Allplan
Step by Step

User-Defined Reports

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Contents

Creating and editing user-defined reports

This guide shows how to modify *Allplan Reports* and convert user-defined lists from earlier Allplan versions to reports.

The following topics are covered:

- First you will convert a list (user-defined list from Allplan 2012) to a report template.
- Then you will learn everything you need to know about editing the layout using the **Layout Designer**, which is integrated in the **Allplan Report Viewer**.
- After this, you will add an Allplan attribute to a report template.
- Finally, you will find out how to integrate grouping, interactive sorting, filters and graphics from the Allplan model data and of the **zoom-to-element** functionality (zooming and selecting) in a report.

Allplan Connect provides training data you can use to work through this guide. For further information on reports, see the corresponding FAQ document, which you can download from the Internet.

Scenarios for report modifications

Allplan 2014/2015 comes with an extensive selection of report templates that meet the usual requirements. However, there are times when you will find that you have to customize the report templates for your needs.

The following adjustments are possible:

- You can make minor modifications to the layout without any changes to the functions (for example, modifying the text color or height of a row).
- You can replace and add Allplan attributes to a report template.
- You can use all the options provided by the report technology to modify the layout.

Training data

The **Training - Documents** area of Allplan Connect (http://connect.allplan.com) provides some report templates you can download and use as training data. You can use the training data provided to work through this guide.

The `Allplan_2014_DataUserDefinedReports.zip` file contains the `zli002.eng_002_Walls.rdlc` report template, which was converted from a list, plus four different stages of this template. Use **Windows Explorer** to copy the decompressed files to the `reports\eng` folder in the Allplan office standard (`STD` folder). To get to the office standard, open the **Services** application and select **Service - Windows Explorer - Office standard (STD)**.

Additional information

In addition to this guide, you can use the FAQs on the Internet.

The 'Reports' document provides answers to frequently asked questions. For example, you can find detailed information on queries in reports, operators in queries and additional parameters in reports.

Converting user lists to report templates

In this example, you will convert the **Walls** list (**Unfinished structure** folder), which you customized for your needs in an earlier Allplan version, to a report template in `*.rdlc` format, which is the common report format in Allplan 2014/2015.

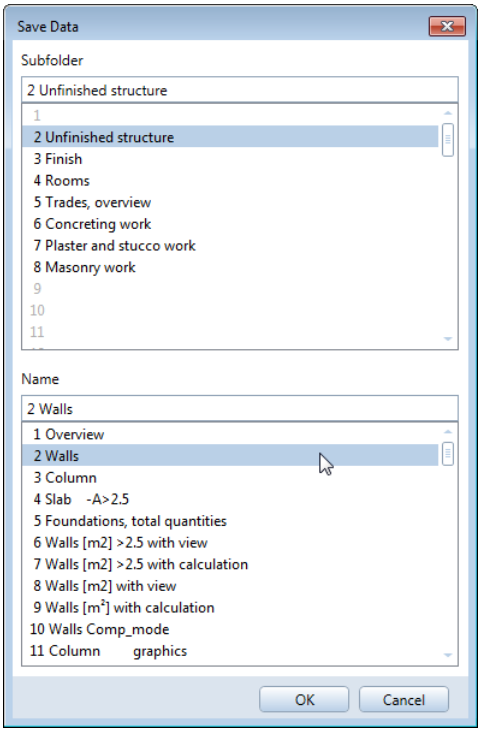
After having upgraded to Allplan 2014/2015, you can convert customized lists in the office folder to report templates.

Note: For the sake of completeness, the following section includes a description of the conversion of the **Walls** list (**Unfinished structure** folder). Instead of converting the list yourself, you can use the converted `zli002.eng_002_Walls.rdlc` file, which you can find in the training data.

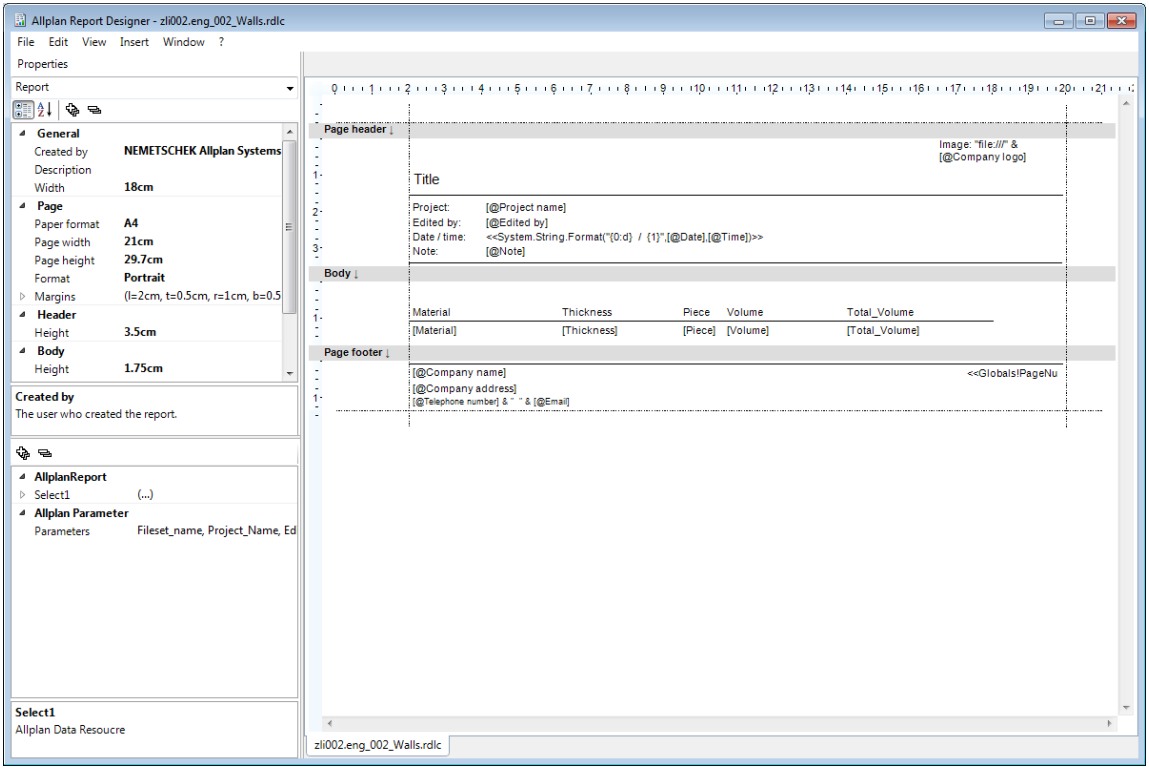
To convert a list to a report template

1 Click **Convert Office Lists** (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module).

2 In the **Select List** dialog box, select the list you want to convert to a report template.



The list is converted and displayed as a report template in the Allplan **Report Designer**.



Converted office lists are saved in the office standard. Now you can use the converted list for analyses.

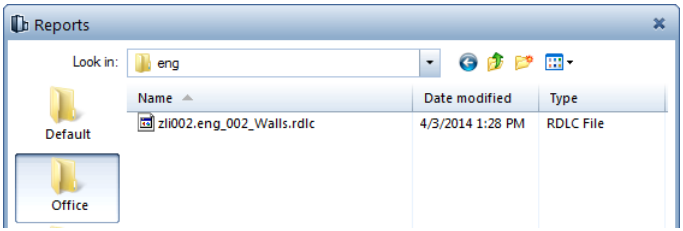
So that you can easily reproduce all the steps that follow, this guide includes the finished report template (`zli002.eng_002_Walls.rdlc` file), which was converted from the **Walls** list (**Unfinished structure** folder).

3 Copy the `zli002.eng_002_Walls.rdlc` file to the office standard (`Std\Reports\eng` folder). The **Services** application takes you to this folder.

To analyze components using the converted list

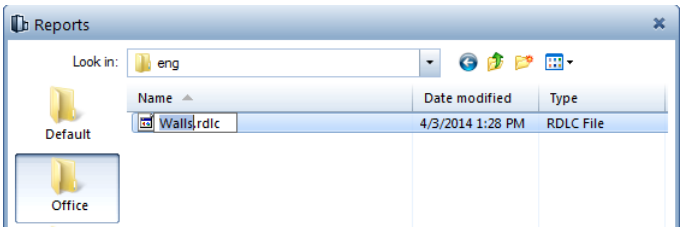
➲ You have opened a document containing appropriate elements.

1 Click **Reports** and select the **Office** folder in the dialog box:

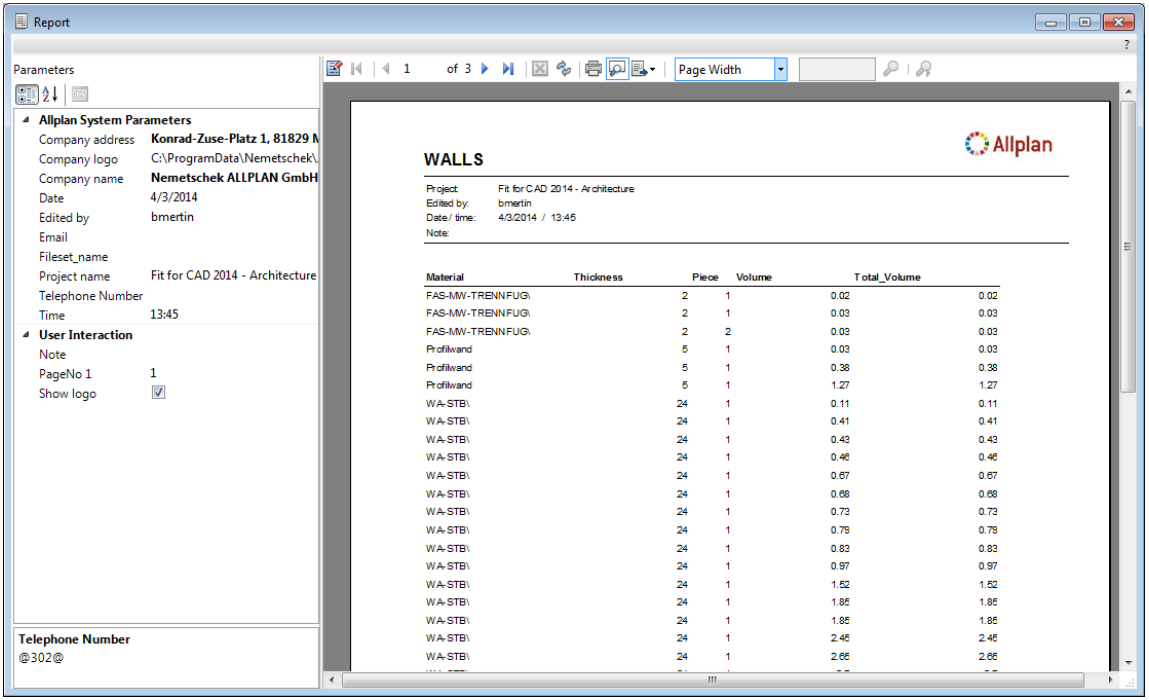


The file name of the converted template consists of the file number, the list number and the list name.

2 You can rename the template directly in the dialog box and open it afterwards.



The elements in the current document are analyzed and the converted list is displayed in the **Report Viewer**.



Working with the Allplan Report Designer

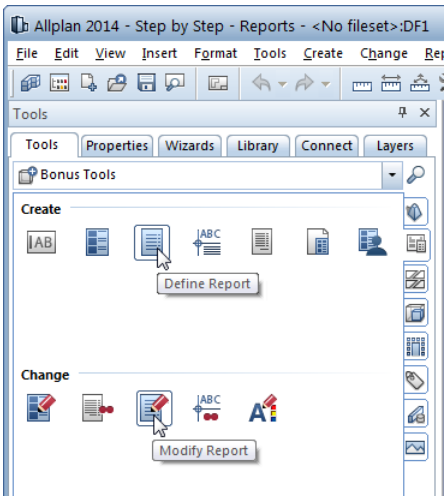
General information

Report Designer and Layout Designer

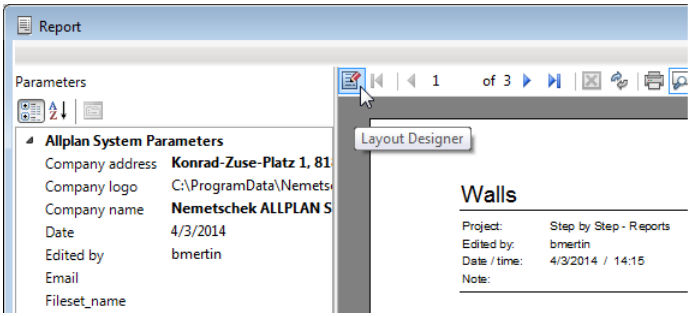
Before we proceed any further, this section provides some general notes on editing report templates in Allplan. The **Report Designer** exists in two different modes: as the **Report Designer** (stand-alone – without analyzed model data) and as the **Layout Designer** (with data).

Selecting a template using **Define Report** or **Modify Report** (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module) opens the **Report Designer** (stand-alone).

You can only edit the **Query** in this mode.

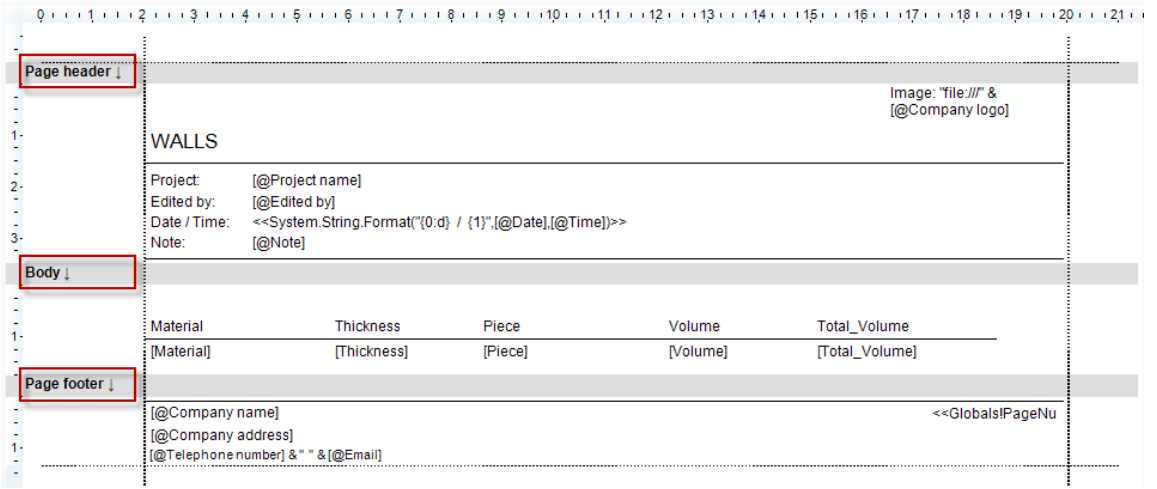


The **Layout Designer** opens when you select a report that contains analyzed model data (see "Allplan Layout Designer" on page 39). In this mode a preview is available for editing the template but you cannot edit the **Query**.

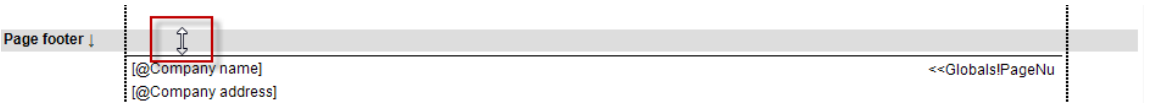


Structure of a report

Each report consists of a **header**, a **body** and a **footer**. The contents of the objects analyzed are displayed in a table in the body. The header and footer appear on each page of the report.



