafters on the right side of the building, e.g. on points {4.0 -3.0} {4.0 -1.0} {4.0 1.0} {4.0 3.0}	Applies wind loads to inner rafters on the right side of the building.
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From the <i>View</i> menu choose the <i>Display</i> option	Opens the <b>Display</b> dialog box. <i>NOTE: The Display option is also available in the context menu.</i>
On the <i>Objects</i> tab - LMC on the <i>Walls</i> option	Switches on display of walls.
On the <i>Objects</i> tab - LMC on the <i>Beams</i> option	Switches off display of beams.
LMC on the <b>Apply</b> button	Confirms selection and closes the dialog box.
 (Planar Load – the Loads toolbar)	Selects the load type.
From the list on the <i>Loads</i> toolbar choose the <i>Wind</i> group	Changes the current load group.
Into the edit field on the <i>Loads</i> toolbar enter <b>0.25</b>	Changes the load value.
LMC on the outer wall on the left side of the building	Applies the load to the wall on the left.
Into the edit field on the <i>Loads</i> toolbar enter <b>0.1</b>	Changes the load value.

LMC on the outer wall on the right side of the building	Applies the load to the wall on the right.
From the <i>Story no.:</i> list on the <i>Story</i> toolbar select story <b>0</b>	Changes the current story.
Into the edit field on the <i>Loads</i> toolbar enter <b>0.25</b>	Changes the load value.
LMC on the outer wall on the left side of the building	Applies the load to the wall on the left.
Into the edit field on the <i>Loads</i> toolbar enter <b>0.1</b>	Changes the load value.
LMC on the outer wall on the right side of the building	Applies the load to the wall on the right.
From the <i>View</i> menu choose the <i>Display</i> option	Opens the <b>Display</b> dialog box. <i>NOTE: The Display option is also available in the context menu.</i>
LMC on the <b>All</b> button	Switches on display of all the objects.
LMC on the <b>Apply</b> button	Confirms selection and closes the dialog box.





 (Export to the 'Robot' Program – the Standard toolbar)

Runs generation of the calculation model in the **Robot Millennium** program.

*Note: It is required that Robot Millennium program v. 15.0 or higher be installed on the computer. If several program versions are installed on the computer, the generation is performed in the recently-run version.*

