Administration guide

PRISMAdirect

Formula manager

A CANON COMPANY

Production Systems - Cutsheet

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Edition 2015-5

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Chapter 1
Introduction

Introduction

This help file describes how you can use the formula manager.

What does it do

The formula manager allows you to change the cost calculation rules of the system.

The formula manager uses the default functionality of Microsoft Excel.

You can configure the default formulas. You can also create new formulas.

Where is it

The formula manager is located in [PRISMAaccess Administration].

Go to [Global settings] - [Default cost settings] - [Edit &formula(s)]

Software version

This documentation describes the functionality of PRISMAdirect v1.2.

The worksheets

Introduction

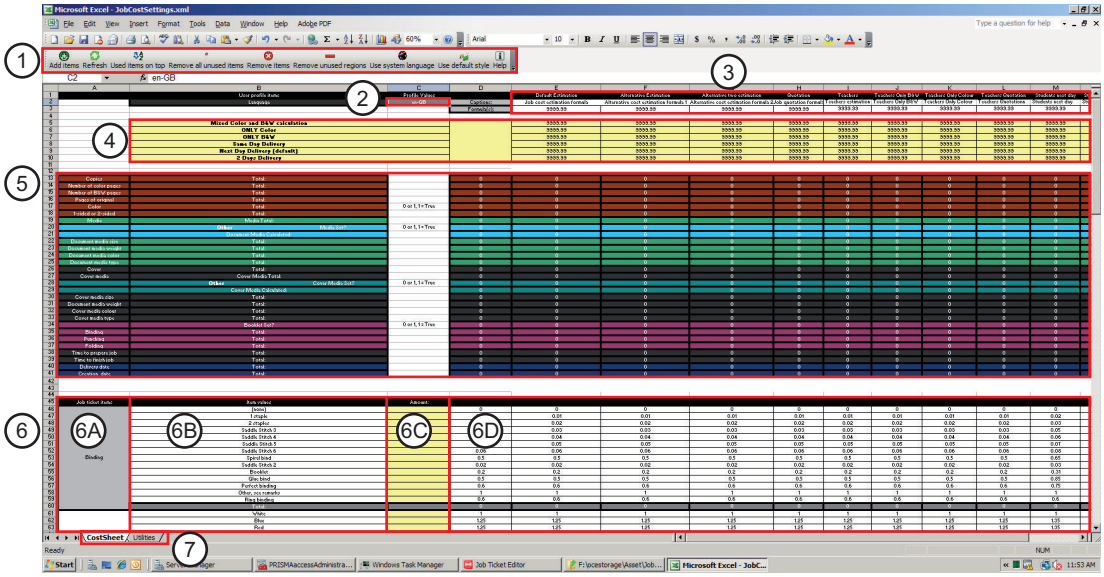
By default, a number of formulas are available. You can define custom formulas in the columns next to the default formulas up to and including column Z. Each column can contain one formula. Each column contains all information for one formula:

- The name and the calculated result of the formula.
  The result of the formula is shown in row 3.
- The calculation for the formula.
  The formula can use one of the default calculations, or a custom calculation.
- The calculation collects its values from the concerning column in the result table.
- The result table collects the values for all job ticket items from the concerning column in the job ticket table.
- The job ticket table receives its values from the current job ticket definition.

NOTE
It is recommended that you do not remove the default formulas.

Worksheet "CostSheet"

The layout of the formula manager in worksheet "CostSheet"

