Estimate alternatives or variants

This document describes different ways to handle in Presto more than one option for an estimate, as variants or alternative proposals.

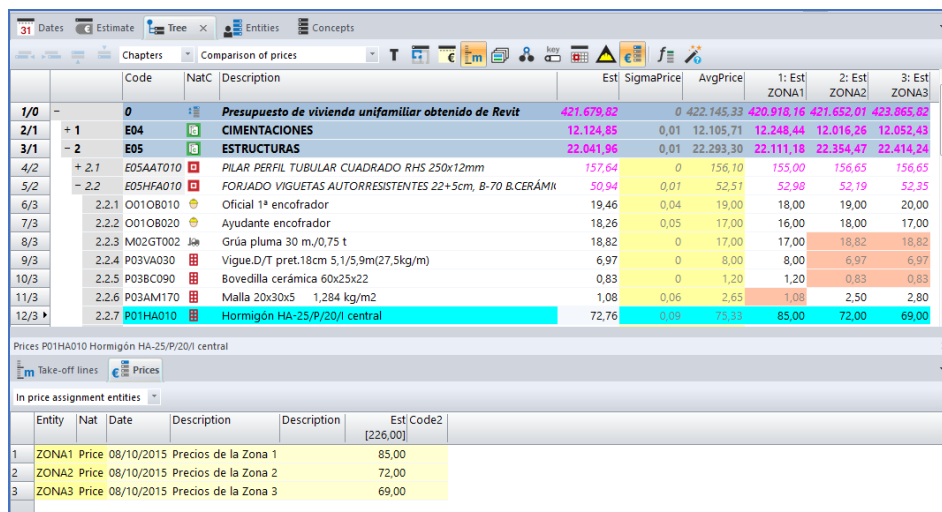> Some of the Presto resources mentioned in this document are only available in Presto 2017.

The better way to manage options depends on the scope of the variants, that is, the degree in which the alternatives are different.

Different unit prices

This is the case of estimates where the main difference is a different set of unit prices for the same structure of work units and WBS, like prices for different suppliers or conditions.

Presto allows a single unit price for every concept -three if we take in account also the estimated cost and the real cost-.

We can keep a collection of different values for every concept creating entities of the type "Price". The different unit prices are entered in the "Comparison of prices" layout of estimate and tree views.

Alternate prices for three geographical zones

Unit prices should be entered at the lowest level of concepts.

Presto will calculate the prices of higher-level concepts for every price entity using exactly the same procedure for the normal price calculation, like rounding, indirect costs and other factors, so the global price should be the same, if the main unit prices are the same for all the concepts.

Alternate prices have to be entered only for the concepts where the prices are different. Presto will use the main price where alternative price is not defined (blank or "NA"). If alternate price is "zero", then "zero" price must be explicitly entered.

Alternate prices may be used in its own column or may be swapped for the main price if we need to apply any Presto operation or resource, to get reports, etc..., and then swapped back again with any other price alternative.

> A similar system is used when assigning different prices to work units in order to compare biddings or to manage prices composed in different currencies. These processes are covered in specific documents.

Different quantities

As in the case of unit prices, Presto records for every concept a set of two quantities:

- The estimated quantity in the project, from the design team
- The revised measurement made by the construction company

This possibility can be enough if we have to compare only two alternatives.

If we need to compare alternate estimates with different quantities for the same work units, or even with different sets of work units, we have to enter the quantities of every variant using take-off lines, at least in the work units that can be different.

Then, we can filter the lines using several possibilities.

Using spaces

Spaces (formerly "activities") are a simple way to discriminate take-off lines. Take off-lines belonging to one alternative have to be assigned to one or more spaces belonging exclusively to this alternative.

	Code	NatC	Info	Description	Est [413.034,37]
1	00000			00000: Planta 1	206.512,77
2	00300			00300: Planta 2	124.442,57
3	-0055			-0055: Planta 1 (salón)	41.697,58
4	-0080			-0080: Cimentación por pilotes	0
5	Spc0010			-0080: Cimentación superficial	22.433,63
6	00270			00270: Techo	9.783,06
7	00600			00600: Línea de la azotea	8.164,76

