

OPTIMIK

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Price calculations

Contents

Warehouse	2
Inventory price	2
Sales price	2
Calculation price	3
Operations	3
Offers and jobs	4
Price specification after calculation of the cutting plan	5
Summary	5
Price correction	6

Warehouse

Each stock item contains three prices:

- Inventory price - the average price at which we bought the stock item
- Sales price - the price at which we will sell the stock item
- Calculation price - the price at which the stock item will be valued if we use it in the product . It is therefore essentially the sales price of the stock item if it is incorporated into the product (offers/jobs).

Inventory price

Because a stock item contains specific inventories (which may have an individual inventory price), the inventory price of the stock item will be automatically calculated as the weighted arithmetic average of the inventory prices of its inventories. Therefore, it cannot be changed manually. The inventory price of each inventory is automatically recalculated after each purchase of the inventory.

Example :

Skladové položky											
Typ	Kód	Názov	Farba	Hmotnosť	Skladová cena	Kalkulačná c...	Priráž...	Cena bez DP...	DPH	Cena s DPH	Zásoba
	DTDL 381 PR BU	DTD Buk Bavaria 25 mm		16,3 kg	11,1874 €	14,5436 €	43 %	16,00 €	20 %	19,20 €	148,2675 m ²

Zásoby												
Príjmy, rezervácie a výdaje												
DTD Buk Bavaria 25 mm												
Typ	Dĺžka	Šírka	Označenie	Hmotnosť	Pozícia v sklade	Expirácia	Skladová cena	Kalkulačná cena	Prirážka	Cena bez D...	Cena s DPH	Zásoba
	3 050 mm	2 070 mm	Tab 1	102,6 kg			75,0000 €	97,5000 €	40 %	105,00 €	126,00 €	5 ks
	600 mm	1 300 mm	Tab 2	12,7 kg			8,7262 €	12,0000 €	43 %	12,48 €	14,98 €	1 ks
	2 800 mm	2 070 mm	Tab 3	94,2 kg			63,7500 €	80,0000 €	31,8 %	84,00 €	100,80 €	20 ks

For the material 25 mm Beech Bavaria particle board, we have two inventories (formats) in the warehouse:

1. Board 3050 x 2070 mm - 5 pcs - inventory price 75 €/pc (so that for an area of 6.3135 m² this is 11.8793 €/m²)
2. Offcut 600 x 1300 mm - 1 pc - inventory price 8.7262 €/pc (so that for an area of 0,78 m² this is 11.1874 €/m²)
3. Board 2800 x 2070 mm - 20 pcs - inventory price 63.75 €/pc (so that for an area of 5.796 m² this is 10.999 €/m²)

#1000032 - 2 800 x 2 070 mm, 1000032, Tab 3							
T...	Dátum a čas	Doklad	Popis	Množstvo	Cena	Zásoba	Skladová ce...
	8. 2. 2022 10:35:08	Fa-0001/22	DEMOFIRMA	5 ks	75,6000 €	5 ks	60,0000 €
	1. 3. 2022 10:40:10	PF-0001/22	Bucina DDD spol. s.r.o.	15 ks	65,0000 €	20 ks	63,7500 €

It was entered into the warehouse with an initial quantity of 10 pcs and a price of €60. Later, 5 pieces were released from the warehouse, and then another 15 pieces were bought for an increased price of €65.

So there are currently 20 pieces in the warehouse, with a calculated inventory price of €63.75.

The program calculates the inventory price as follows: at the time of purchase, there were 5 pieces in the warehouse at a price of €60 and 15 pieces with a price of €65 were added. So (5 pcs * €60) + (15 pcs * €65) = €1,275 and that is the total value of the inventory. If we divide it by the current number of pieces (20 pieces), we get a new inventory price of €63.75.