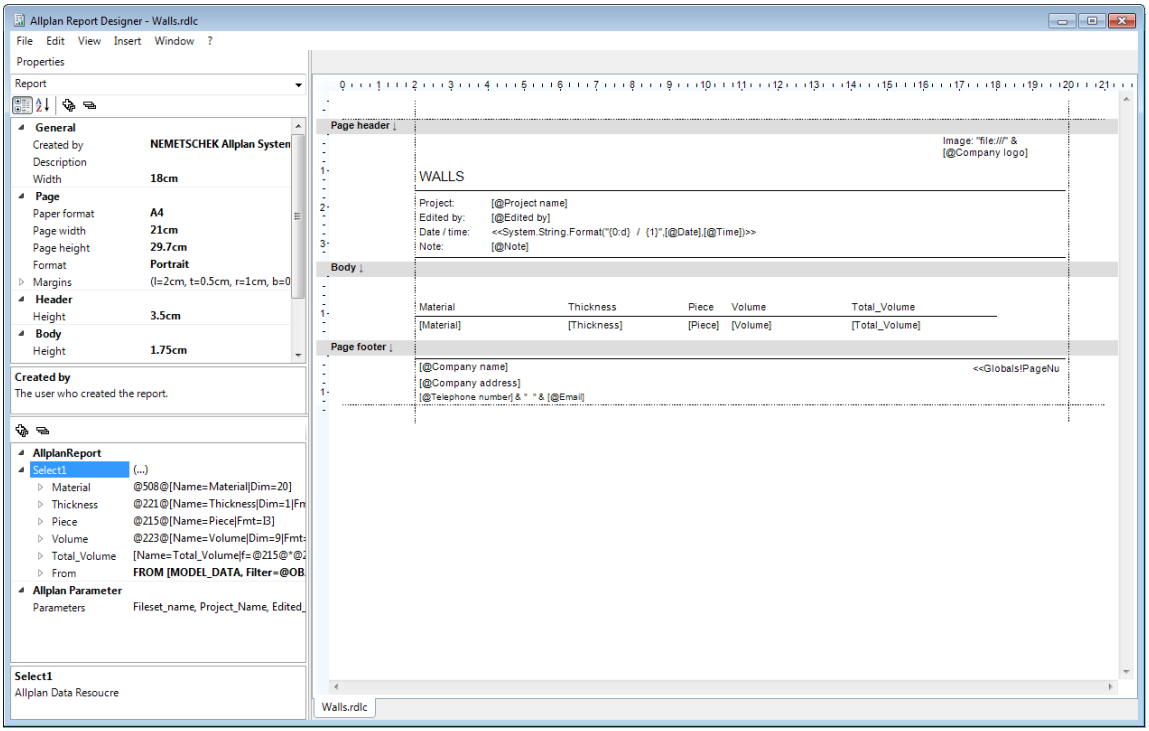
You can change the size of these three elements in the palette or simply by dragging.



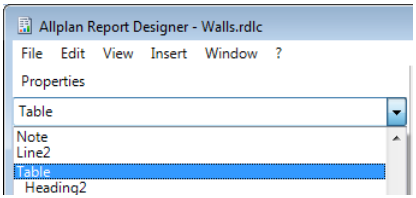
Selection

Selecting the page, cells or text boxes

The **Properties** palette on the left in the **Report Designer** always shows the properties of the selected element. If you have not selected a specific element, the selection applies to the report itself. You can change the general **properties of the page**, such as the paper format, the size of the margins and the height of the header, footer and body as well as modify the **Query** (using the bottom part of the **Properties** palette).



As soon as you click a **text box** or a **table cell**, the properties in the palette apply to the selected element. You can also select elements using the **drop-down list** at the top left in the palette. The **drop-down list** has a hierarchical structure: for example, you can see which text box is in which table.



Each element has different properties:

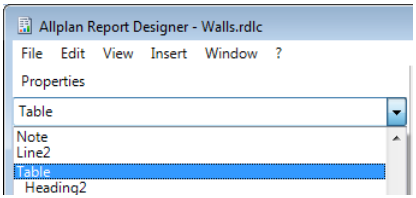
- **General properties** (name, value)
- Properties defining its **position**
- **Text properties** (font, color, alignment, padding)
- **Border properties** (border color, thickness)
- Properties defining its **background color**

Selecting tables

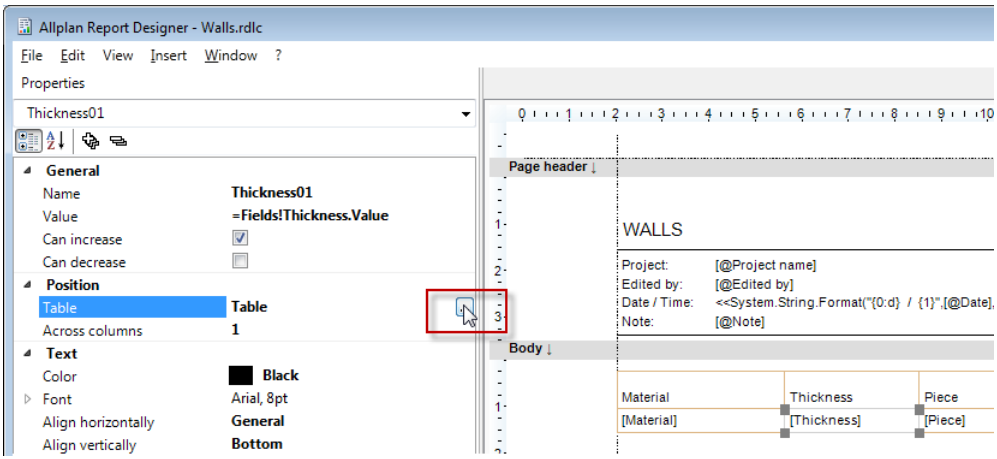
The table objects themselves are not visible. They serve as containers for the cells in the table. Everything you can click directly is a subordinate element of the table, such as a text box or a heading cell. However, if you want to modify the table, you need to select it.

To select a table object

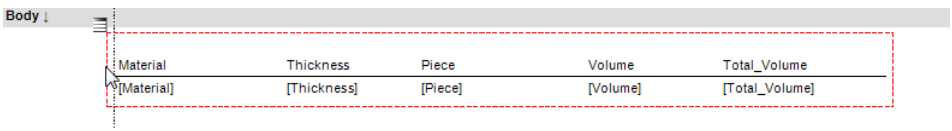
- Select a table object in one of the following ways:
  - Select the table in the drop-down list of the **Properties** palette.



  - Select any cell and then click the superordinate table in the **Position** section in the palette.



  - Click the red frame of the table. The frame becomes visible as soon as you point to it.



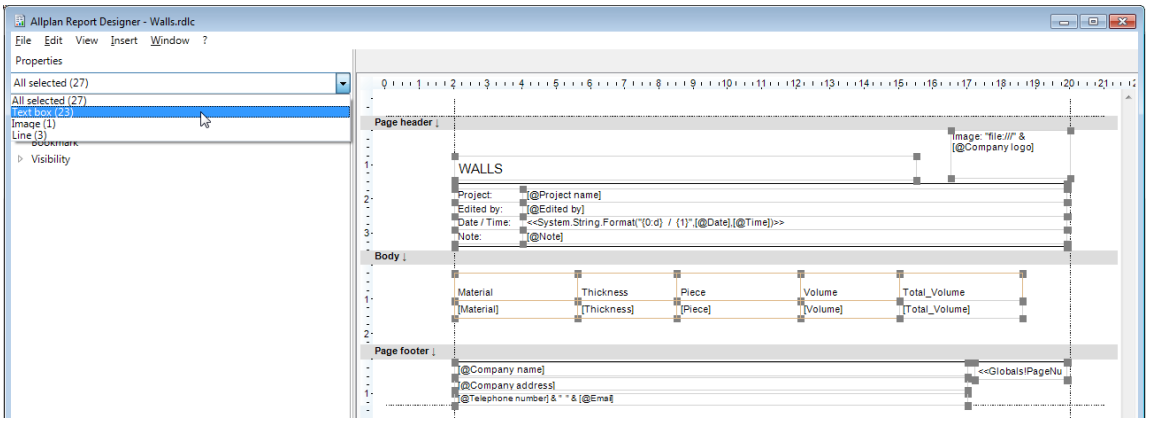
Selecting several elements

You can also select several elements at the same time.

To select several elements

- Select several elements in one of the following ways:
  - Enclose the elements in a selection rectangle.
  - Press CTRL+A to select all elements.
  - CTRL+click adds more elements to the selection.
  - You can then filter the selection using the **drop-down list** in the palette.

  Take a look at the illustration below: first all elements were selected and then filtered by means of the **drop-down list** in the palette. All that is left are the text boxes:



Customizing report templates

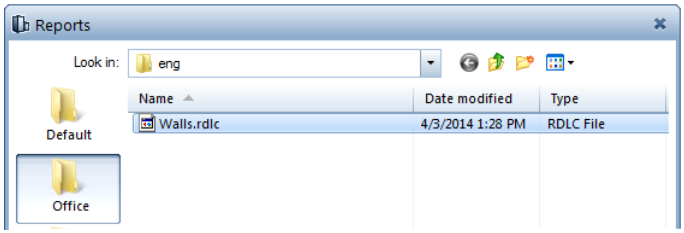
Although the converted report (see ”Converting user lists to report templates” on page 3) works correctly, the formatting of the cells and the names of the columns are not yet perfect. Let’s improve these features!

To open a report template for modification

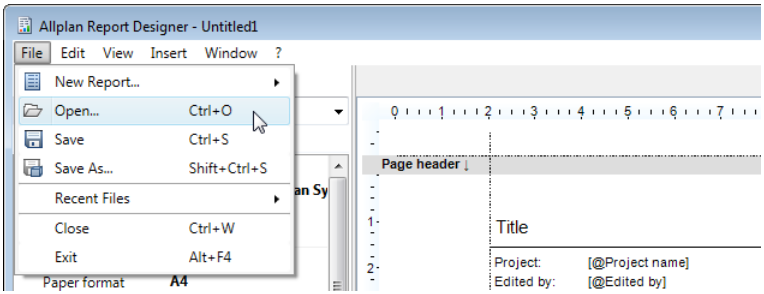
1 Click  **Modify Report** (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module).

2 Select the report template you just converted.

3 Click the **Office** icon on the left if a different folder is open.



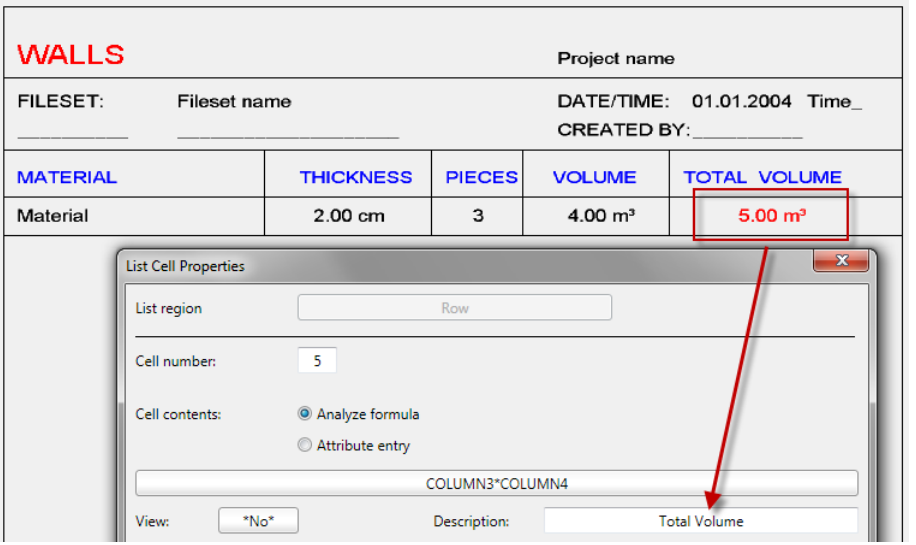
Note: You can also use **Define Report** (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module) to open the report template you want to edit. Instead of creating a new, empty report template, click **Open** on the **File** menu and select the report template to be edited.



Some notes on formula attributes

Before you continue, this section provides some general notes on formula attributes:

Formula attributes are complex structures that consist of various conditions and attributes that are added, multiplied and linked. These formula attributes are only converted correctly if they have a ”description” in the original list. In this example, it is the **Total volume**:



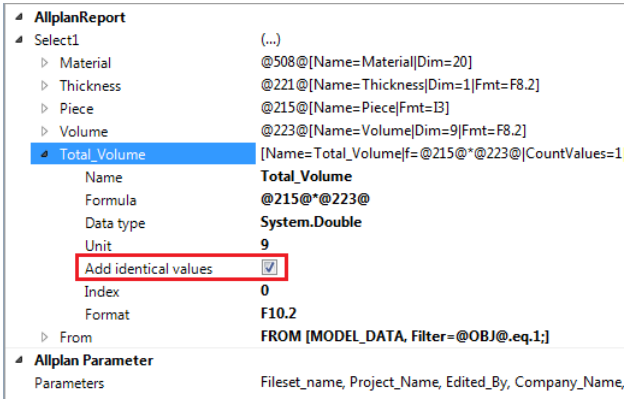
If there is no description in the list, the name of the formula attribute is **Formula_X** in the report (X represents a number).

If the original list includes a large number of formula attributes without descriptions, editing the report can be a time-consuming and tedious task. So you are strongly advised to edit the list and assign descriptions in the appropriate version (Allplan 2012 or earlier) before you convert the list to a report.

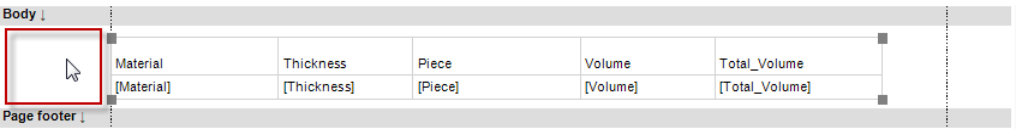
Correcting attributes

Make sure that you select the **Add identical values** option (**CountValues**) for the **Total_Volume** formula attribute. Otherwise, the volume of identical walls is not added up. To access the attributes, you need to select (see "Selection" on page 12) the report page and open the **Query** section in the **Properties** palette of the report.

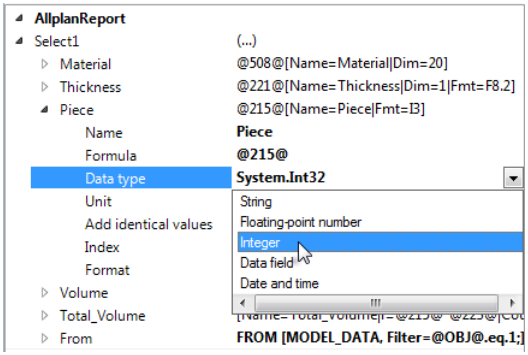
All the fields in the report template are listed in this section. These fields provide the connection to the Allplan attributes:



It may happen that the **Piece** attribute is not analyzed correctly. The type must be set to **System.Int32**. You can correct this in the **Query**.



set the type to **Integer = System.Int32**:

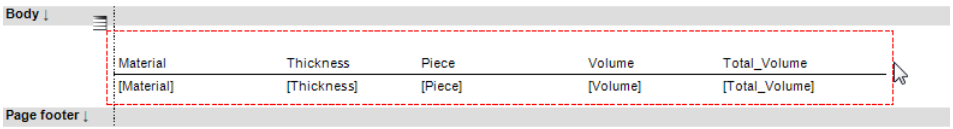


Aligning tables

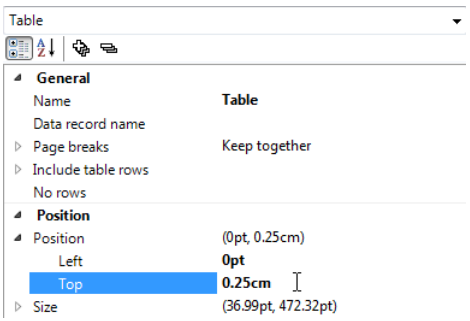
The main table is not flush with the upper edge. There is a small gap. To correct this, you first need to select the table.

To align the table

1 Select the table.



2 In the **Properties** palette of the **Report Designer**, set the **Position** to **0 / 0**.



In addition, the table is to stretch across the entire width of the page less the margins. So that the right edge of the table prints correctly, tables need 0.1 cm of additional space. This results in a total table width of 21 cm – 2 cm – 1 cm – 0.1cm = 17.9 cm.

3 Enter the value of **17.9 cm** directly in the table. Make sure that you include the unit (**cm**).

The program automatically converts the value to **points (pt)**:

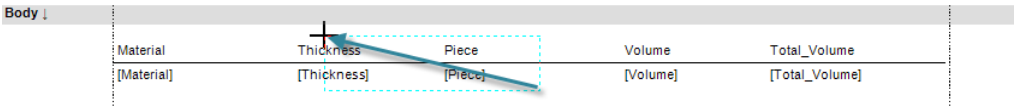
Aligning cells

To get a better view, you will now center cells with integers and right-align cells with floating-point numbers.