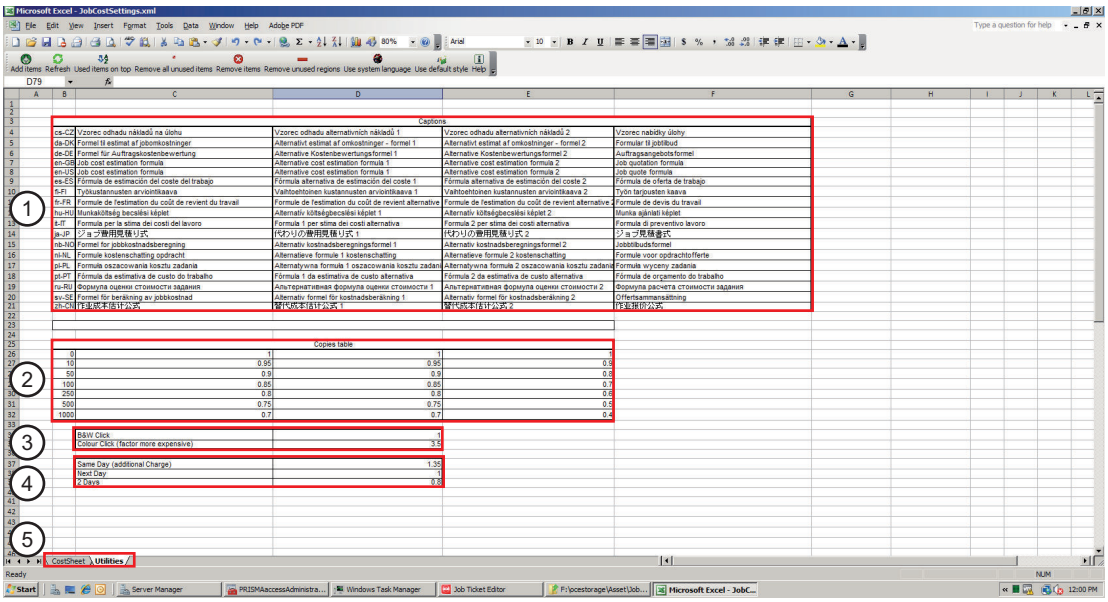


Frame	Description
1	The toolbar of the formula manager.
2	Select the language for the formulas in cell C2. Use one of the abbreviations from the [Captions] table in the "Utilities" worksheet. The translated names for the formulas in the "CostSheet" worksheet are taken from the [Captions] table in the "Utilities" worksheet. The translated names of the formulas are shown in row 2 below the original formula name that is shown in row 1. • The formula names in row 1 are displayed in the [PRISMAaccess Administration]. • The formula names in row 2 are displayed in the [Web Submission].

Frame	Description
3	**The formulas** By default, a number of formulas are available. You can define custom formulas in the columns next to the default formulas up to and including column Z. Each column can contain one formula. The formula can use one of the default calculations, or a custom calculation. The result of the formula is shown in row 3.
4	**The calculations** Default calculations are available. You can also create a custom calculation. For each formula, you must select one calculation. The calculation collects its values from the concerning column in the result table.
5	**The result table** The result table collects the values for all job ticket items from the concerning column in the job ticket table. For example, a document can contain several types of media. The total cost for all types of media is calculated in the job ticket table. The total cost is added to the concerning cell in row [Media] in the result table. The calculation collects its values from the concerning column in the result table.
6	**The job ticket table**
6A	[Job ticket items] The list of [Job ticket items] is taken from the current job ticket definition. You can use these ticket items in your formulas. Column [Job ticket items] is column A of the worksheet "CostSheet".
6B	[Item values] The possible values of each job ticket item. For example, the job ticket item [Punching] can have the values [(none)], [2 holes], [4 holes], [23 holes] or [Other]. Column [Item values] is column B of the worksheet "CostSheet".
6C	[Amount:] The amount - or the value - which is defined by the customer for each job ticket item. For example, the customer selected value [23 holes] for job ticket item [Punching]. The column [Amount:] receives its values directly from the job ticket items of the submitted job tickets. Column [Amount:] is column C of the worksheet "CostSheet".
6D	**The pricing columns** Each column can contain one formula. Each formula has a dedicated pricing column. Define the price for each [Item value] of each job ticket item in the pricing columns. The value in column [Amount:] is multiplied with the price in the pricing column. The result is the total price for the concerning [Item value] of a job ticket item.
7	The default worksheets.