The resulting inventory price of the stock item will then be calculated as the weighted arithmetic average of these inventories. Since in the warehouse the panel material is registered in m², but its inventories (formats) in pieces, we must first convert the inventory of formats to m². So board no. 1 has an inventory of 31.5675 m², board no. 2 has an inventory of 0.78 m² and board no. 3 has an inventory of 115.92 m², which is a total of 148.2675 m². Then we calculate the total value of inventories as (31.5675 m² * €11.8793) + (0.78 m² * €11.1874) + (115.92 m² * €10.999) = €1658.7262. If we divide this by the total inventory (148.2675 m²), we get an average inventory price of the stock item of €11.1874.

Sales price

The sales price of a stock item (as well as its inventory) can be changed at any time and set to any amount. For checking purposes, a percentage surcharge is automatically displayed in the warehouse too, which expresses how many percent must be added to the current inventory price in order to reach the sales price entered. The sale price and surcharge are linked, so that it does not matter which of the details you enter, because the remaining one is always recalculated automatically. Based on the previous example, we can see that the format 3,050 x 2,070 mm has a current inventory price of €75 and if we increase this by 40% (surcharge), we get the required sales price of €105.

Sales prices have no impact on the prices of products, offers or jobs. They will be used only if you select the given stock item for the document (eg invoices, etc.). Sales prices in the Warehouse are not updated automatically. You can change them individually for the selected stock item/inventory or by a bulk change (after clicking on the "Reprice" button).

Calculation price

The stock item calculation price is used to calculate the total price of the part in which that stock item is used. The total price of the product, offer or job is then calculated from the prices of the parts. The calculation price of a stock item can be:

- Calculated automatically - in the Program setting (on the Products and parts tab) you can set how the calculation price of all stock items is supposed to be calculated. There are two options to choose from:
 - the current inventory price increased by adding the set surcharge
 - the entered sales price reduced by deducting the set discount
- Entered manually - if necessary, you can enter the calculation price of the stock item manually in any required amount. The individual calculation price is entered for a specific stock item or its inventory - see fig. In the case of a manually entered calculation price, this price is displayed in **red characters** in the table in the Warehouse.

Depending on which method you choose, the calculation price will more or less depend on the changed prices in the warehouse. Here's how:

<i>Calculation price based on inventory price</i>	<i>It will be changed automatically after each change in the inventory price, i. e. after each purchase</i>
<i>Calculation price based on the sales price</i>	<i>It will be changed automatically only after repricing of the warehouse (change of sales prices)</i>
<i>Calculation price entered manually</i>	<i>It will never be changed automatically</i>

Operations

For each operation, you can enter data for a "rough calculation", in particular the cost and price per unit of the operation. Furthermore, it is possible to enter the expected overconsumption of material in % (it arises, for example, when formatting the material, gluing edging strips, etc.)

In addition to basic material, additional material can be assigned to the operation (material that is ALWAYS inextricably linked to the operation). The formatting of a bilaterally varnished material is given as an example. In this case, 2 m² of varnish are always "used" per 1 m² of material (we varnish both sides). The "Particle board varnishing" set is therefore assigned as an additional material. We have created this in the warehouse with the unit of measure m² and we assigned it the corresponding amount of varnish and other items needed for varnishing 1 m². At the same time, we confirmed the option in the operation, which calculates the required amount of varnish from the amount of material increased by adding overconsumption (we first varnish the whole board and then cut it into planks, so that waste and the cutoffs will also remain varnished.) If we wanted to cut the parts first and only then varnish them, leave this option unconfirmed.

In addition to prices, it is possible to enter the average time required for each operation (it is entered in seconds and relates to the unit of the operation). The expected production time is then automatically calculated from it.

Offers and jobs

Offers and jobs contain products that consist of parts. An unlimited number of operations and materials that make up a part can be assigned to each part. The total quantities of these operations and materials are then stated in the Summary.

The total costs of the offer/job are calculated from the quantities, unit costs of operations and inventory prices of materials (stock items).