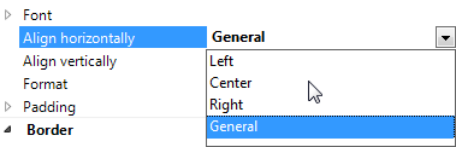
To align cells

1 Select the relevant cells. You can select several cells in a single operation by enclosing them in a selection rectangle.

In this example, the columns for **Thickness** and **Piece** are to be centered. You can select them together. The arrow indicates the direction of the selection rectangle, that is from bottom right to top left.

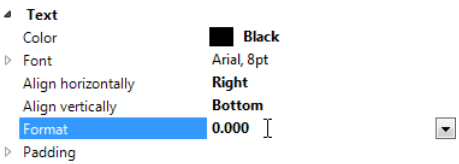


2 In the palette, set the **Text alignment** to **Center**.

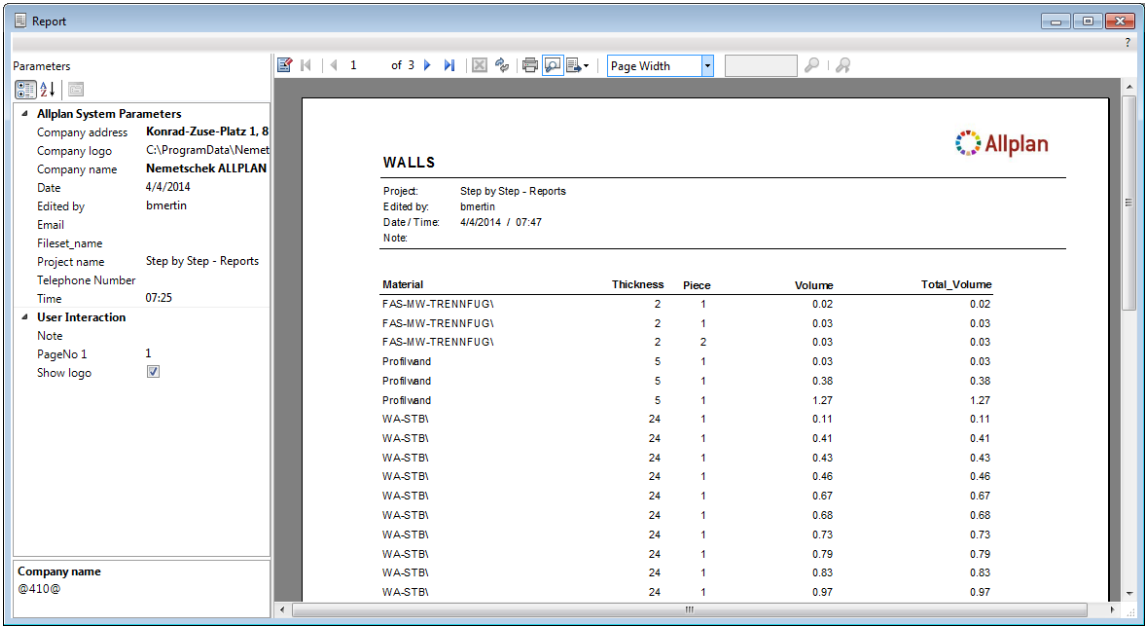


3 **Volume** and **Total volume** are floating-point numbers. They are right-aligned and have three decimal places.

4 Use **Format** to define the decimal places.



That's it! Now you have converted the list and aligned the cells correctly:



Expanding the converted report template

Inserting a sum row

The **Walls** list is now available as a report template. The next step is to add a sum row and a number of additional attributes.

Start by opening the **Walls.rdlc** report template you edited in the previous chapter. Once again, use **Define Report** or **Modify Report** (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module) to open it in the **Report Designer**.

Inserting a row

To add a row in the report template

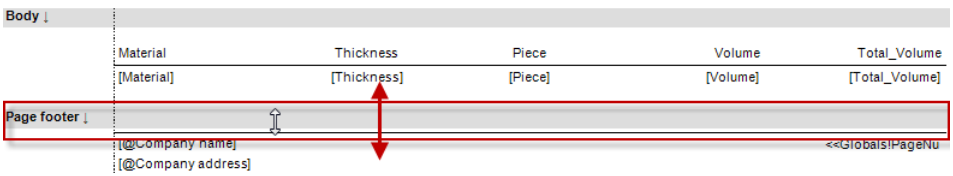
1 Click **Modify Report** (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module) and open the **Walls.rdlc** report template in the **Report Designer**.

2 First you need to make space for another row. Do this in one of the following ways:

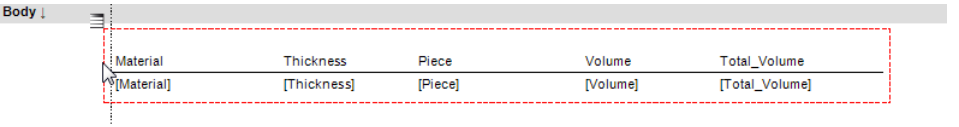
- Drag the footer downwards in the graphics.

Or:

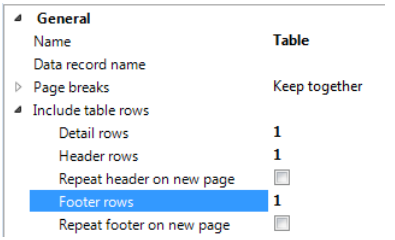
- Enter a value for the height of the body in the palette. A height of 2.5 will do.



3 Then select the table ...



4 ... and enter the value **1** for the **Footer rows** in the palette.



Now the report has a footer.

Formatting the cells of the sum row

So that the sum row is arranged clearly, you can format it as follows:

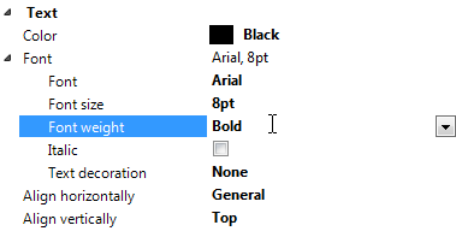
- Font: Arial, 8pt, bold, alignment: top
- Padding: 2pt with the exception of 4pt at the top
- Border type: no border with the exception of solid at the top
  Border width: 0.5pt
- Row height: 1 cm (the row height cannot be set exactly in the Report Designer)

To format the sum row

➲ The `Walls.rdlc` report template is still open.

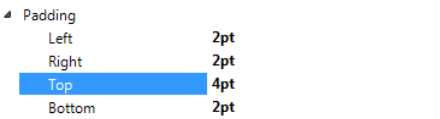
1 Set the **Font** as follows:

Arial, 8pt, bold, vertical alignment: to the top of the cell:



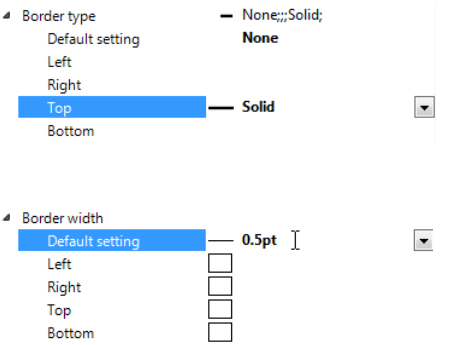
2 Set the **Padding** as follows:

2pt with the exception of 4pt at the top:



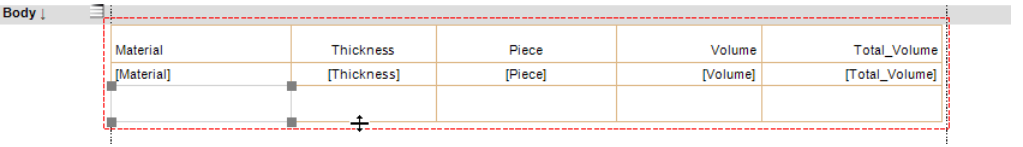
3 Set the **Border type** as follows:

no border with the exception of solid at the top, border width: 0.5pt



4 Set the **Row height** as follows:

1 cm (approximately twice as large as the previous row – drag the lower edge downwards accordingly).

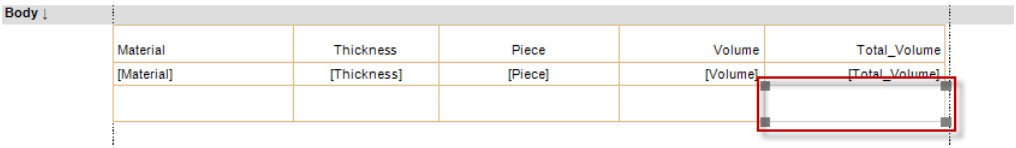


Adding up the total volume

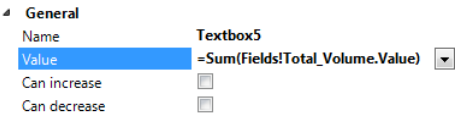
To add up the total volume, you need to enter the corresponding formula in the field for the sum.

To add up the total volume

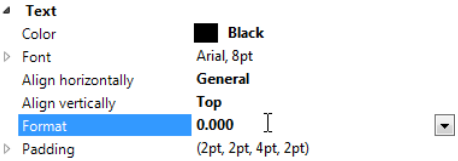
1 Start by selecting the cell.



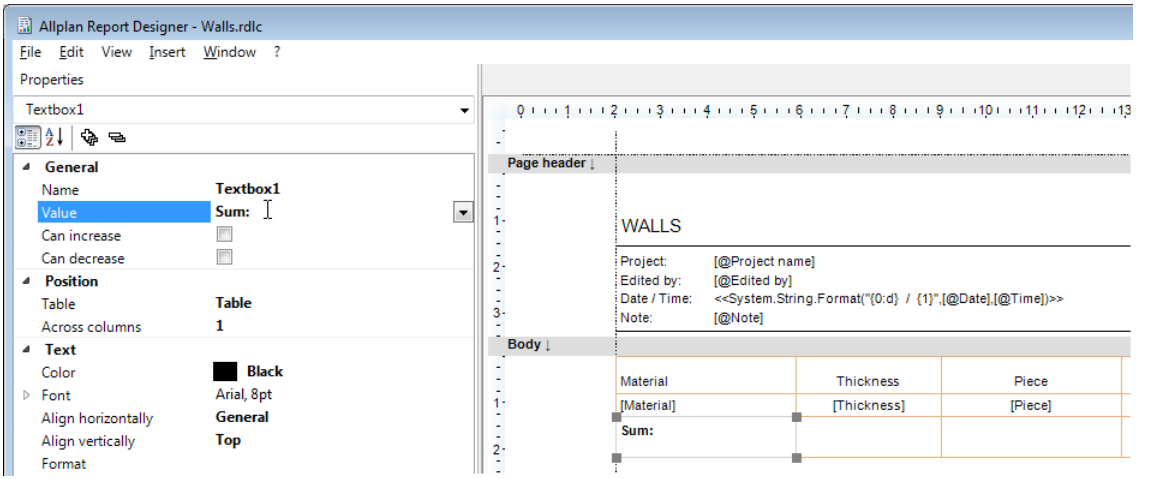
2 Then enter `=Sum(Fields!Total_Volume.Value)` for the value of the sum in the palette.



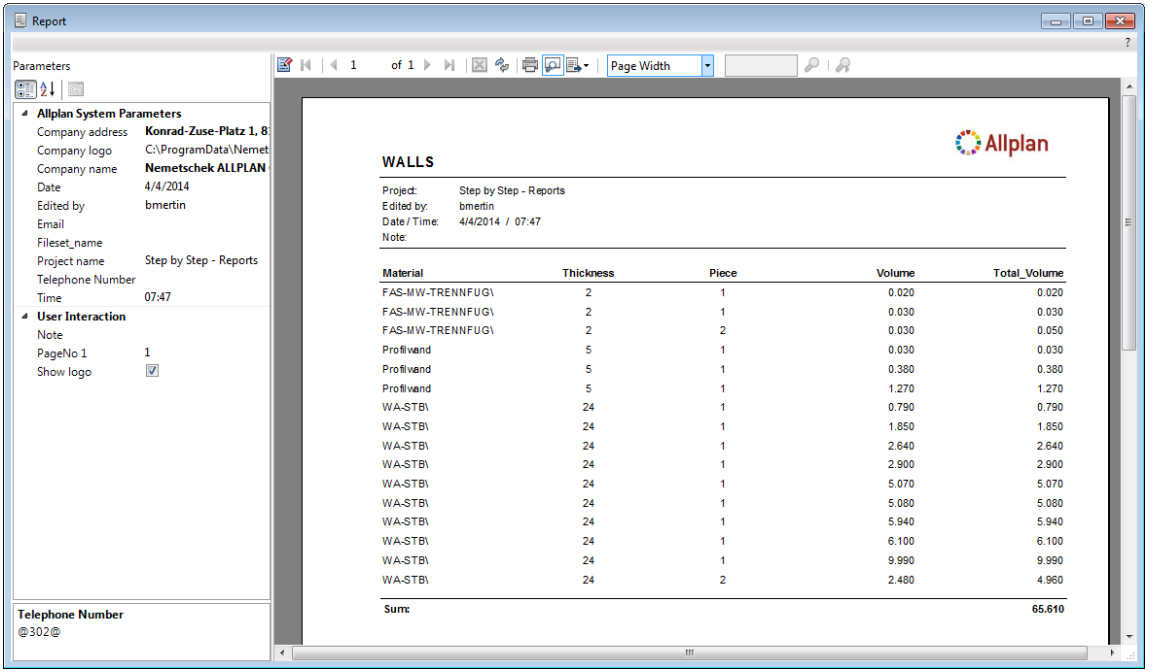
3 Specify three decimal places for the format.



4 Enter the value **Sum:** as static text on the left side of the cell.



Finished! Now the report has a sum row:



Adding attributes

Creating attributes

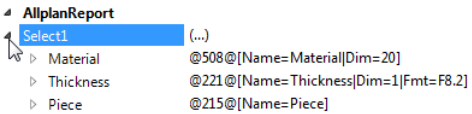
The next step is to add more attributes to the report. In this example, the **Trade**, **Height**, **Bottom** and **Top level** attributes are included.

To create more attributes

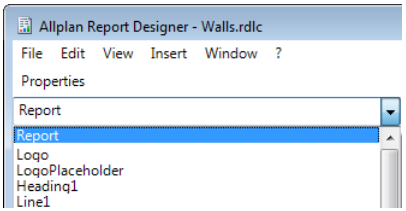
1 Click  **Modify Report** (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module) and open the **Walls.rdlc** report template in the **Report Designer**.

2 In the **Properties** of the report, expand the **Select1** section.

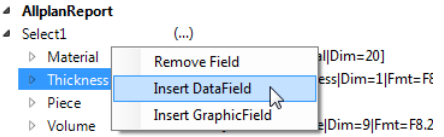
All the fields in the report are listed in this section. Based on the attribute number, the fields are connected with a corresponding Allplan attribute:



3 If you cannot see the **AllplanReport** section with the Select statement, open it using the drop-down list at the top left in the palette. Select **Report**.

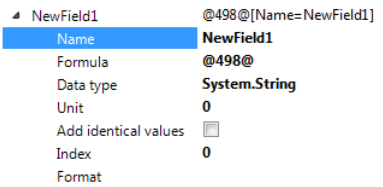


4 Now create a new field. To do this, click an existing field with the right mouse and select **Insert DataField**.



By default, the name of the new field is **NewField1** and the field is connected with the Allplan attribute 498.

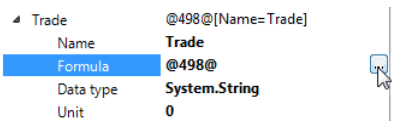
5 Specify an appropriate name for the field. This name is important as it is used to assign the field to a table cell afterwards. You can overwrite the name directly in the palette.



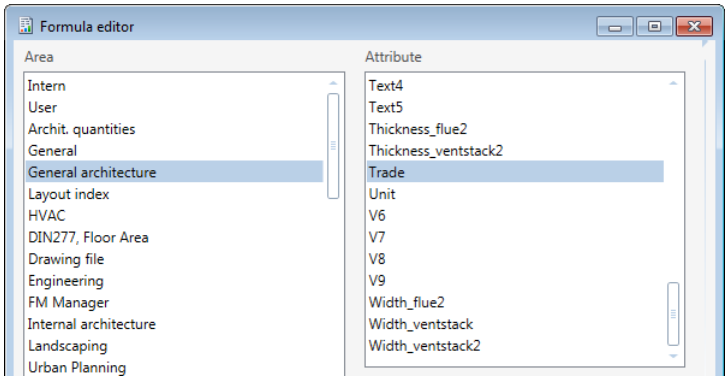
After you have changed the name, the next step is to select the appropriate attribute.