Work items -0080 -0080: Cimentación por pilotes ✕

🔲 Work items   T Text   ⏶ Resources   ▥m Take-off lines   🖼 Thumbnails   ▼

	CodSup	CodInf	Description	QtyEst	Unit	Est	Est	DurTot
1	E04	E04CAM050	HORMIGÓN HA-25/P/40/IIa CIM.V.MANUAL+ENCOFRADO	1,10	m3	206,66	227,33	50
2	E04	E04PI170	PILOTE ENTUBACIÓN PERDIDA D=55cm CPI-5	61,50	m3	107,66	6.621,09	50
3	E07	E07TYO050	TABIQUE ESTRUCTURA DOBLE 2x13+46X2+13X2+2ARENA 40/65dBA	2,37	m2	43,38	102,81	0
4	E20	E20DD070	DEPÓSITO PRFV CILÍNDRICO DE 3000 l	2,00	u	847,12	1.694,24	0

Using spaces for alternatives in foundations

Then, spaces can are removed or added to the estimate by changing the state or color: black and green spaces are taken into account, red and grey are not.

The resulting estimates can be saved in different files and compared using the projects integration tool, as described below.

Creating spaces with any take-off field

Any other key, field or field's combination can be copied into the space field.

Example with Revit design options

Design options is the system used by Revit to take into account different alternatives for a given constructive element. For example, different ways to execute a roof. The

option set represents the element that changes ("Roof") and the option identifies the alternative ("Tiles", "Slate" ...). When using Cost-It, take off lines are created for every element and every combination of options set and option.

- "TakeoffLines.Option" field has the option set.
- "TakeoffLines.Variation" field has the option.

Elements for a given option may appear in more than one work unit, so go to the "Take-off lines" window, where all the take-off lines of the project are shown.

If there are many alternatives, you can use Presto functions to manage the information:

1. Filter by content on a blank cell, in the options column, and invert the selection, to display only the lines belonging to any of the alternatives.
2. Create a user-defined field with the option and the variant, short enough to fit into the space code.
3. Filter by differences on this filed to get the number and name of the spaces you need to insert.
4. In the "Space" window, copy and paste the space codes into the code field.
5. In the "Take-off lines" window, remove the filter by differences, copy and paste the space code into the space field.

Then, change the state of the spaces in the space window to get the alternate estimates.

Using any take-off field with a filter

Any take-off line can be added or removed temporarily from the estimate without deleting the line, checking or un-checking the "Est" field. This allows using any field to define alternatives, and then apply filters to recalculate the desired one.

Example with Revit design options

1. In the "Take-off lines" window, use the "TOOLS: Analyze table" option.
2. Set the "Option" field as primary level and "Variation" as secondary.
3. Select the options set you want. After exiting the box, the corresponding set of take-off lines is selected.
4. Filter by selection and check or uncheck the "Est" column in all the lines, in order to add or remove from the estimate the selected option.
5. Repeat the process to remove or add other options and variants, as needed.

   Tip: if there are only two alternatives, once the lines belonging to any alternative are filtered, unprotect and operate the "Est" field with the expression:
   `!TakeoffLines.Est`
   The state will invert, from check to un-check, and vice versa.

If options and variants are clearly identified, this system allows to analyze and compare an unlimited of solutions and combinations of options.

Using the estimate approval state

Take-off lines can be assigned to three states:

- Black represents the initial estimate
- Green are quantities added later, but approved by the owner

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- Red quantities are pending of approval.

Presto provides the four global imports of the different states:

- The normal estimate includes green and black states
- Variation orders are green lines
- Pending of approval quantity is red
- Possible total estimate is black, plus green, plus red

Some cases of alternative estimates can be easily handled using these states, as the results are always calculated by Presto and shown in existing layouts.

Other possibilities

Assigning take-off lines to stages can also be used to keep alternatives, as the amounts belonging to every stage are calculated and displayed by Presto in any window with stages information.

In addition, the possibility to remove or add concepts to the estimate assigning the grey color to the unit price or the quantity can be used to analyze alternatives, although in this case the user has to remember the work units to be added or removed.

If the structure of the estimates is completely different, the unit prices for the same concept are different, or the possibilities described above are not enough, the estimates have to be calculated and saved as independent Presto files.

Comparing alternatives

The information in different estimates can be compared easily using the integration of projects:

1. Create a new estimate, that will act as the basis for integration the whole set of variations
2. Add the different alternatives as linked projects with "PROCESSES: Link work"
3. Compare the results
4. Update as needed

The structure of this central file can be adapted, creating an EDT with nodes for different customers, building types or other features.

Comparing different projects