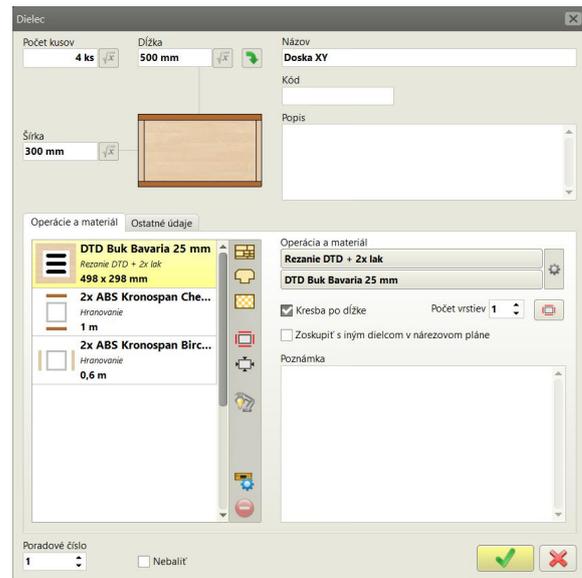
The total price of the offer/job is calculated as the sum of the prices of its individual products. The price of products is calculated from quantities, unit prices of operations and calculation prices of materials (stock items).

As product prices can also be entered manually if necessary, the total price of the offer/job may differ from the calculated one in such a case.

We will show the price conversion on a specific example:

Suppose that we have entered a product in our offer, which has only 4 pieces of a simple part with dimensions of 500x300 mm, which are varnished on both sides and glued with two edging strip types - see fig.

From these data, the total quantities of all operations and materials used will be automatically calculated and they will be listed in the Summary as follows:



Typ	Počet	Operácia	Množstvo	Materiál	Farba	Doplnkový materiál	Nadspo...	Množstvo brut...	Celková cena	Zisk
☰	4x	Rezanie DTD + 2x lak	0,59 m ²	DTD Buk Bavaria 25 mm		Lakovanie DTD	15 %	0,68 m ²	19,25 €	29,6 %
☰	8x	Hranovanie	2,4 m	ABS Kronospan Birch 22x2 mm			16,7 %	2,8 m	5,98 €	27,4 %
☰	8x	Hranovanie	4 m	ABS Kronospan Cherry 22x2 mm			10 %	4,4 m	10,12 €	27,5 %

At the bottom left, you can also find the calculated unit costs and prices for the current operation and material. In the case of the first item of the summary, we find the following data:

Náklady	Cena
Operácia	1,80 €/m ²
Materiál	23,21 €/m ²

Náklady	Cena
Operácia	2,25 €/m ²
Materiál	30,18 €/m ²

For the operation, the situation is simple - we entered the unit costs (€1.80/m²) and the price (€2.25/m²) for the given operation (Particle board cutting + 2x varnish) in the list of operations.

In the case of material, however, the entered overconsumption and additional material also enter into our calculation. Let's take a closer look, where the unit costs of 23.21 €/m² came from:

The inventory price of the material is 11.1874 €/m². The inventory price of additional material is 4.50 €/m². The area of 4 parts is 0.593616 m² (the part is actually 498 x 298 mm due to edging strips glued to it). However, since we have entered an expected overconsumption of 15% for the given operation, the program will calculate an area of 0.6826584 m². The material and varnish costs for these parts will then be:

*Material = 11.1874 €/m² * 0.6826584 m²*

*Additional material = 4.50 €/m² * 0.6826584 m² * 2 (in the operation we have chosen to varnish both sides of the part)*

Total = € 7.64 + €6.14 = €13.78. When we divide this amount by the "net" (without overconsumption) area of the parts (0.593616 m²), we get to the displayed amount of unit material costs of 23.21 €/m².

In a similar way, we would work towards a unit price of material of 30.18 €/m² however, instead of inventory prices, we would use the calculation prices of stock items in the calculation.

The total costs/prices of a given operation and material are then calculated by the product of unit costs/prices and the "net" quantity (without overconsumption). Therefore, if we stayed at the first item of the summary, we calculate the costs as: €1.80/m² (operation) + €23.21/m² (material) = €25.01/m². We multiply by the "net" area of 0.593616 m² and get the total cost of €14.85.