6 Click in the **Formula** line.

An icon appears on the right. Click it to open the attribute dialog box.



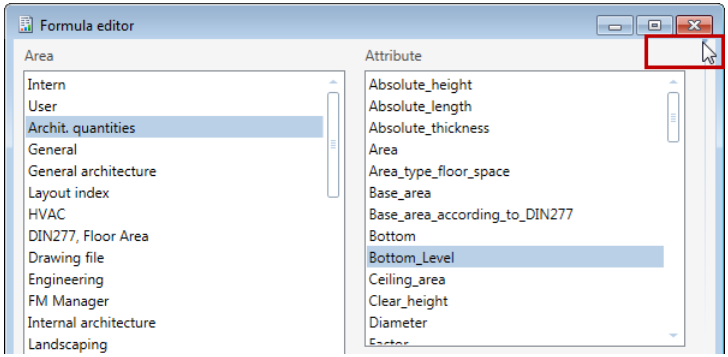
7 In the **Attribute dialog box (Formula editor)** select the **Trade** attribute in the **General architecture** area and click **OK** to confirm.



8 Using the same approach as described for **Trade**, you can now select the appropriate attributes for **Height**, **Bottom** and **Top level**. You can find these attributes in the **Archit. quantities** area of the **Formula editor**.

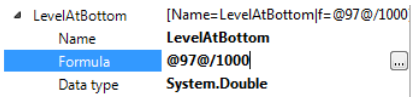
As the unit of the **Bottom** attribute is set to **mm** by default, the value for the report must be converted to the unit **m**.

9 Click the small arrow at the top right to expand the **Formula editor**. Now you can enter **formula attributes**.

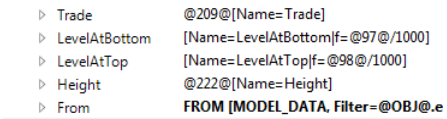


10 Enter a formula in this expanded mode.

Alternatively, you can also enter the formula directly in the palette. If you know the syntax, this is the quickest way.



Attributes you expand in this manner automatically become formula attributes.



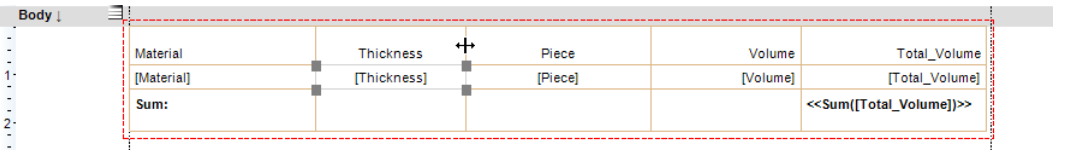
Note on umlauts: you are advised not to use umlauts and other special characters in the names of fields. Otherwise, the report will not work in combination with other code pages (Russia, Asia).

Adding columns

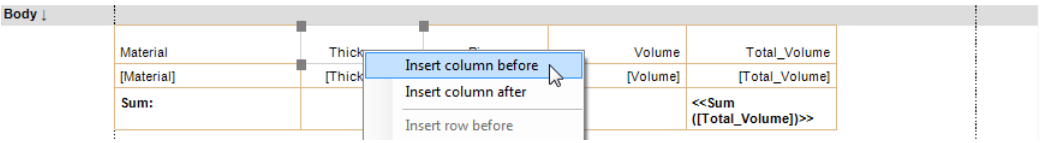
After you have integrated the attributes in the **Query**, you can now assign them to cells. But first you need to insert these cells in the table.

To insert columns

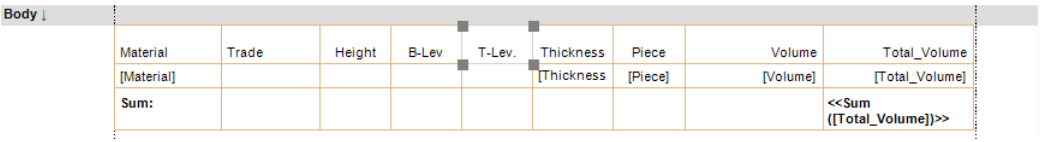
1 Make space for the new columns by reducing the width of the existing ones.



2 Now you can insert more columns.

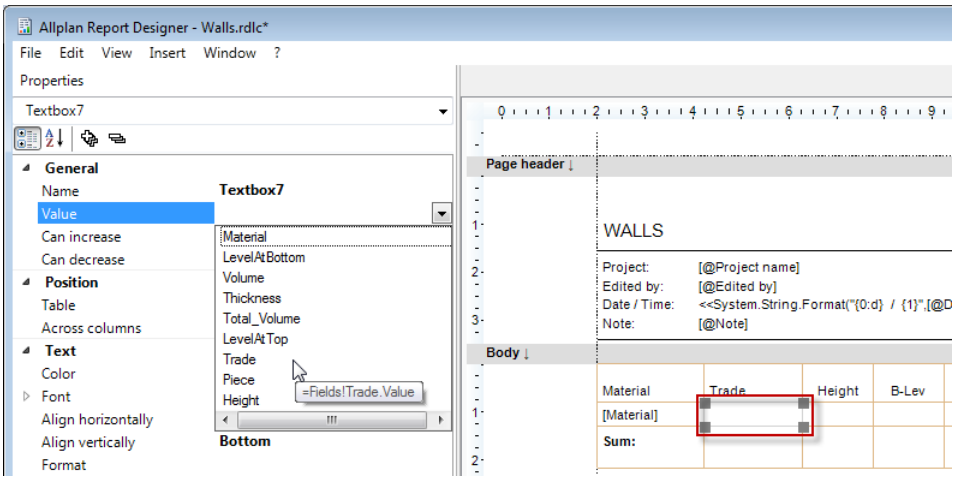


3 Enter the heading as static text using the palette.

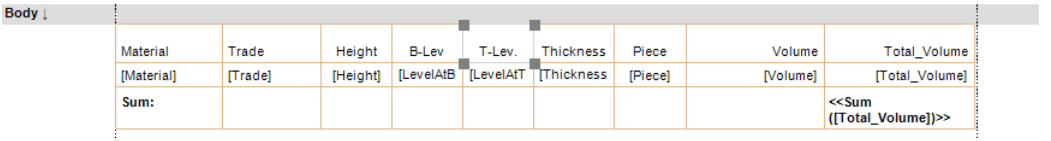


4 Select the table cell you want to edit.

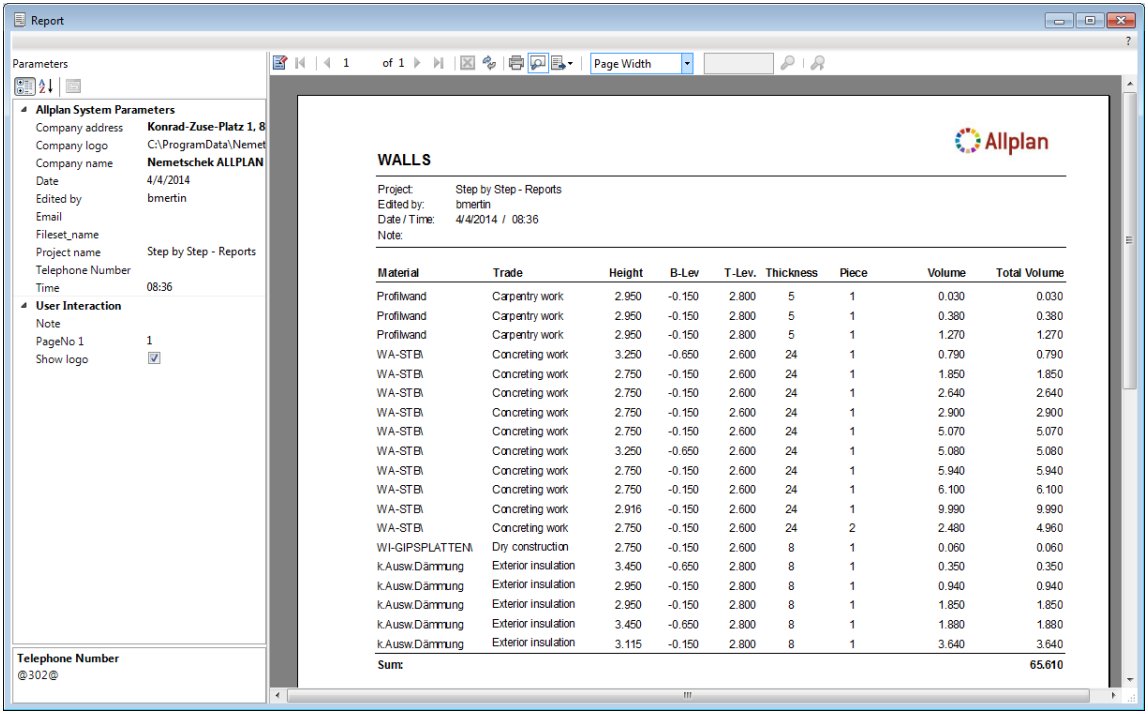
Now you can directly access the fields of the report. They are displayed when you open the drop-down list for the value of the corresponding table cell.



5 Enter a **heading** and **assign a field** for each column.



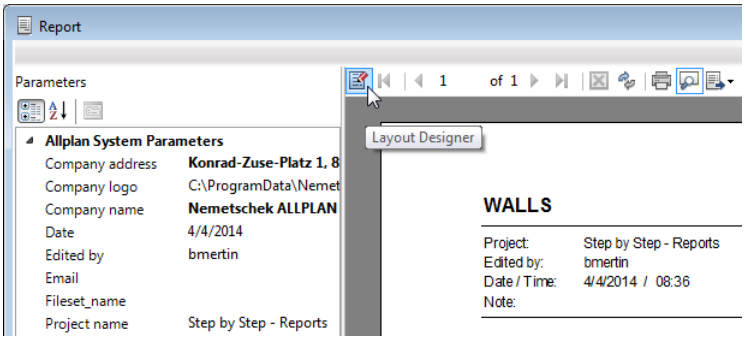
Now the report analyzes all the required attributes from the Allplan data:



Allplan Layout Designer

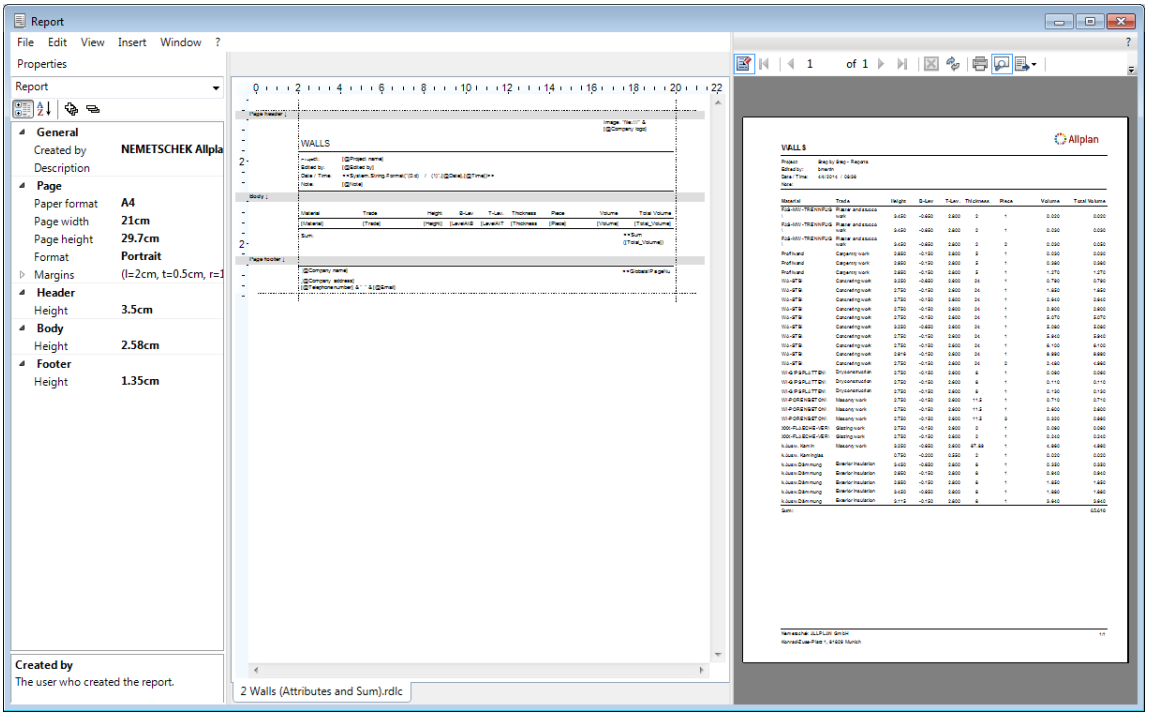
To make changes to the layout of a report, you can use the **Layout Designer**: you can change the height and width of the cells, assign a different font and background color to the cells and text boxes, change the paper format, modify the header and footer, change column headers or add and delete cells. Report templates you have changed can be saved in the office standard.

You can open the **Layout Designer** straight from the **Report Viewer** with analyzed model data:



The right side of the **Layout Designer** provides a preview of the finished report. The window consists of three parts: the **palette**, **definition window** and **preview**. The preview on the right updates automatically to reflect any changes you make to the template.

Please note that you cannot edit the **Query** in this mode:



Working with Microsoft Visual Web Developer 2008

Microsoft Visual Web Developer 2008

Until now you have learned how to make minor changes to the layout of report templates. For more complex modifications, however, you require the **Microsoft Visual Web Developer Express Edition** or **Microsoft Visual Studio 2008** development tool. **Visual Web Developer** is a free, reduced version of **Visual Studio**. Both packages are handled in the same manner and are simply referred to as "Visual Studio" in the following.

Microsoft Visual Web Developer 2008 Express Edition is a free tool of Microsoft you can use to add any report elements, such as tables, text boxes, matrices, lists and rectangles. Using this tool, you can customize reports for your needs.

In addition, you require the **language pack** for **Microsoft Visual Web Developer 2008 Express Edition**. Otherwise, you cannot open the report in **design mode** (`VWD_RV_Addon_eng.exe`).

Note: Make sure that you use **Version 2008** of **Visual Studio**. Allplan does not yet support newer versions. These versions use a different XML scheme that cannot be read by the **Report Viewer** or **Report Designer** in Allplan.

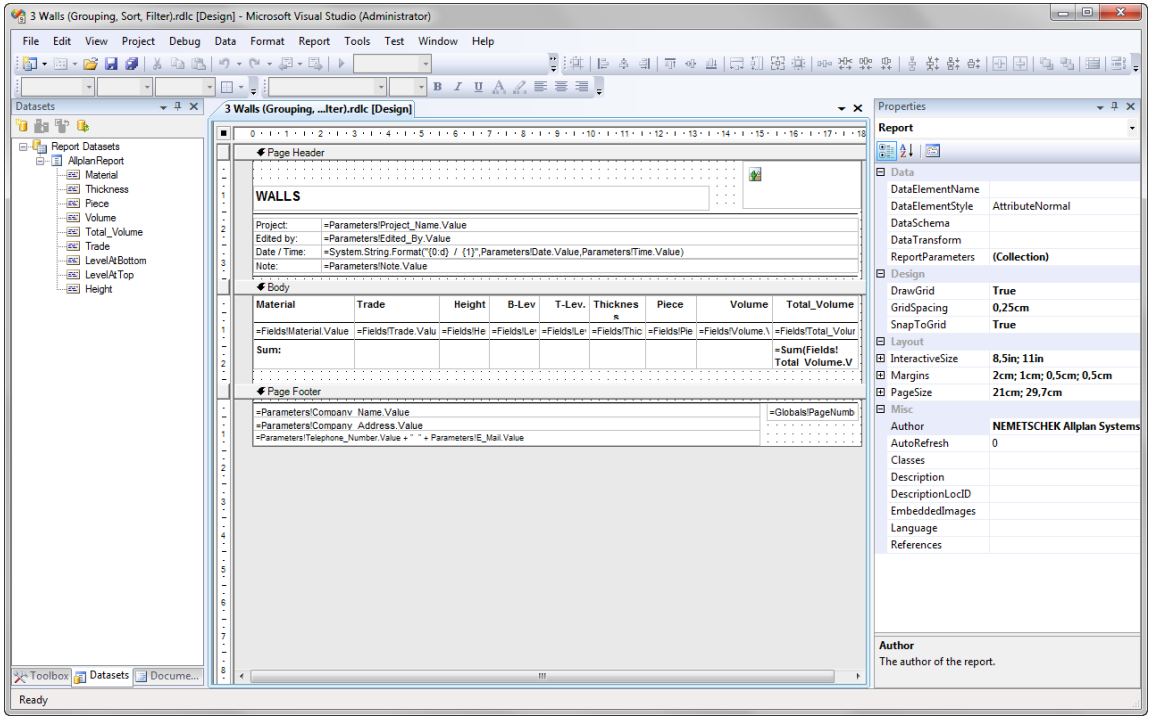
You can find **Microsoft Visual Web Developer 2008 Express Edition** and the **language pack** in Allplan Connect in the FAQs area (look for **Visual Web Developer 2008** and open the **Tools for Editing reports** FAQ). As an alternative, you can also download the data from the Internet.