Worksheet "Utilities"

The layout of the formula manager in worksheet "Utilities"



Frame	Description
1	**The [Captions] table** The translated names for the formulas in the "CostSheet" worksheet are taken from the table [Captions] in "Utilities" worksheet. The [Captions] can be modified for each language and the changes will show up in [Web Submission]. NOTE The [Captions] table is defined as a Named Range. The name of the Named Range is [CostCaptions]. Use the VLOOKUP function to use the values in the Named Range in a formula. Named Ranges and the VLOOKUP function are described in the Microsoft Excel help file.
2	**The [Copies table]** The reduction of the price for a certain amount of copies is taken from the [Copies table] in worksheet "Utilities". The first column (column B) represents the number of copies and the rest represent the actual values (reductions) for the different situations. NOTE The [Copies table] is defined as a Named Range. The name of the Named Range is [CopiesTable]. Use the VLOOKUP function to use the values in the Named Range in a formula. Named Ranges and the VLOOKUP function are described in the Microsoft Excel help file.
3	**The [Color] table** Color pages are more expensive than black & white pages. Create an absolute cell reference to use the values from this table. For example: Utilities!$D$35.

Frame	Description
4	**The delivery time table** Same day delivery of the job is more expensive than a delivery after one or more days. Create an absolute cell reference to use the values from this table. For example: Utilities!$D$37.
5	The default worksheets.

Chapter 2
The toolbar buttons

[Add items]

Introduction

If you want to add [Job ticket items] to the CostSheet and automatically use the proper calculation settings. Use this procedure.

NOTE
If the required [Job ticket items] are not available close the Formula manager. Open the [Job Ticket Editor] to create the required [Job ticket items].

Procedure

1. Click [Add items].
   The [Add items] dialog will open. The dialog contains all [Job ticket items] that are not available in the job ticket table.
2. Select the [Job ticket items] you want to add to the CostSheet.
   You can select the items one by one via the check boxes or Select all / deselect all. You can also type part of the name in the search box in order to ease your search for a specific item.
3. Click OK to add the items to the CostSheet.
   The selected items are added at the bottom of the job ticket table.
4. For each new [Job ticket item] and [Item value]:
   1. Define the multiplier for the [Job ticket item] and its [Item values] in the first pricing column.
   2. Select all cells of the new [Job ticket item] in the first pricing column, including the cell in row [Total:]. Copy the selected cells to all other pricing columns.
   3. Add the new [Job ticket item] to the result table.
      Copy one of the available rows. Type the name of the [Job ticket item] in the cell of column A in the result table.
   4. Create a cell reference from the result table to the cell in row [Total:] in the job ticket table.
      Create the cell reference in the same column as the first pricing column.
      - Create a relative reference to collect the value of the cell in row [Total:] in the job ticket table. For example: =D79. A relative reference is usually used for [Item type:] [Number]
      - Create an absolute reference to collect a value from column [Amount:]. For example: =$C$84. An absolute reference is usually used for [Item type:] [Yes/No], [Date] or [Text].
   5. Select the cell with the cell reference in the result table. Copy the selected cell to all other columns in the result table.
   6. You can use the cells from the result table in the calculations.

[Refresh]

Introduction

The job ticket definition can be changed in the [Job Ticket Editor]. Click the [Refresh] button to update the [Item values] of the [Job ticket items] in the job ticket table.

Click the [Add items] button to add new [Job ticket items] to the job ticket table.

Procedure

1. Click the [Refresh] button.
   The [Item values] of the [Job ticket items] in the job ticket table are updated.
   A row is added to the job ticket table for each new [Item value]. A row is removed from the job ticket table for each deleted [Item value]. The names are updated for any renamed [Item values].
2. For each new [Item value]:
   Define the multiplier in all pricing columns. The cell for each new [Item value] is automatically added to the formula for the total cost of the [Job ticket item].

[Used items on top]

Introduction

If you want to sort [Job ticket items] from the CostSheet without disturbing the proper calculation settings. Use this procedure.

Procedure

1. Click the [Used items on top].
   The usage of an item is calculated with the following formula: number of values in the item * number of appearances in the formulas.
   The list of [Job ticket items] will be sorted from top to bottom in a descending order relative to the usage of each item.

Example

If you have 2 [Job ticket items] that appear in 2 formulas then the one with more values will appear in the list above the second item.

[Remove all unused items]

Introduction

If you want to remove unused [Job ticket items] from the CostSheet without disturbing the proper calculation settings. Use this procedure.

Unused [Job ticket items] are the [Job ticket items] that are not used in any formulas.

