

List of Update Features 2014

Videos about a selection of features on update.dietrichs.com

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4 Building model in the construction program and in roof profiles

4.1 Storeys - Reference heights

<p>Building elevations have a number of significant height levels (reference heights). They have an influence mainly on the position of floor decks and walls. These reference points are the bottom edges or storeys, which can be directly defined in the storey dialogue. Further height reference points are finished floor level and bottom and top edge of slice 0 of the above ceiling. They are determined by the actual existing floors and ceilings.</p> <p>In most cases, the bottom of the storey will be flush with the top of the sub-floor.</p> <p>Floors, walls, windows and doors can be defined depending on these references now; if a height reference changes, all depending objects will adjust automatically.</p> <p>With this new method, the height profile of a building elevation can be easily trimmed to desired room heights and changing floor build-ups. We recommend to adjust your existing building and</p>	14.01
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profile templates and to make the relevant definitions in existing wall properties, window and door definitions.	
<p><u>Adjusted storey dialogue:</u></p> <ul style="list-style-type: none"> ▪ <i>Bottom edge:</i> As before, this defines the bottom edge of the current storey. <ul style="list-style-type: none"> ▪ <i>Clear ceiling height L:</i> This Value is calculated with the bottom edge of the above ceiling minus the top edge of the floor below. It will only be determined, if the respective ceilings and floors are defined; the location of the above ceiling has to be dependent of the bottom edge of the storey above. The clear ceiling height can be specified. This will raise the bottom edge of the storey above. ▪ <i>Height to storey above H:</i> This value is calculated with the bottom edge of the storey above minus the bottom edge of the current storey. If you specify this value, the bottom edge of the storey above will be adjusted accordingly. ▪ <i>Clear ceiling height L and the height to storey above H</i> will be recalculated with every change. If you adjust the bottom edge of the current storey, they will be updated. You can use them to adjust the height level of the above storey. Only the height levels of the storeys will be saved. ▪ The <i>starting number for the walls</i> is specified as before. The default height of walls replaces the <i>max. wall height</i>, and is defined in the wall properties now. ▪ In the storey list, the values BE storey and storey height will be displayed together with the storey name. Formatting of the values ins other unit systems has been adjusted. ▪ If you change the values of a storey, the reference heights will change as well. Building parts that depend on the reference heights will automatically adjust: <ul style="list-style-type: none"> ▪ bottom and top edge of walls. openings in walls. ▪ height level of floors and ceilings. ▪ The height adjustment of drawing objects on walls has to be confirmed separately. This is important, if drawing objects come form a measuring device (e.g. laser theodolite) and their global height position has to remain unchanged. <p><u>Specifications of storey above and below:</u></p> <p>The storey above will be detected automatically, based on the height level of the storey, the designation (GF, IF 1,..) is not taken into consideration. The routine will first look for storeys that are no more than 1.0m above the current one. If no storey is detected within 1.0m up, the routine will look for a storey that is at least 1.8m above the current one. The reason for this interval is to detect storeys that have been defined to contain only a ceiling. Typically these have only a small offset, under 1.0m< On the other side, mezzanine floors should not be detected, therefore the next regular storey has to be at least 1.8m above. In cases where these limits don't allow for the desired result, we recommend to change the height reference of walls and ceilings to BE current storey. Now you can enter heights for walls and ceilings like in the previous program versions.</p> <p>These rules apply to:</p> <ul style="list-style-type: none"> ▪ the storey above, in order to determine the clear ceiling height. ▪ the storey above, as a reference for the top edge of the subfloor ▪ the storey above, as a reference for the top edge of a wall 	14.01
<p><u>New functions in drawing walls:</u></p> <ul style="list-style-type: none"> ▪ In wall properties you can define the default height reference of a wall. When you draw a wall, this default setting will be applied and can be edited if necessary. Before the wall height was taken from the storey definition; with the new dependencies of wall heights and the changes in the storey definition, it makes more sense to take the height of a wall from the wall properties, since exterior and interior walls will typically depend on different reference heights. ▪ The <i>reference of the bottom edge of a wall</i> will still be the bottom edge of the storey. If necessary you can add an offset to move the bottom edge of the wall up(+) or down(-) from there. ▪ The <i>top edge of a wall</i> can be attached to 4 different reference points. <ul style="list-style-type: none"> ▪ <i>BE current storey:</i> Defines the wall height relative to the bottom edge of the current storey. This option can be used for walls with a fixed heigh, e.g. enter 1.2m for a 1.2m high wall. 	14.01