You can either *start from scratch* and use an empty file or *use an existing template* from the `ETC` folder or a converted list. Please don't forget to make a backup copy before you start editing the file!

In this chapter you will continue to edit the **Walls** report (see "Converting user lists to report templates" on page 3).

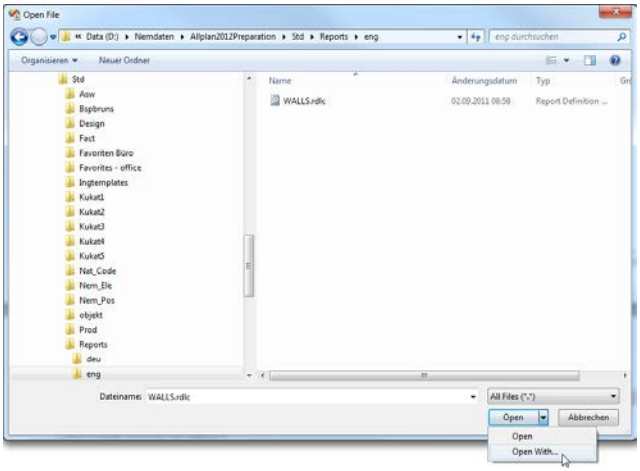
Introduction to Microsoft Visual Web Developer 2008

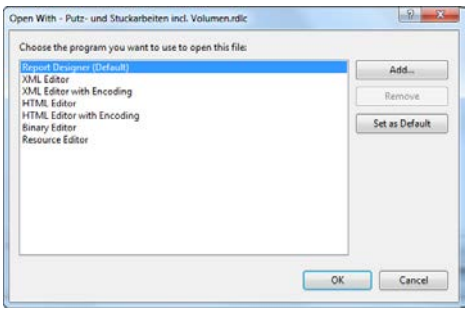
Microsoft **Visual Web Developer 2008 Express Edition / Visual Studio:**



Check that the **Toolbox**, **Datasets** and **Document Outline** windows are open on the left. The **Properties** should be displayed (see "Surface settings in Microsoft Visual Web Developer 2008" on page 44) on the right.

You can open the templates in two different modes: **design mode** (default setting) and **XML mode**. To open the file, click **Open with ...** and select the **Report Designer** if it does not start automatically.

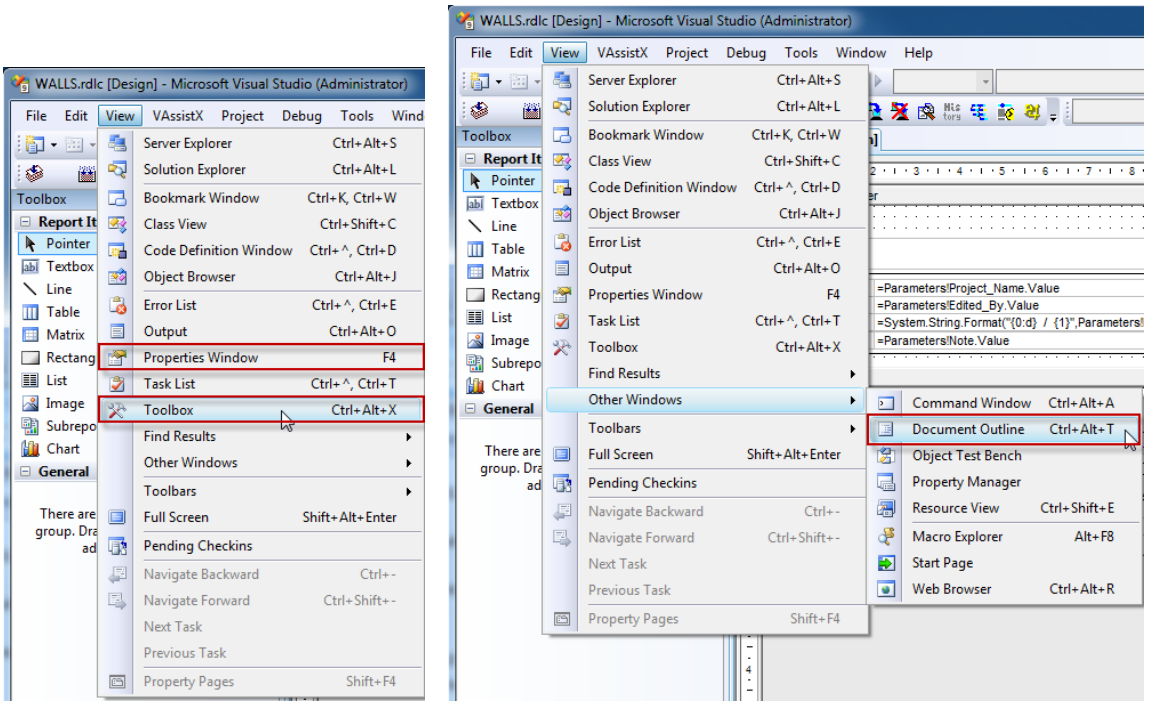




Surface settings in Microsoft Visual Web Developer 2008

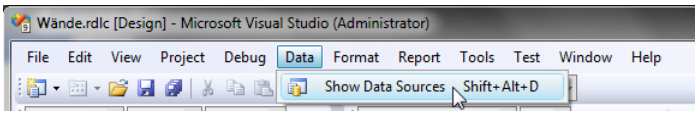
To prepare to use Microsoft Visual Web Developer 2008

1 Open the dialog boxes and windows you require:



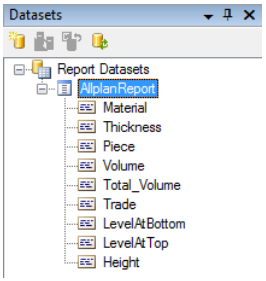
Note: All screenshots in this chapter are based on the **Walls.rdlc** report you created by converting the list with the same name (see ”Converting user lists to report templates” on page 3). You can obtain the same result by converting the list first and then opening it in MS **Visual Web Developer 2008 Express Edition**.

2 Open the **Datasets** window. To do this, click **Show Data Sources** on the **Data** menu.



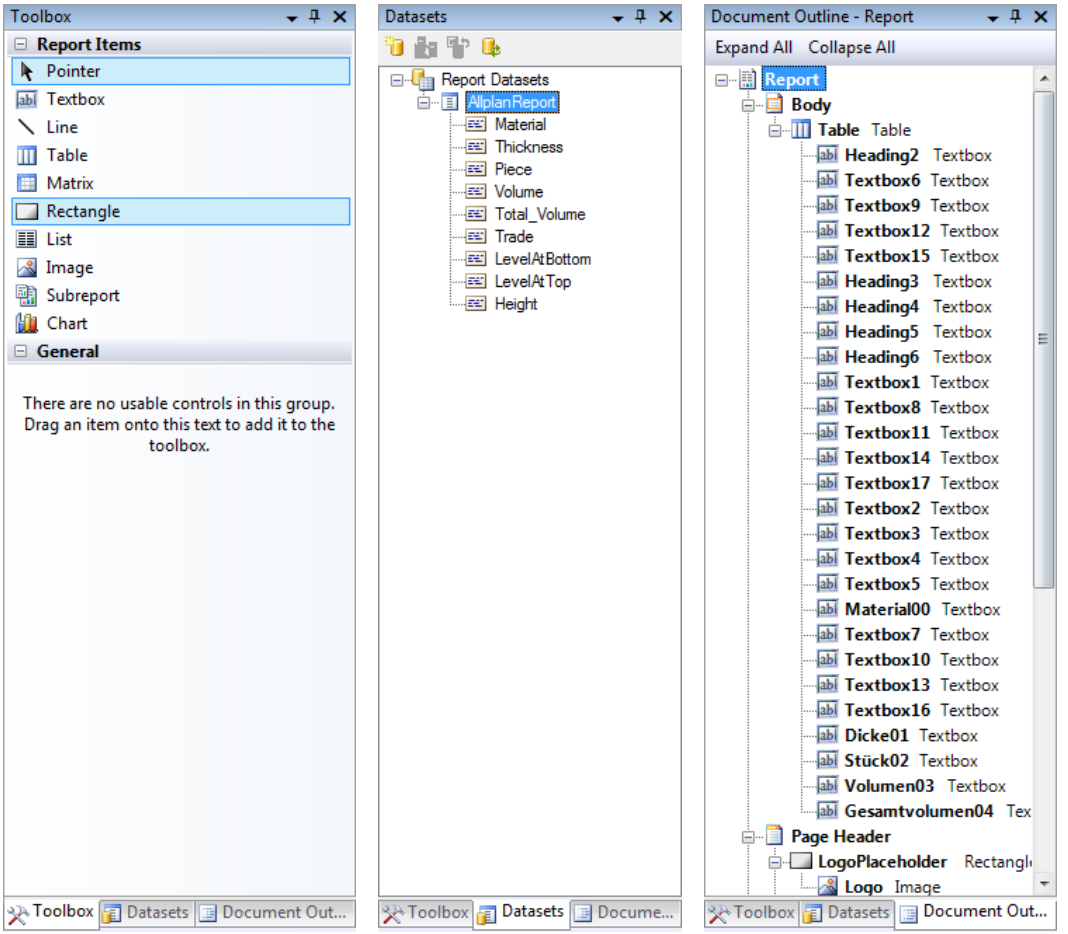
Note: If you cannot see the **Data** menu, select any section of the open report template (for example, a cell). Then this menu item is displayed.

The **Data Sources (Report Datasets)** refer to the fields of the report. The fields are connected with the Allplan attributes in accordance with the definition in the query. After you have converted the conventional list to an rdlc file, all the attributes of the list are available in the **Dataset** and can be used.



3 Arrange the windows in MS **Visual Web Developer Edition** as shown in the first illustration in this chapter. The report template should be displayed in the window in the middle and the **Properties** palette on the right.

The **Toolbox**, **Datasets** and **Document Outline** windows are on the left.



You can use the **Toolbox** to insert any element that is allowed in a report template.

The **Datasets** window shows all fields that are defined in the report template.

The **Document Outline** window shows the structure of the report template (additional controls contained in elements).

Editing reports in Visual Studio

Setting margins

To set the margins

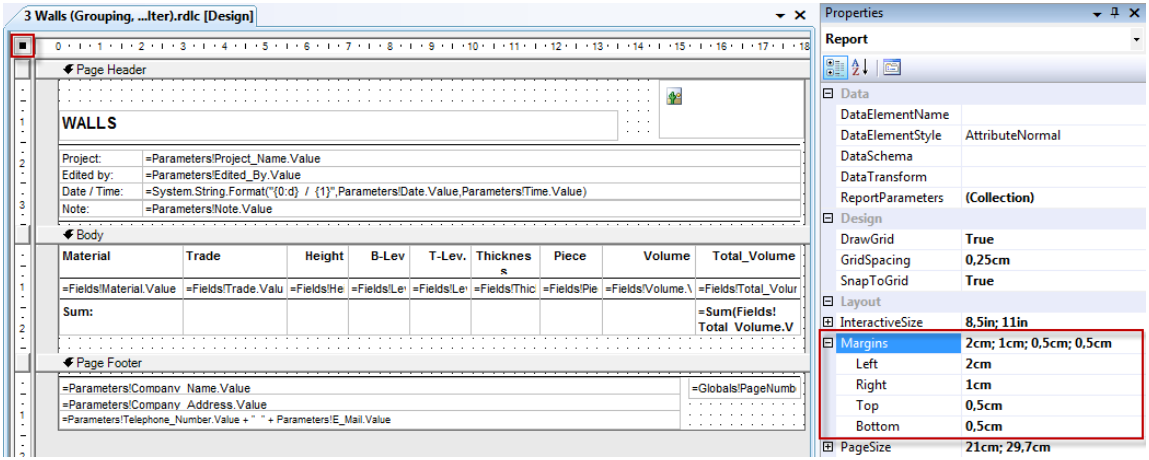
1 Open the converted and customized report template (see ”Converting user lists to report templates” on page 3) in **Visual Studio**.

Note: The template is only displayed correctly in design mode when you have installed the language pack (`VWD_RV_Addon_eng.exe`).

2 To edit the page layout in **Visual Studio**, click the small black rectangle at the top left.

The following parameters apply to all margins in Allplan reports:

- Margins: left: 2 cm, right: 1 cm, top: 0.5 cm, bottom: 0.5 cm
- **Note:** These settings for the margins limit the maximum width of the report contents to 18 cm.



3 Select the **Body** of the report by clicking the gray separator.

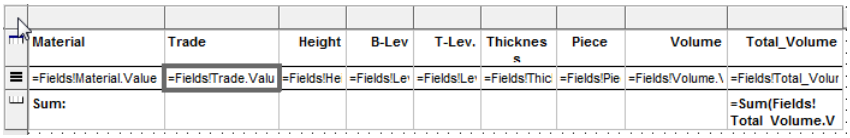
Now the palette lists the properties of the body.

4 Change the **Height** of the body to 7.5 cm to add more rows to the table.

Selecting and editing areas

To edit areas

1 Select the table. To do this, select any cell and then click the small rectangle at the top left.

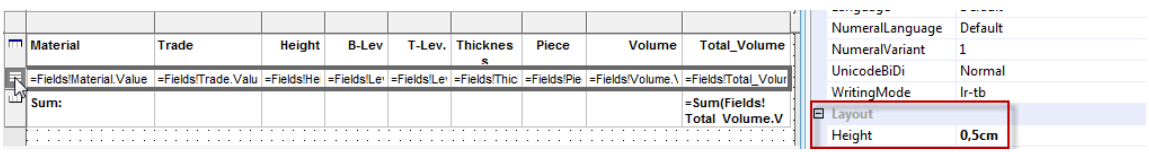


2 Now you can adjust the table **Width**. Make sure that the table width does not exceed the page width.

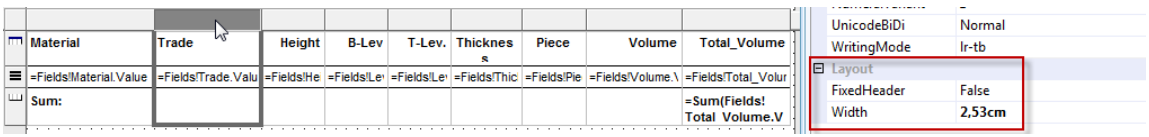
Note: The total width of the page is 21 cm (the left margin is 2 cm and the right margin 1 cm). This results in a maximum table width of 18 cm. So that the vertical lines of the table column on the far right are not cut, the maximum width of the table is reduced to 17.9 cm!