Procedure

1. Click [Remove all unused items].
   The unused items are removed from the job ticket table.
2. For each removed [Job ticket item]:
   1. Remove the [Job ticket item] from the result table.

[Remove items]

Introduction

If you want to remove [Job ticket items] from the CostSheet without disturbing the proper calculation settings. Use this procedure.

Procedure

1. Click [Remove items].
   The [Remove items] dialog will open. The dialog contains all [Job ticket items] that are available in the job ticket table.
2. Select the [Job ticket items] you want to remove from the CostSheet. You can select the [Job ticket items] one by one via the check boxes or select all / deselect all.
3. Click OK to remove the [Job ticket items] from the CostSheet.
   The [Job ticket items] are removed from the job ticket table.
4. For each removed [Job ticket item]:
   1. Remove the cells of the result table from the calculations that used the [Job ticket item].
   2. Remove the [Job ticket item] from the result table.

[Remove unused regions]

Introduction

The job ticket definition can be changed in the [Job Ticket Editor]. If you want to remove [Job ticket items] that are no longer in the definition you can use this procedure.

Procedure

1. Click [Remove unused regions].
   All [Job ticket items] that are not in the definition will be removed from theCostSheet .
2. For each removed [Job ticket item]:
   1. Remove the cells of the result table from the calculations that used the [Job ticket item].
   2. Remove the [Job ticket item] from the result table.

[Use system language]

Introduction

You can automatically translate the following parts of the formula manager into the installation language of Microsoft Excel:

- The [Job ticket items] and default headers in the job ticket table.
- The buttons of the formula manager.

The installation language of Microsoft Excel must be one of the 18 languages that are supported by PRISMAaccess. See the first column of table [Captions] in worksheet "Utilities" for the abbreviations of the supported languages.

NOTE
The installation language of Microsoft Excel is only used for the formula manager.

Procedure

1. Click [Use system language].
   The following parts of the formula manager are automatically translated into the installation language of Microsoft Excel:
   - The [Job ticket items] and default headers in the job ticket table.
   - The buttons of the formula manager.

[Use default style]

Introduction

The factory default can be applied to the job ticket table in worksheet CostSheet. All custom changes to the job ticket table are lost.

Procedure

1. Click [Use default style].
   The factory default is applied to the job ticket table in worksheet CostSheet. All custom changes to the job ticket table are lost.
   - The names of the [Job ticket items] and the default headers are restored.
   - The color of the cells and the color of the text are set to the factory default.

Chapter 3
Working with the formulas

Check the [Job ticket items]

Introduction

The required [Job ticket items] must be available before you can create or configure a formula.

Procedure

1. Check that all required [Job ticket items] are available in the job ticket table. If the required [Job ticket items] are not available see : *Add items* on page 14
2. Check that all required values of the [Job ticket items] are available in column [Item values]. Column [Item values] is column B of the worksheet "CostSheet". If the required values are not available, do sub-step a:
   1. Close the Formula manager. Open the [Job Ticket Editor] to create the required [Item values].

Create a formula

Introduction

By default, a number of formulas are available. You can define custom formulas in the columns next to the default formulas up to and including column Z. Each column can contain one formula. Each column contains all information for one formula:

- The name and the calculated result of the formula.
  The result of the formula is shown in row 3.
- The calculation for the formula.
  The formula can use one of the default calculations, or a custom calculation.
- The calculation collects its values from the concerning column in the result table.
- The result table collects the values for all job ticket items from the concerning column in the job ticket table.
- The job ticket table receives its values from the current job ticket definition.