If we want to calculate the total price, the calculation will be €2.25/m² (operation) + €30.18/m² (material) = €32.43/m². We multiply by the "net" area of 0.593616 m², thereby getting the total price of €19.25.

Which means that we have a gross profit of approximately 29.6 % on this operation and material.

Price specification after calculation of the cutting plan

As you may have noticed, the first item in the summary has pricing and overconsumption data displayed in gray. This means that a cutting plan has not been calculated yet for a given panel material and therefore the calculated data are only **approximate**. As a matter of fact, if the cutting plan has not been calculated yet, Optimik does not know what the use of the material will be, what the length of the cuts will be, etc. Therefore, the data (estimated percentage overconsumption and cost/price per 1 m² of cut parts) that you have predefined in the given Operation will be used for the approximate calculation of prices and overconsumption in this case. At the same time, since we do not yet know which specific material formats will be used in the cutting plan, Optimik will use the inventory/calculation price of the stock item and not of the specific stock (format).

However after calculating the cutting plan, the costs and prices will be specified as follows:

Material - overconsumption will be recalculated according to the achieved use of material and the inventory/calculation prices will be determined from the actually used format (formats).

Operation - according to the actual cutting length, the number of cuts, etc.

In the Parameters of the cutting plan, you can define in detail the price for cutting by entering unit costs and prices for 1 cut, for 1 m of cutting, for 1 part cut off and for 1 cut format. You can also use any combination of these pricing methods.

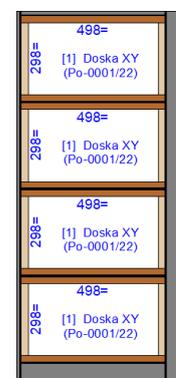
Náklady na :	1 rez	1 m rezania	1 dielec	1 formát
	0,00 €	0,16 €	0,00 €	0,00 €
Cena za :	0,00 €	0,22 €	0,00 €	0,00 €

At the same time, you can choose here whether usable offcuts or waste is supposed to be returned to the warehouse and, if so, in what residual value. The price of such offcuts will then be deducted from the total price for the material.

After completing the calculation (in our example we used only the price of €0.16 per 1 m of cutting), the program displays a plan in which all 4 parts have been saved in the format 600 x 1,300 mm. The total length of the cut is 5.1 m, so that the price for cutting is €1.12.

Since we did not have any usable offcuts that we would return to the warehouse, we will no longer deduct anything from the material price. You can then find a detailed price calculation of the cutting plan, e.g. on the "Cutting plan with statistics" or "Extended statistics" print report.

	Materiál zo skladu	Materiál od zákazníka (EXT)	Dielec	Vzniknuté odrezky	Vzniknuté odrezky (EXT)	Odpad			Rezanie
						Odrezy	Piliny	Spolu	
Počet	1 ks	0 ks	4x	0 ks	0 ks	-	-	-	7x
Množstvo	0,78 m ²	0,00 m ²	0,59 m ²	0,00 m ²	0,00 m ²	0,16 m ²	0,02 m ²	0,19 m ²	5,1 m
Hmotnosť	12,7 kg	0,0 kg	9,6 kg	0,0 kg	0,0 kg	2,6 kg	0,4 kg	3,0 kg	-
Náklady	8,73 €	-	8,73 €	0,00 €	-	0,00 €	0,00 €	0,00 €	0,81 €
Cena	12,00 €	-	12,00 €	0,00 €	-	0,00 €	0,00 €	0,00 €	1,12 €
	Využitie materiálu	76,1 %	20,22 €/m ²	Do skladu	Zákazníkoví	Vyhodit'			1,89 €/m ²



Formáty materiálu

Číslo	Rozmery	Počet	Dielec	Vzniknuté odrezky	Odpad			Rezanie			
					Odrezy	Piliny	Spolu				
1	600 x 1 300 mm	1 ks	4 ks	0,59 m ²	0 ks	0,00 m ²	0,16 m ²	0,02 m ²	0,19 m ²	7x	5,1 m