3 The following options are available for adjusting the table:

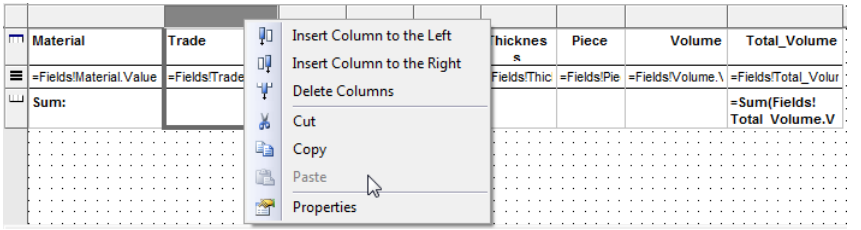
- Select a row to modify its height, for example:



- Select a column to modify its width, for example:

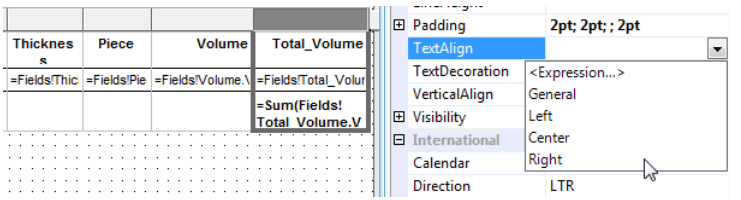


- Use the shortcut menu (right mouse button) to insert or delete columns or rows:



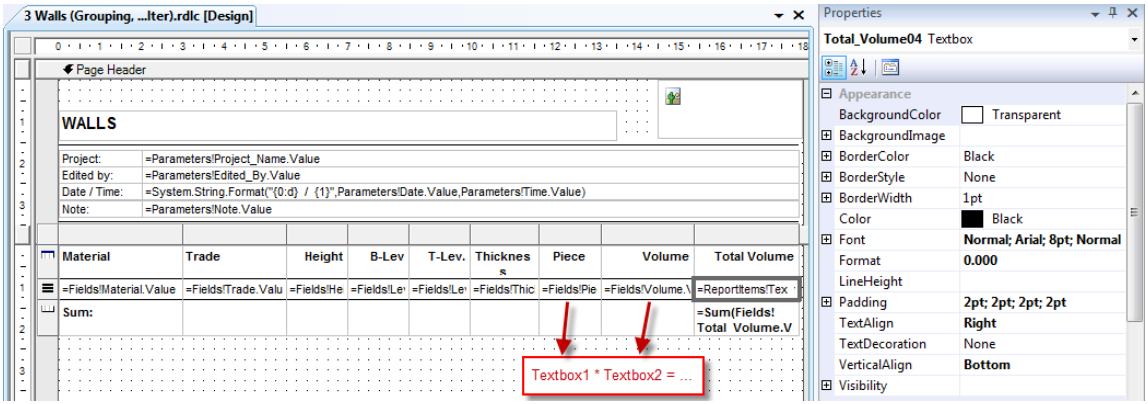
Formatting cells

You can use the palette to apply formatting to cells, such as background color, text color, cell border, cell alignment, padding and visibility. Of course, you need to select the relevant cell(s) first.



Calculations with report cells

As an alternative to **formula attributes**, you can also use report cells for calculations in reports. Now you will do this using the values in the **Piece** and **Volume** cells.



The syntax for calculating values from different report elements is:

```
=ReportItems!Textbox1.Value * Repor-
tItems!Textbox2.Value
```

This example is based on the **Piece02** and **Volume03** cells. Consequently, the resulting formula is:

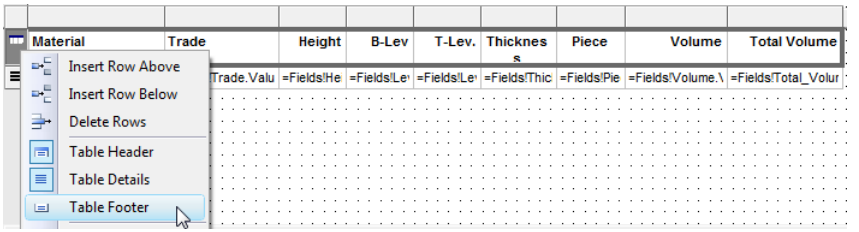
```
=ReportItems!Piece02.Value*ReportItems!Volume03.
Value
```

Adding a total sum

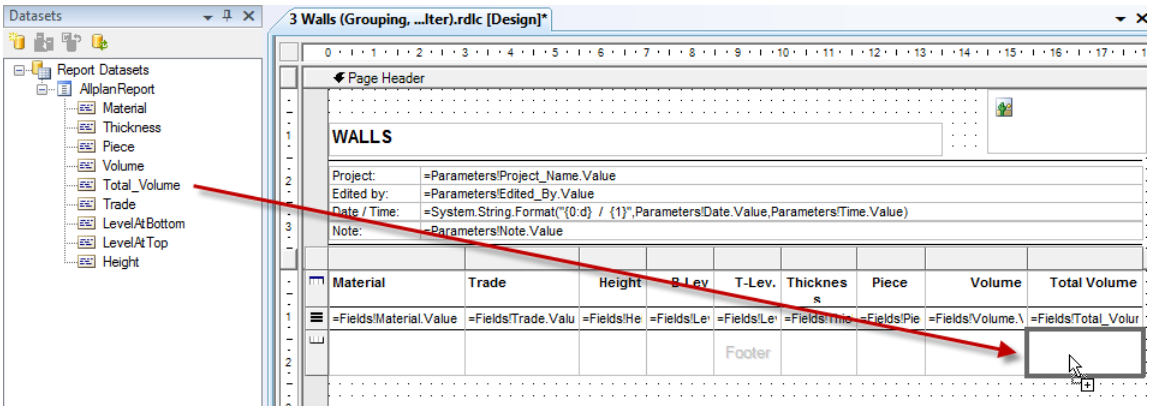
To insert a total sum

1 To obtain the total sum at the end of the table, select the table footer.

The table footer is a special row that is predefined for tables in **Visual Studio**:



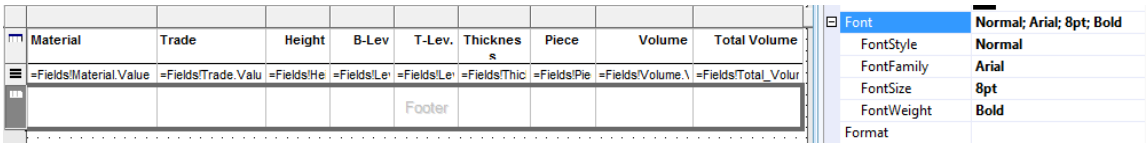
2 To add the sum to the table footer, all you need to do is drag the **Total_Volume** field from the **Datasets** window into the table footer.



Now, all that remains is to edit the **format parameters** in the palette.

3 Select the entire row and adjust the following parameters:

- **Height**: 1 cm
- **Font**: 8pt; bold, vertical alignment: to the top, padding: 4pt at the top
- **Border style**: fixed (top), border width: 0.5pt
- **Text alignment**: right for all cells with decimals
- **Format** for numbers: 0.000 for 3 decimal places
- Enter "**Sum:**" as static text in the cell on the left.



Grouping, sorting, filtering, graphics

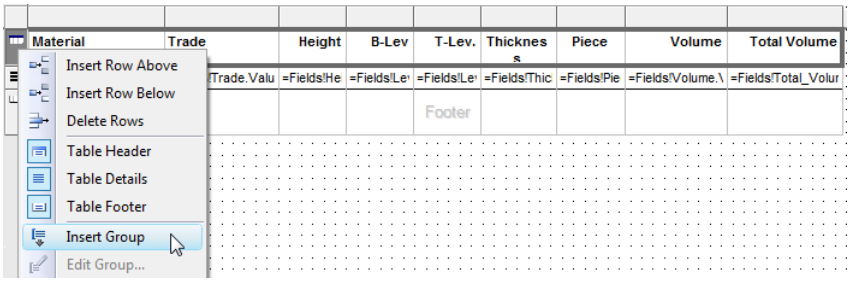
Grouping

Inserting a group

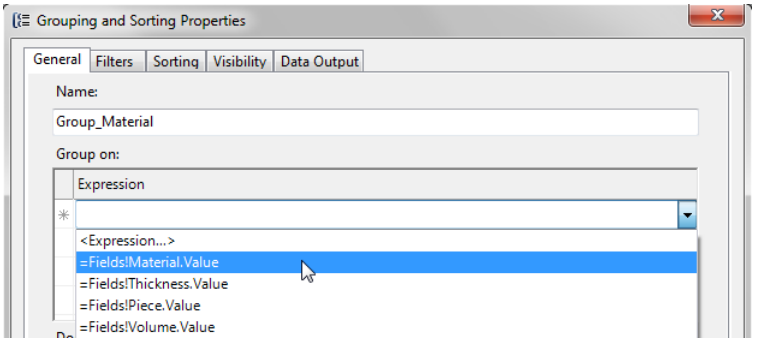
The list of the elements to be analyzed still looks rather simple. You can group elements for a better overview. In this example, it is a good idea to group the elements by **material**.

To insert a group

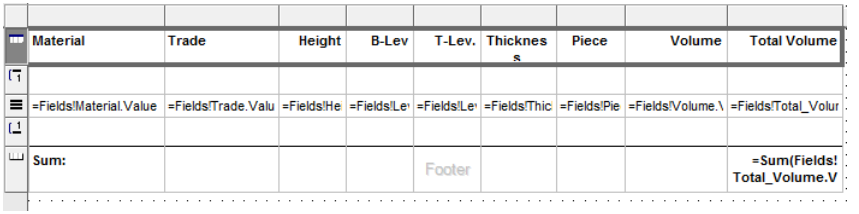
1 Click the left edge of a table row with the right mouse button and select **Insert Group** on the shortcut menu.



2 Enter a meaningful name for the **Group** (for example, **Group_Material**) and add an expression to the group, that is, the attribute by which the elements are to be grouped.



In addition, two lines are added to the table (provided you selected the **Include group header** and **Include group footer** options in the previous dialog box).



Formatting a group

To format a group

1 Specify the following **format properties** for the header of the group:

- **Height**: 0.5 cm, background color: silver
- **Font size**: 8pt
- **Vertical alignment**: bottom

2 Set the same format properties for the footer of the group as for the sum row.

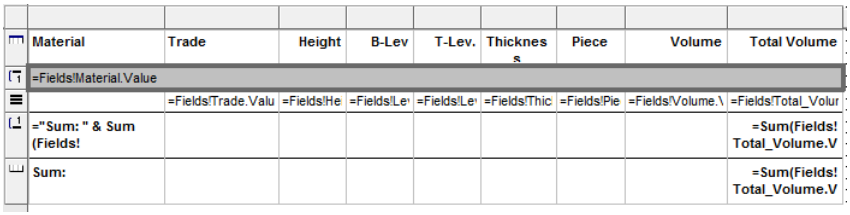
- Height: 1 cm, vertical alignment: top, padding: 4pt at the top
- Border style: fixed (top), border width: 0.5pt

3 Define the values as follows:

- Column on the left:
  Combine the text (**Sum**) with the material name:
  `="Sum "&Fields!Material.Value`
- Other cells:
  Use drag-and-drop operations as before.

The **Material** is not to be listed for each individual element. Instead, it is to appear only in the header of the group.

4 Move the **Material** up a row.



The report should now look like this:

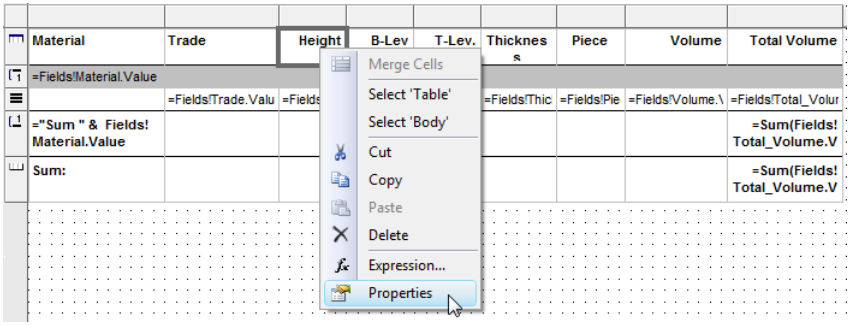
Material	Trade	Height	B-Lev	T-Lev.	Thickness	Piece	Volume	Total Volume
FAS-MW-TRENNFUG\								
	Plaster and stucco	3.450	-0.650	2.800	2	1	0.020	0.020
	Plaster and stucco	3.450	-0.650	2.800	2	1	0.030	0.030
	Plaster and stucco	3.450	-0.650	2.800	2	2	0.030	0.050
Sum FAS-MW-TRENNFUG								**0.100**
Profilwand								
	Carpentry work	2.950	-0.150	2.800	5	1	0.030	0.030
	Carpentry work	2.950	-0.150	2.800	5	1	0.380	0.380
	Carpentry work	2.950	-0.150	2.800	5	1	1.270	1.270
Sum Profilwand								**1.680**

Interactive sorting

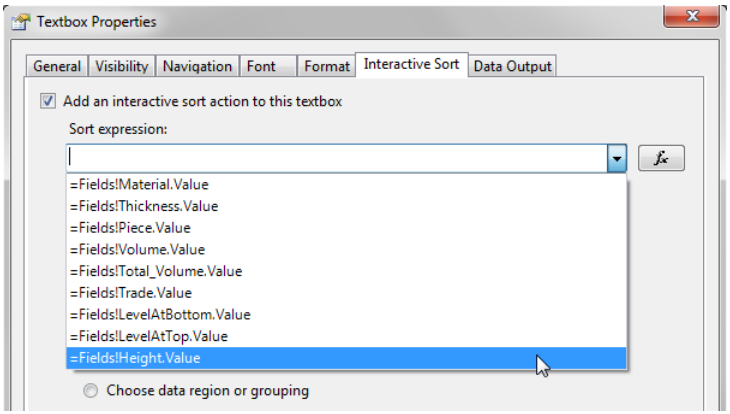
You can use **interactive sorting** to sort the results by any column in ascending or descending order.

To assign interactive sorting to a column

1 Open the properties of the table header.



2 Switch to the **Interactive Sorting** tab and select the **Sort expression:**



Now you can sort the results in the **Report Viewer** as you need (for example, by height – descending on the left and ascending on the right).

Note: Print Preview must be switched off.

WALLS

Project: Step by Step - Reports
Edited by: bmertin
Date / Time: 4/7/2014 / 07:14
Note:

Material	Trade	Height	B-Lev	T-Lev.	Tl
WA-STB\					
	Concreting work	2,500	0,000	2,500	
	Concreting work	2,500	0,000	2,500	
	Concreting work	2,510	0,000	2,510	
	Concreting work	2,750	-3,100	-0,350	
	Concreting work	2,750	-0,150	2,600	
Sum WA-STB\					

WALLS

Project: Step by Step - Reports
Edited by: bmertin
Date / Time: 4/7/2014 / 07:14
Note:

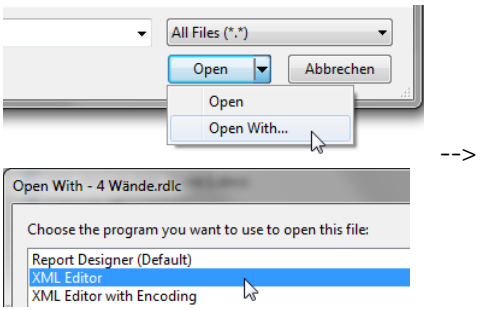
Material	Trade	Height	B-Lev	T-Lev.	Tl
WA-STB\					
	Concreting work	2,750	-3,100	-0,350	
	Concreting work	2,750	-0,150	2,600	
	Concreting work	2,510	0,000	2,510	
	Concreting work	2,500	0,000	2,500	
	Concreting work	2,500	0,000	2,500	
Sum WA-STB\					

Filtering data

Before you can filter the analyzed model data, you need to add another parameter (for example, a parameter for the material filter).