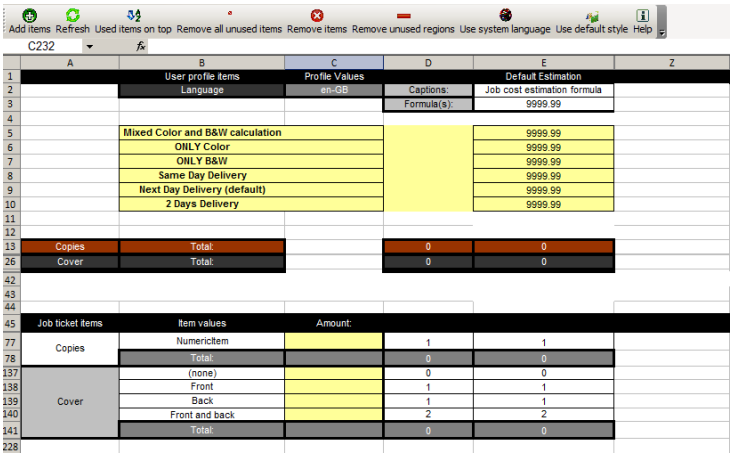
NOTE
It is recommended that you do not remove the default formulas.

Before you begin

The required [Job ticket items] for the new formula must be available.

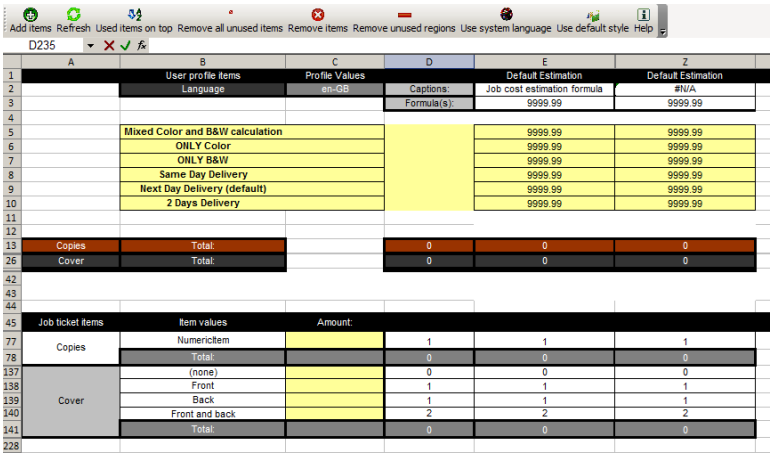
When to do

In this procedure a complete new formula is created in column Z of the worksheet "CostSheet". The new formula is based on two [Job ticket items]: [Copies] and [Cover]. In this example, the data of the formula in column E is used as starting point for the formula in column Z.

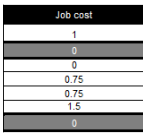


Procedure

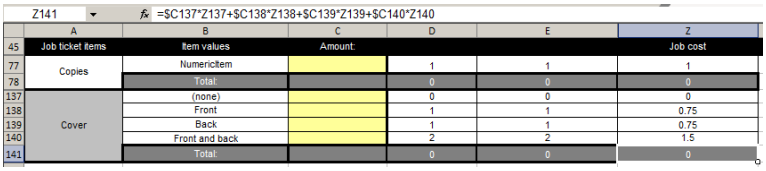
1. Fill column Z with data from an existing formula. In this example, the data of the formula in column E is used as starting point for the formula in column Z.
   1. Click the column label "E" to select all cells of column E.
   2. To copy the selected cells, click "Edit - Copy", or press CTRL+C.
   3. Click the column label "Z".
   4. Click "Edit - Paste", or press CTRL+V.
      The formulas and formatting of column E are copied into column Z. The cell references are automatically adjusted.



2. Define the name of the new formula in cell Z1. In this example: "Job cost".
   The formula names in row 1 are displayed in the [PRISMAaccess Administration].
3. Define the name of the new formula in cell Z2. In this example: "Job cost".
   The formula names in row 2 are displayed in the [Web Submission].
4. Define the price for the [Item values] of the [Job ticket items] in column Z.
   Optionally, you can define a custom name for the new pricing column. In this example: "Job cost".



5. Check the formulas for [Copies] and [Cover] in the job ticket table. The formulas must use the values from column [Amount:] and the values from the new pricing column "Job cost". The [Amount:] column receives its values directly from the submitted job tickets. The value in column [Amount:] is multiplied with the price in the pricing column. The total price of a job ticket item is the sum of the prices of its [Item values].
   1. Collect the price of [Copies] in cell Z78: =$C77*Z77.
   2. Collect the prices for all [Item values] of [Cover] in cell Z141: =$C137*Z137+$C138*Z138+$C139*Z139+$C140*Z140.