Dĺžka	Šírka	Počet	Kód	Označenie	Pozícia v sklade	Skladová cena	Cena	Hmotnosť	Plán
600 mm	1 300 mm	1 ks	1000034	Tab 2		8,73 €	12,00 €	12,7 kg	1

Summary

After calculating the cutting plan and recalculating the prices, you can also see the changed data in the Summary (both prices and achieved overconsumption), while overconsumption, price and profit are already displayed in black:

Operácie a materiál										
Typ	Počet	Operácia	Množstvo	Materiál	Farba	Doplňkový materiál	Nadspo...	Množstvo brut...	Celková cena	Zisk
☰	4x	Rezanie DTD + 2x lak	0,59 m ²	DTD Buk Bavaria 25 mm	☐	Lakovanie DTD	31,4 %	0,78 m ²	22,25 €	34,3 %
☐	8x	Hranovanie	2,4 m	ABS Kronospan Birch 22x2 mm	☐		16,7 %	2,8 m	5,98 €	27,4 %
☐	8x	Hranovanie	4 m	ABS Kronospan Cherry 22x2 mm	☐		10 %	4,4 m	10,12 €	27,5 %

Since the operation "Particle board cutting + 2x varnish" is also assigned the additional material "Particle board varnishing" (in this case, it is a set of materials defined in the Warehouse), the price of this additional material is also included in the material price. In the Summary you will find the print report "Prices and costs" which clearly shows the prices for the operation, material and additional material:

Názov	Množstvo	Náklady	Cena
Rezanie DTD + 2x lak	4x	1,37 €/m ²	0,81 €
DTD Buk Bavaria 25 mm	31,4 %	11,19 €/m ²	8,73 €
Lakovanie DTD		4,50 €/m ²	7,02 €
		27,90 €/m ²	16,56 €
			37,48 €/m ²
			22,25 €

Note: unit costs/prices, overconsumption and weights are entered in the summary as soon as the first record/part is created and they no longer change (except for the calculation or cancellation of the cutting plan). If you would like to adjust these according to the current data in the warehouse and in the list of operations, click the Update button.

Price correction

Based on the data from the summary, the costs and prices of individual parts are calculated. The total product price is determined by the sum of them. However, you can also enter the product prices manually if necessary. Products with a price entered in this way are indicated in the product list by a padlock icon:



If you would like the price of the offer/job to be fixed, you can use the function Adjust product prices (in the Offer/Job window click on the Product prices button). Here you just need to enter the required total price of the offer/job and the program will automatically evenly adjust the prices of all products so that the sum of them reaches the required price. Any changes in the offer/job will then no longer affect its price. However, if you would like to return to automatic price recalculation, simply switch the product price to "calculated". This can also be done for all products at once - by clicking on the Product Prices button and selecting Unlock and Recalculate .

The sum of the product prices then brings us to the total price of the offer/job. We can still influence this price by entering a discount for the entire offer/job as well as entering custom items (eg transport, installation at the customer, etc.) in the Final Statement table (in the Offer/Job window):

Typ	Názov	Cena	DPH	Cena s DPH	Popis
	Práca	13,28 €	20 %	15,94 €	
	Materiál	25,06 €	20 %	30,07 €	
	Zaokrúhlenie	-0,34 €		-0,34 €	
	Doprava	20,00 €	20 %	24,00 €	

The items in this table are calculated automatically as follows:

Work = sum of prices of all operations from the Summary

Material = sum of prices of all materials from the Summary

Rounding = the difference between the offer/jobs and the price of work and material. If it is greater than €1, it is stated as a Surcharge (positive number) or Discount (negative number). This situation occurs if you have entered a percentage discount for the Offer/Job, or if the price of a product has been entered manually.

In addition to these basic non-editable items, you can enter in the table any number of custom items with any sum, which items you can edit or delete at any time.