To filter data

1 Open the template in XML mode. In **Visual Studio** click **Open** and then **Open with...**



-->

2 Find **ReportParameters** and add the **Material** parameter.

```
103    <ReportParameter Name="Material">
104      <DataType>String</DataType>
105      <AllowBlank>true</AllowBlank>
106      <Prompt>Distinct(Fields!Material.Value)</Prompt>
107      <MultiValue>true</MultiValue>
108    </ReportParameter>
```

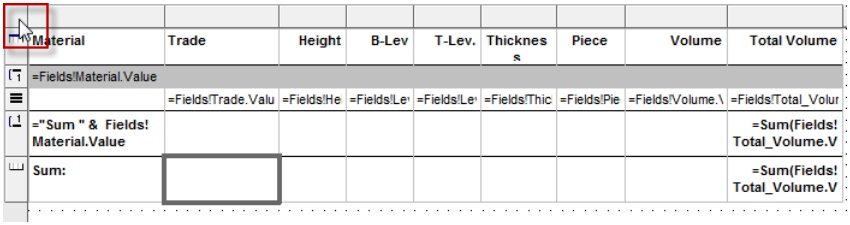
You can make things easier by copying the following code from the PDF file:

```
<ReportParameter Name="Material">
 <DataType>String</DataType>
 <AllowBlank>true</AllowBlank>
 <Prompt>Distinct(Fields!Material.Value)</Prompt>
 <MultiValue>true</MultiValue>
</ReportParameter>
```

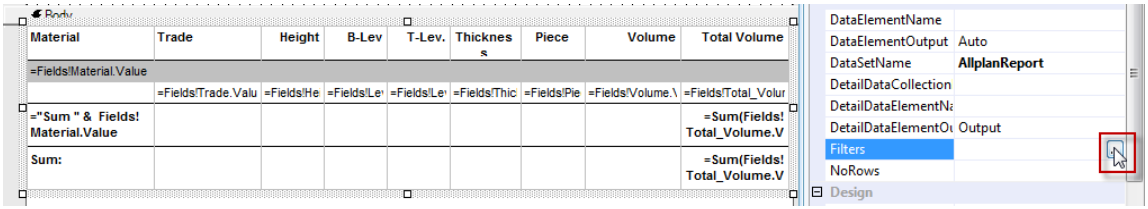
Note: Distinct is an SQL statement that returns a list with unique values. In this example, the material of the elements analyzed is to be displayed in the palette of the **Report Viewer**. Each material is to be listed just once! For example, the data you want to analyze contain 100 concrete walls and 50 brick walls. If there was

no **Distinct** statement, the list would consist of 150 entries. But only two entries are of relevance!

3 The filter is to apply to the entire table. To select the table in its entirety, click the small rectangle at the top left:

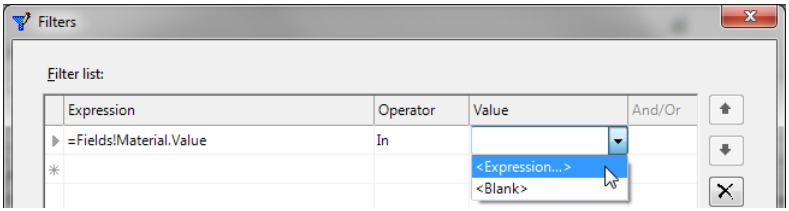


4 Now you have selected the whole table. Next switch to the palette and select **Filters**:



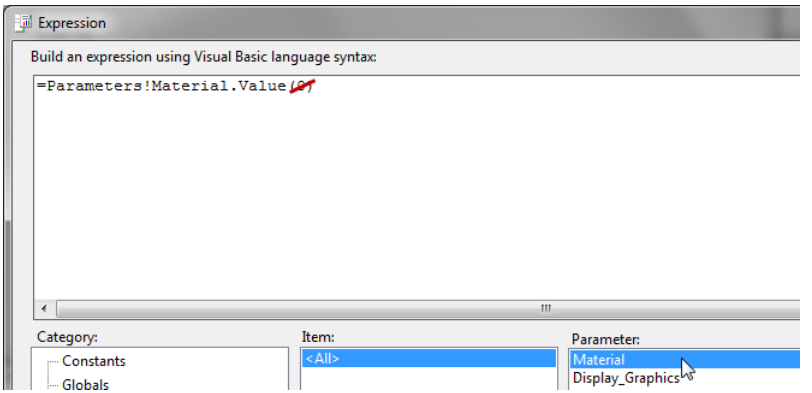
5 Use `=Fields!Material.Value` as the filter expression and `In` as the operator.

6 Assign the following expression to the **Value**: `=Parameters!Material.Value`. You can enter the expression directly or use the **Expression** dialog box to select it.

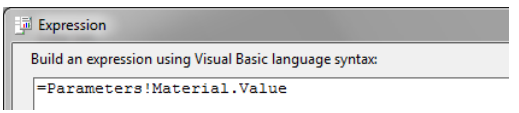


After you have selected the parameter, **(0)** is added automatically to the **Expression** dialog box.

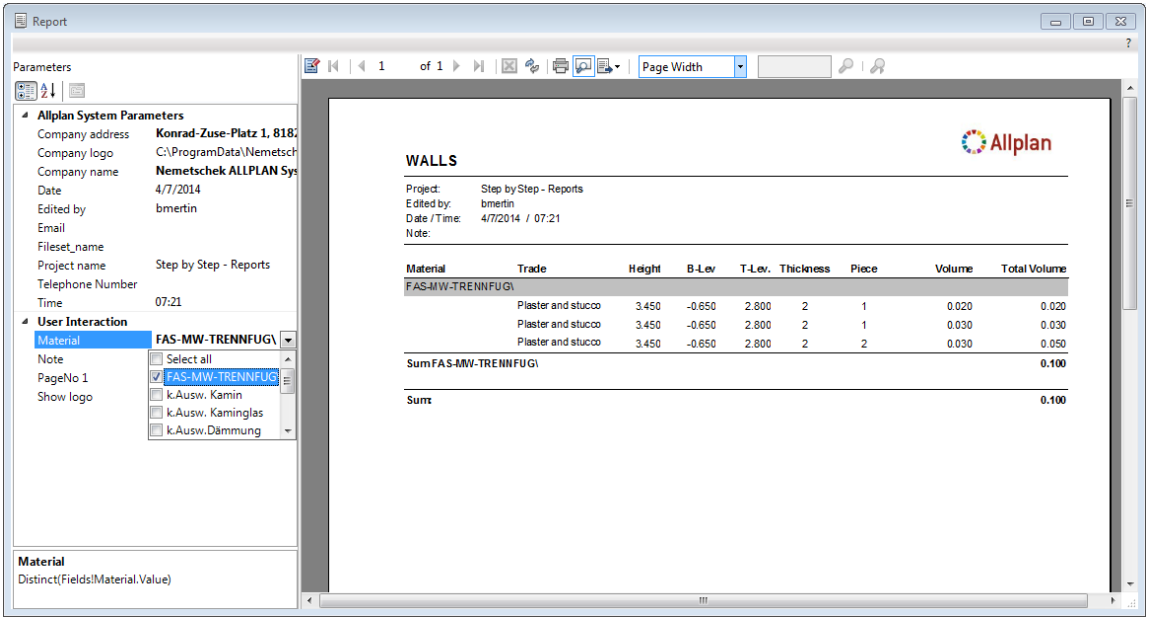
7 Remove **(0)**; otherwise, only the first material is displayed in the report:



The result should look like this:



That's it! Now you can use the filter.



You can create additional filters in the same way, for example, a **trade filter**.

Inserting graphics fields in reports

Adding a graphics field

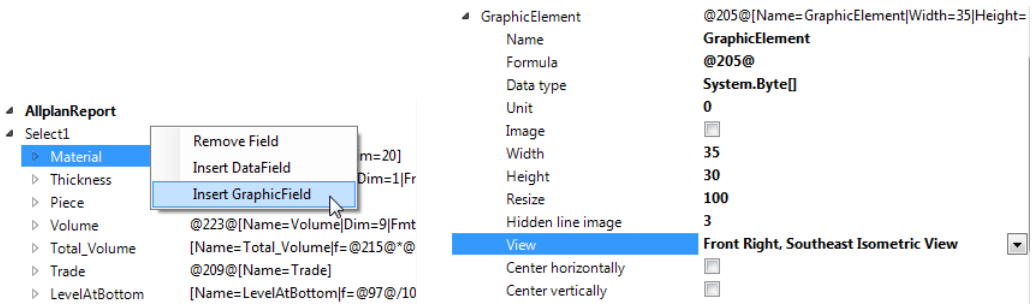
First you need to add a graphics field to the report template.

To insert a graphics field in a report template

1 Click Modify Report (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module) and open the **Walls.rdlc** report template in the **Report Designer**.

2 Define the graphics field in the **Query** section of the **Properties** palette by opening the shortcut menu and selecting **Insert GraphicField.**

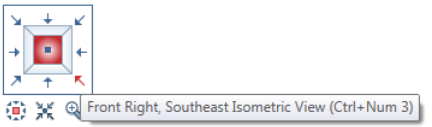
3 Rename the field **GraphicElement**.

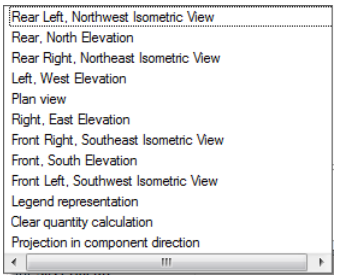


Graphics parameters

View:

You can choose from Allplan's standard views.
These views are based on the global coordinate system.

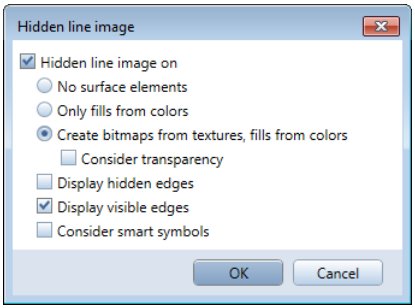




Hidden line image:

Hidden=0: hidden edges are not displayed.
Hidden=1: hidden edges are displayed.
Hidden=3: uses bitmap areas based on textures and considers transparency.
Hidden=5: uses fills based on colors.

Using the dialog box, you can also select the **Hidden line image** type:



To find out more about these hidden options, please see the Reports FAQ document.

Use the following settings in this example:
View=Front Right, Southeast Isometric View,
Hidden=3

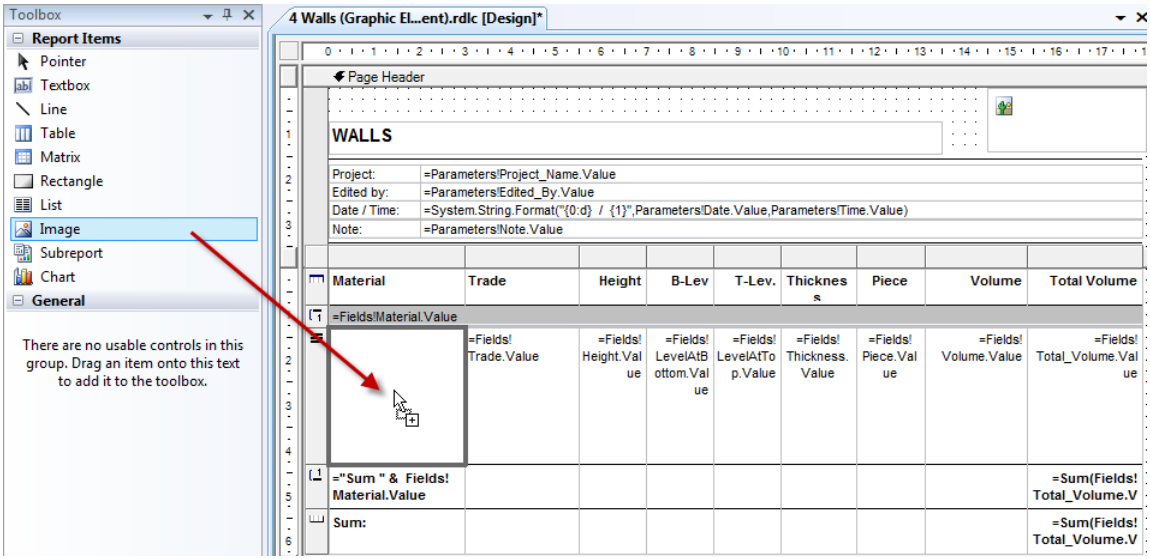
Assigning the graphics to a table cell

Let's return to **Visual Studio**. The next step involves assigning the graphics to a table cell.

To assign the graphics to a table cell

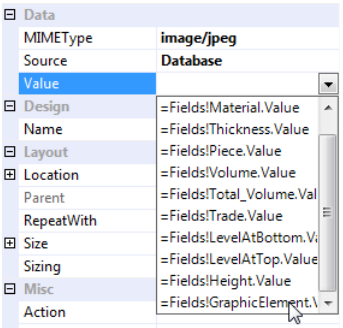
1 First make space for the graphics and change the row height to 3 cm.

2 Next drag an **Image control**, which will serve as a container for the graphics, from the **Toolbox** into the corresponding cell.



3 Assign **Properties** to the image (in the *palette!*):

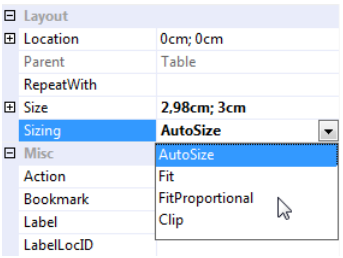
- Source: Database
- MIMEType: image/jpeg
- Value: Fields!GraphicElement.Value



4 Select **FitProportional** to specify how the image is to adapt to the size of the table cell.

The following options are available:

- **AutoSize**: ignores the cell size; the image is always displayed at 100 percent.
- **Fit**: the image adapts to the size of the cell.
- **FitProportional**: the image adapts to the size of the cell while keeping the proportions.
- **Clip**: the image is always displayed at 100 percent (it is trimmed at the boundary of the cell).



That's it! Now the report should look like this (the graphics are displayed with their textures from the animation window).

Allplan

WALLS

Project: Step by Step - Reports
Edited by: bmertin
Date / Time: 4/7/2014 / 07:30
Note:

	Concreting work	2,500	0,000	2,500	24	1	2,390	2,390
	Concreting work	2,510	0,000	2,510	24	1	2,400	2,400
	Concreting work	2,750	-0,150	2,600	24	1	2,640	2,640
	Concreting work	2,750	-3,100	-0,350	24	1	2,640	2,640

Controlling the visibility of graphics

You can control the visibility of graphics in the **Report Viewer** by showing and hiding an entire row. The reason for this is that table rows with graphics are higher than those without graphics. As the row height cannot be controlled by parameters, the entire row is simply shown or hidden.

This task involves three steps:

1 Inserting a row (copy of the data cell but without graphics)

2 Inserting a control parameter (check box)

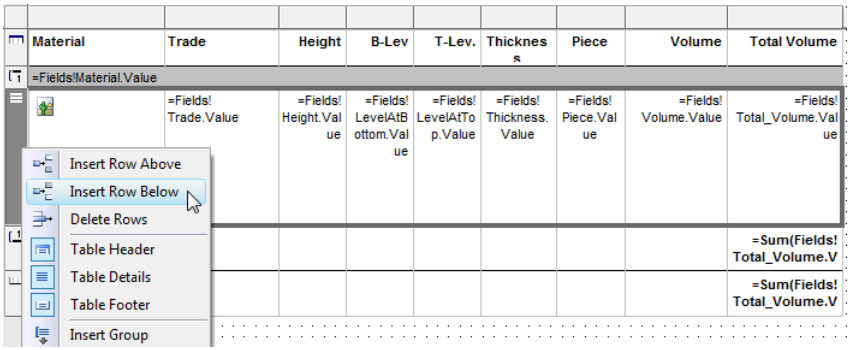
3 Assigning parameters controlling the visibility of the row

Finally, you can either see the row with graphics or that without graphics.

Step 1: inserting a row

1 Use the shortcut menu to insert a row and format it as follows:

- **Row height**: 0.5 cm
- **Font**: 8pt

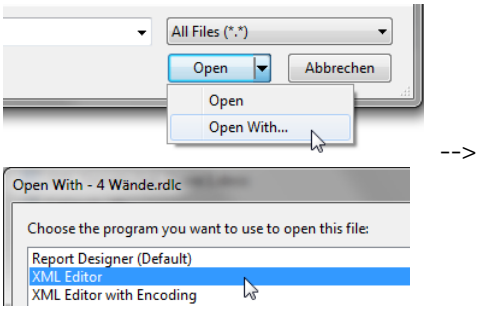


2 Copy the contents (everything except the graphics cell).

Material	Trade	Height	B-Lev	T-Lev.	Thickness	Piece	Volume	Total Volume
=Fields!Material.Value								
	=Fields!Trade.Value	=Fields!Height.Value	=Fields!LevelAtBottom.Value	=Fields!LevelAtTop.Value	=Fields!Thickness.Value	=Fields!Piece.Value	=Fields!Volume.Value	=Fields!Total_Volume.Value
	=Fields!Trade.Valu	=Fields!He	=Fields!Le	=Fields!Le	=Fields!Thic	=Fields!Pie	=Fields!Volume.\	=Fields!Total_Volur
="Sum " & Fields!Material.Value								=Sum(Fields!Total_Volume.V
Sum:								=Sum(Fields!Total_Volume.V

Step 2: adding a parameter to the report template

1 Open the template in XML mode (in **Visual Studio**, click **Open** and then **Open with ...**):



-->

2 Find **ReportParameters** and add the **Display_Graphics** parameter:

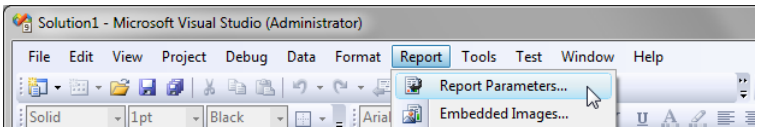
```
<InteractiveHeight>11in</InteractiveHeight>
<ReportParameters>
  <ReportParameter Name="Display_Graphics">
    <DataType>Boolean</DataType>
    <DefaultValue>
      <Values>
        <Value>True</Value>
      </Values>
    </DefaultValue>
    <AllowBlank>true</AllowBlank>
    <Prompt>Switch Visibility of Graphic Element.</Prompt>
  </ReportParameter>
```

- DataType: Boolean
- DefaultValue: True:
- Prompt: this is the prompt for the user.