6. Collect the prices for all [Item values] in the result table.
   The result table collects the values for all job ticket items from the concerning column in the job ticket table.
   1. Collect the price of [Copies] in cell Z13: =Z78.
   2. Collect the price of [Cover] in cell Z26: =Z141.
7. In this example, create a new calculation in cell Z7 of row 7: ONLY B&W. Add up the prices for [Copies] and [Cover].
   It is recommended to use the IF function for each new calculation: **=IF (logical_test, value_if_true, value_if_false)**. If the **logical_test** is true, the job cost is calculated. Else, the calculation returns a default value. In this example: 9999.99.

NOTE

You can use the functions of most categories in Microsoft Office Excel to create a calculation. You cannot use the functions of category "Database".

1. Add up the prices of [Copies] and [Cover] in cell Z7: =IF((Z13+Z26)>0,SUM(Z13, Z26),9999.99).
2. If required, you can reduce the total price when the customer orders a certain amount of [Copies]: =IF((Z13+Z26)>0,SUM(Z13, Z26)*VLOOKUP(Z13,CopiesTable,2,TRUE),9999.99). The reduction of the price for a certain amount of [Copies] is taken from the [Copies table] in the "Utilities" worksheet.

NOTE

The formula syntax and usage of the VLOOKUP function is described in the Microsoft Excel help file.

Z7 =IF((Z13+Z26)>0,SUM(Z13, Z26)*VLOOKUP(Z13,CopiesTable,2,TRUE),9999.99)

	A	B	C	D	E	Z
1		User profile items	Profile Values		Default Estimation	Job cost
2		Language	en-GB	Captions:	Job cost estimation formula	Job cost
3				Formula(s):	9999.99	9999.99
4						
5		Mixed Color and B&W calculation			9999.99	9999.99
6		ONLY Color			9999.99	9999.99
7		ONLY B&W			9999.99	44.18
8		Same Day Delivery			9999.99	9999.99
9		Next Day Delivery (default)			9999.99	9999.99
10		2 Days Delivery			9999.99	9999.99
11						
12						
13	Copies	Total:		45	45	45
26	Cover	Total:		2	2	1.5
42						
43						
44						
45	Job ticket items	Item values	Amount:			Job cost
77	Copies	Numericitem	45	1	1	1
78		Total:		45	45	45
137	Cover	(none)		0	0	0
138		Front		1	1	0.75
139		Back		1	1	0.75
140		Front and back	1	2	2	1.5
141		Total:		2	2	1.5

8. Collect the result for the formula in cell Z3: =Z7.
The value in Z3 is returned to the customer.

Z3 =Z7

	Z
1	Job cost
2	Job cost
3	44.18
4	
5	9999.99
6	9999.99
7	44.18
8	9999.99
9	9999.99
10	9999.99

After you finish

You must test each new formula for correctness.

Test a formula

Introduction

You can create and configure new formulas in the Formula manager. You must test each new formula for correctness.

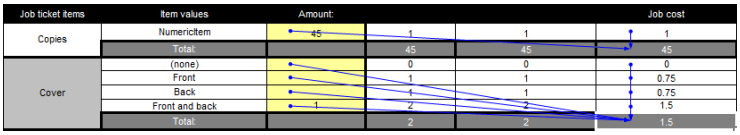
When to do

A new formula is created in column Z. The new formula is based on two [Job ticket items]: [Copies] and [Cover]. In this procedure, the new formula is tested for correctness.

Procedure

1. Check that the new pricing column uses the values from column [Amount:].
   1. Click cell Z78.
   2. Click "Trace Precedents" from the Excel menu.
      The usage of the "Trace Precedents" function is described in the Microsoft Excel help file.
   3. Check that the value from column [Amount:] is used for [Copies].