<p>All wall properties that have been defined in a previous version receive this option, because it comes closest to the previous mode of operation.</p> <ul style="list-style-type: none"> ▪ <i>BE slice 0 of above ceiling or TE slice 0 of above ceiling</i>: Defines the wall height relative to the bottom or top edge of the ceiling above. If the reference ceiling moves, the wall height changes. This will find all ceilings that are no more than 1.0m or at least 1.8m above the bottom edge of the current storey. If there is no ceiling within 1.8m above the next storey level, the walls will be limited to the height level of the storey above. The routine will find all floors/ ceilings that interfere with the wall. If there is more than one relevant ceiling, the lowest one will limit the walls. <p><i>Interior load bearing walls will typically run up to BE slice 0.</i> The bearing structure of a floor/ ceiling is typical in slice 0: concrete, joists, etc...</p> <p><i>Shear walls will typically run to TE slice 0.</i> They will protrude the main structural layer of the floor/ ceiling, but stop before the shear diaphragm of the floor e.g. OSB sheathing.</p> <ul style="list-style-type: none"> ▪ <i>BE storey above</i>: Defines the wall height relative to the bottom edge of the next storey above. If the height level of the next storey above changes, the wall height changes. This will be a valid option for the majority of walls. <p>If there is no storey above, the walls will be limited by a roof. If there is no roof, the walls receive a default height of 3.50m to allow for the input of doors and windows, until another storey or a roof has been added.</p> <ul style="list-style-type: none"> ▪ The <i>absolute height level of the bottom end of the wall</i> and the <i>max. wall height</i> are displayed in the dialogue box for reference. If the wall height depends on a floor/ ceiling, the value can only be displayed when you edit the existing wall, because the ceiling can only be found once the wall is in place. 	
<p><u>New functions in drawing windows and doors:</u></p> <ul style="list-style-type: none"> ▪ Sill and header height of windows and doors <i>can be taken from 2 different</i> reference points. <ul style="list-style-type: none"> ▪ <i>BE current storey</i>: With this option you define the sill or header height of a window relative to the bottom edge of the current storey. ▪ <i>Finished floor level</i>: This function will find the next available floor close to the bottom edge of the current storey. Sill or header height will be taken from the top edge of the finished floor. ▪ The sill and header heights of existing projects remain unchanged; the option <i>BE current storey</i> will be used as default. 	14.01
<p><u>New functions to define ceilings/ floors:</u></p> <ul style="list-style-type: none"> ▪ The height of sub-floors <i>can be taken from 2 different</i> reference points. <ul style="list-style-type: none"> ▪ <i>BE current storey</i>: With this option you define the height of a sub-floor relative to the bottom edge of the current storey. ▪ <i>BE of storey above</i>: With this option you define the height of a sub-floor relative to the bottom edge of the storey above the current one. This will move the floor/ ceiling up or down as soon as you change the height level of a storey. ▪ The absolute height level of the sub-floor is displayed in the dialogue box and can be edited. This will adjust the relative offset from the reference point accordingly. ▪ Since wall heights can depend on the top or bottom edge of slice 0 of the floor, affected walls will adjust their height as soon as the floor height changes. ▪ Also the height position of doors and windows can depend on the floor height if the are referenced from <i>Finished floor level</i>: <ul style="list-style-type: none"> ▪ If doors and windows are affected by such a change, you will be prompted to decide if they should be re-positioned. If you select Yes, the openings will move to keep their sill height with reference to the new floor level. If you select no, the sill height of the openings will be adjusted with reference to the new floor level, the absolute position of the openings will not change. ▪ Windows and doors will be re-calculated automatically. This may be necessary, if e.g. the floor build-up or the position of the opening are used to generate the window structure. 	14.01
<p><u>Use of the new values as System Variables:</u></p> <ul style="list-style-type: none"> ▪ Based on the newly available values, the following system variables have been added: <ul style="list-style-type: none"> ▪ Bottom edge of the current storey ▪ Bottom edge of the storey above ▪ Finished Floor Level of the floor below 	14.01

<ul style="list-style-type: none"> These system variables are available: <ul style="list-style-type: none"> In door and window input. This can be used to e.g. define the air gap under a door depending on the floor build-up. Since the parameters of windows and doors remain dynamic, the air gap under a door can be automatically adjusted as soon as a floor build-up changes. In the Wall Guideline Editor. In Logic Blocks. 	
<p><u>New functions in Roof Profile:</u></p> <p>Roof profile uses the same updated dialogue boxes that are also available in the construction program. In addition to that, some key parameters have been added to the <i>Building</i> Group on the left hand side of the screen. With the new features and parameters you can build roof profiles or entire sections through the building in a way, that the heights can be manipulated easily and the rest of the building adjusts accordingly.</p> <ul style="list-style-type: none"> Behind the name of the storey, the height level, the clear ceiling height and the storey height are shown. Below the bottom edge of the storey can directly be specified, without having to open the storey dialogue. In the same line, you can specify <i>clear ceiling height L</i> and the <i>height to storey above H</i> in order to adjust the bottom edge of the storey above. The reference for the top edge of the wall is also available to be changed. <ul style="list-style-type: none"> In wall properties you can define the default height reference of a wall. In roof profile the default reference points for the bottom and the top of a wall will always be taken from the wall properties. The reference for the height of the sub-floor is available to be changed. 	14.01

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