You can make things easier by copying the following code from the PDF file:

```
<ReportParameter Name="Display_Graphics">
 <DataType>Boolean</DataType>
 <DefaultValue>
  <Values>
   <Value>True</Value>
  </Values>
 </DefaultValue>
 <AllowBlank>true</AllowBlank>
 <Prompt>Here you can hide the graphics</Prompt>
</ReportParameter>
```

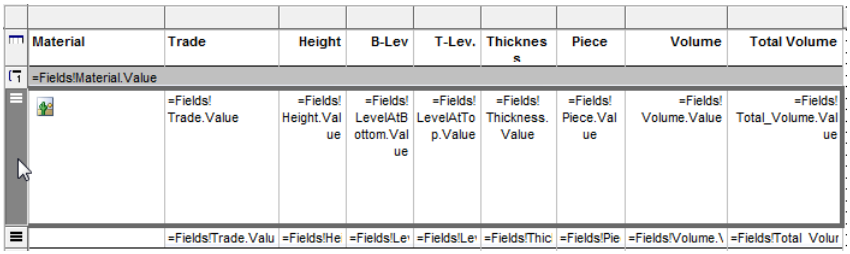
Note: Do not use the **Report Parameters** tool in **Visual Studio** or **Visual Web Developer!** An error occurs in **Visual Web Developer 2008**, which deletes all default values of all parameters (**DefaultValue** property).



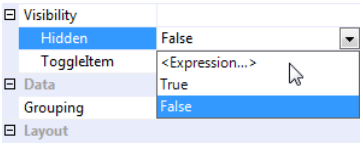
Step 3: assigning parameters to the rows

1 Return to the **design mode** of **Visual Studio**.

2 Select the row with the graphics you want to hide.

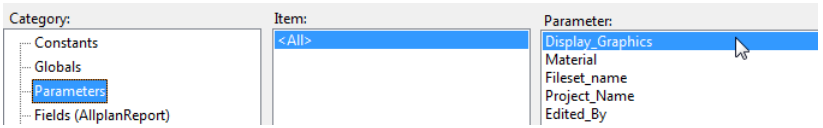


3 Then go to the **Visibility** property and select **Expression**:

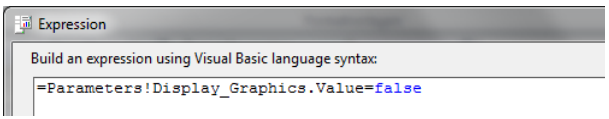


4 Enter the following in the **Expression** dialog box:

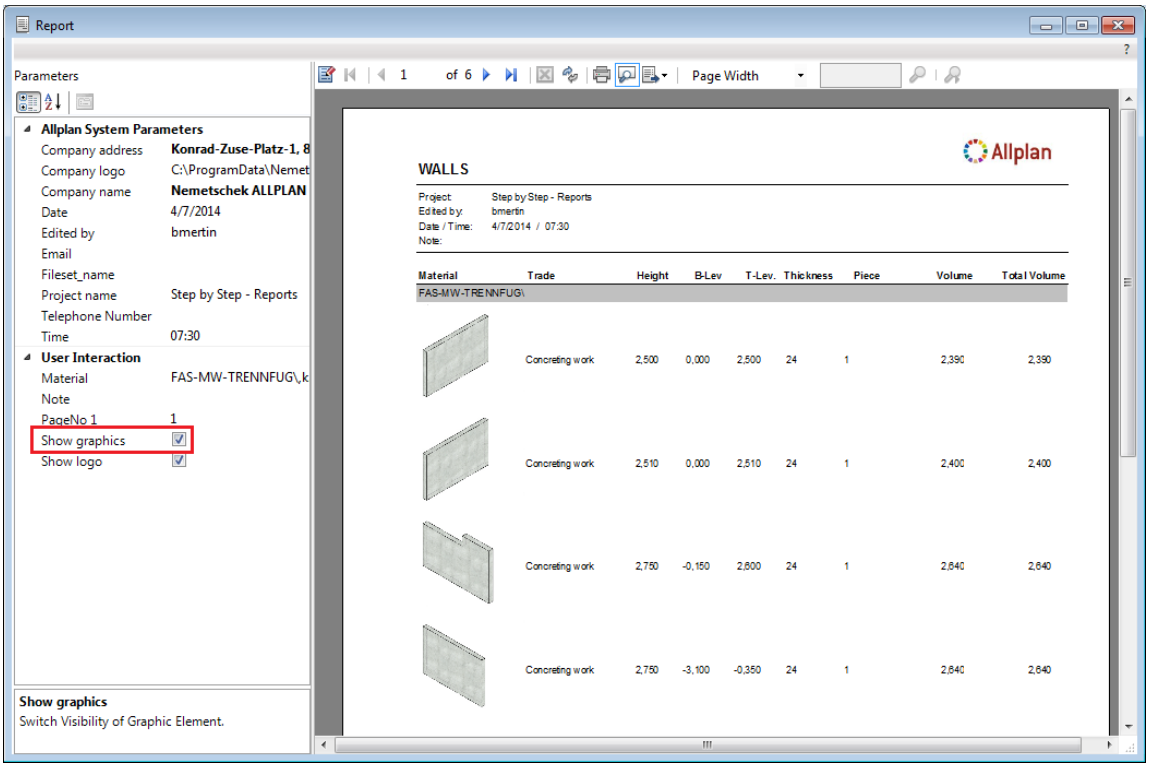
- **=**
  and double-click the **Display_Graphics** parameter in the list at the bottom of the dialog box.
- Assign **=false** to the row with graphics.
- Assign **=true** to the row without graphics.



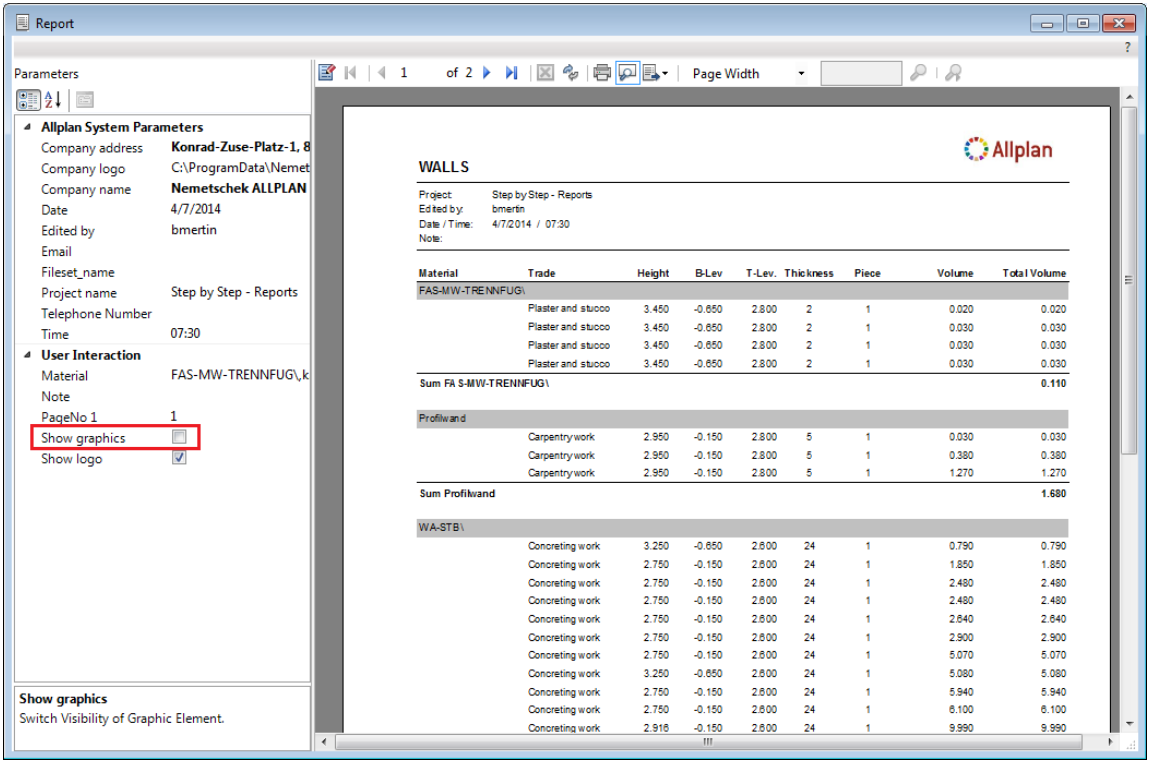
Expression dialog box:



Now you can show and hide the graphics in the **Report Viewer** as you need. Graphics switched on:



Graphics switched off:



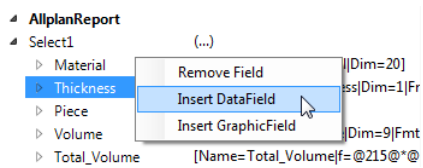
Zooming and selecting elements

So that you can zoom in on a report element and select it in Allplan (**zoom-to-element** functionality), this element must have a unique identifier. You can use the **Allright-Component-ID**, in short **ID**, as the identifier. It must be added as a field to the report template.

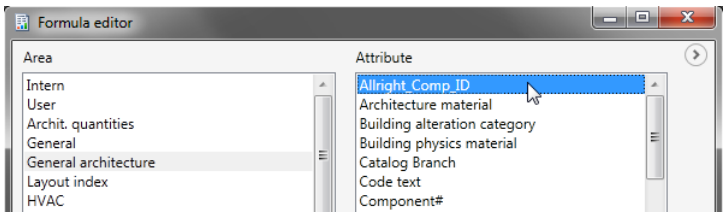
To insert the 'zoom-to-element' functionality in a report template

1 Click **Modify Report** (**Bonus Tools** family - **Templates: Reports, Legends, Labels** module) and open the **Walls.rdlc** report template in the **Report Designer**.

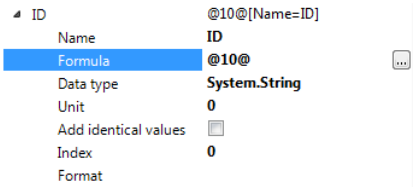
2 Add the missing field (**Insert DataField**) to the **Properties** palette.



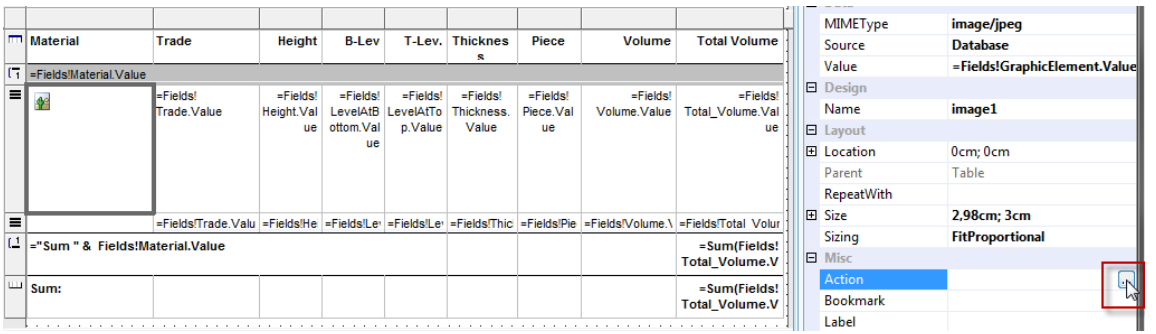
3 Select **Allright_Comp_ID** in the **General architecture** area.



4 Enter a name for the field: **ID**.

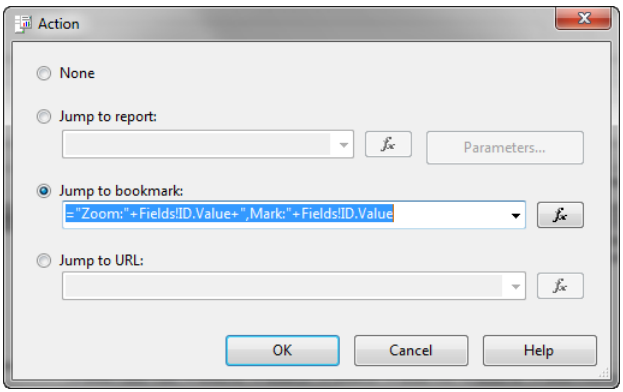


5 Back in **Visual Studio** define an action for the cell to which you want to assign the 'zoom-to-element' functionality. Select the graphics and click the icon to the right of **Action** in the **Properties** palette:

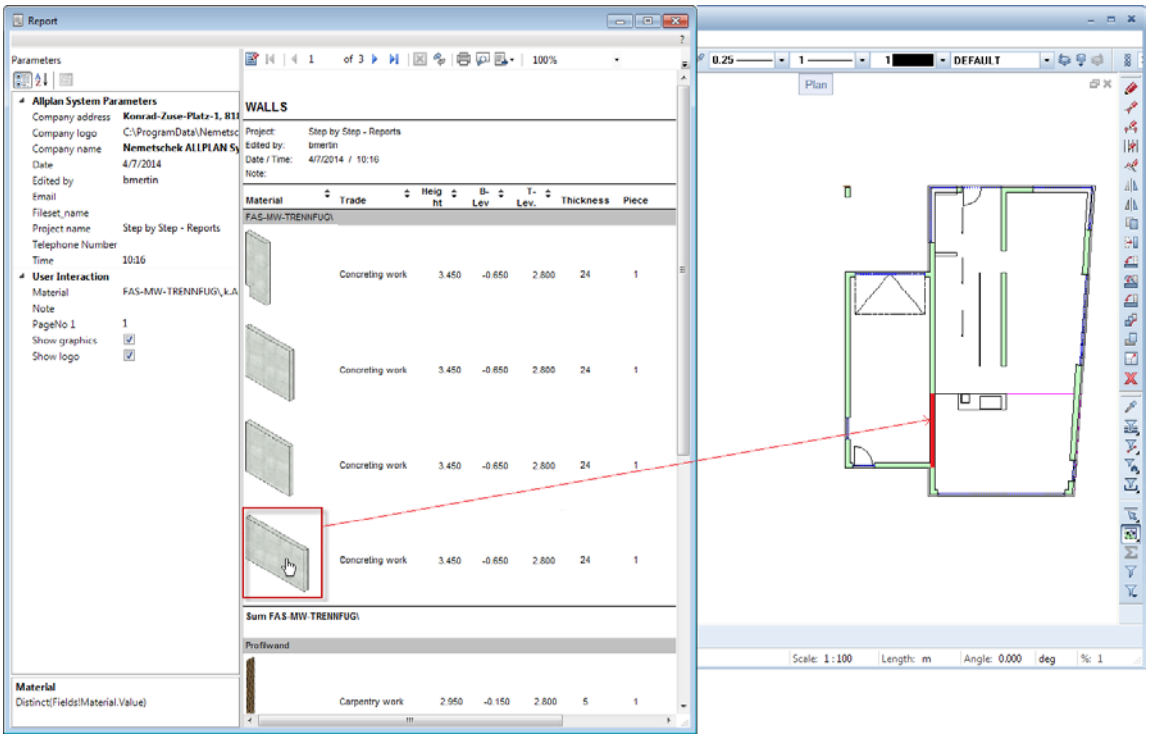


6 Add an entry for "Jump to bookmark".
Expression for action:

```
="Zoom:"+Fields!ID.Value+",Mark:"+Fields!ID.Value
```



Now you can zoom in on the element in Allplan and thus identity it quickly and easily:



Note: Press the CTRL key to zoom in on and select several elements at the same time.

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