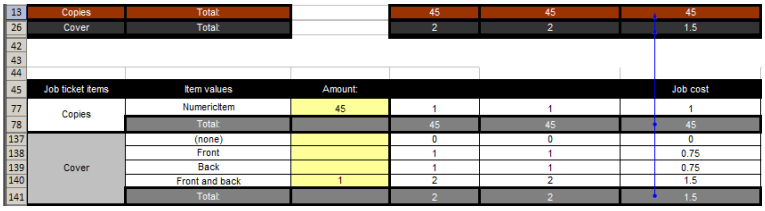
   1. Click cell Z141.
   2. Click "Trace Precedents" from the Excel menu.
   3. Check that the values from column [Amount:] are used for [Cover].



Job ticket items	Item values	Amount:			Job cost
Copies	NumericItem	45	1	1	1
	Total:		45	45	45
Cover	(none)		0	0	0
	Front		1	1	0.75
	Back		1	1	0.75
	Front and back	1	2	2	1.5
	Total:		2	2	1.5

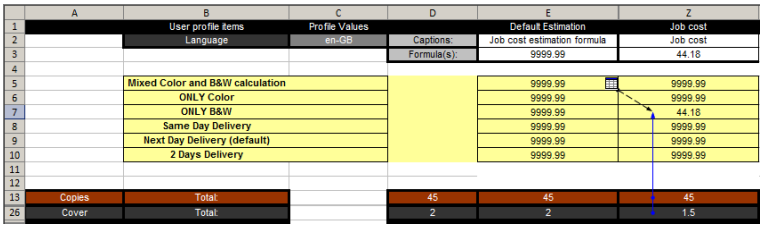
2. Check that the result table uses the correct values for all job ticket items from the concerning column in the job ticket table.
   1. Click cell Z13.
   2. Click "Trace Precedents" from the Excel menu.
   3. Check that the result table uses the correct value for [Copies].

   1. Click cell Z26.
   2. Click "Trace Precedents" from the Excel menu.
   3. Check that the result table uses the correct value for [Cover].



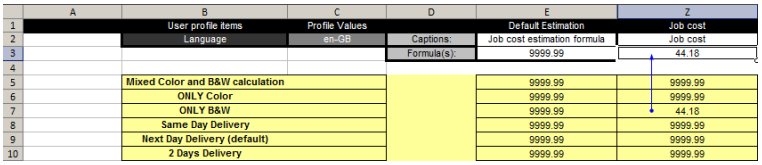
13	Copies	Total:		45	45	45
26	Cover	Total:		2	2	1.5
42						
43						
44						
45	Job ticket items	Item values	Amount:			Job cost
77	Copies	NumericItem	45	1	1	1
78		Total:		45	45	45
137	Cover	(none)		0	0	0
138		Front		1	1	0.75
139		Back		1	1	0.75
140		Front and back	1	2	2	1.5
141		Total:		2	2	1.5

3. Check that the calculation uses the correct values from the result table.
   1. Click cell Z7.
   2. Click "Trace Precedents" from the Excel menu.
   3. Check that the calculation uses the correct values for [Copies] and [Cover].



	A	B	C	D	E	Z
1		User profile items	Profile Values		Default Estimation	Job cost
2		Language	en-GB	Captions:	Job cost estimation formula	Job cost
3				Formula(s):	9999.99	44.18
4						
5		Mixed Color and B&W calculation			9999.99	9999.99
6		ONLY Color			9999.99	9999.99
7		ONLY B&W			9999.99	44.18
8		Same Day Delivery			9999.99	9999.99
9		Next Day Delivery (default)			9999.99	9999.99
10		2 Days Delivery			9999.99	9999.99
11						
12						
13	Copies	Total:		45	45	45
26	Cover	Total:		2	2	1.5

4. Check that the formula uses the correct calculation.
   1. Click cell Z3.
   2. Click "Trace Precedents" from the Excel menu.
   3. Check that the formula uses the correct calculation.



	A	B	C	D	E	Z
1		User profile items	Profile Values		Default Estimation	Job cost
2		Language	en-GB	Captions:	Job cost estimation formula	Job cost
3				Formula(s):	9999.99	44.18
4						
5		Mixed Color and B&W calculation			9999.99	9999.99
6		ONLY Color			9999.99	9999.99
7		ONLY B&W			9999.99	44.18
8		Same Day Delivery			9999.99	9999.99
9		Next Day Delivery (default)			9999.99	9999.99
10		2 Days Delivery			9999.99	9999.99

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