ITMProcess2

To adapt recipes in function of the liquor ratio.

Overview.

Concerned

Supervisor.

Level: Complex.

Content of this document

The quantities of dyestuffs must be modified following rules that are specific to each dyestuff. In this example, the adaptation depends on the liquor ratio but it can be adapted to other variables.

This document has been written at ITMProcess 2.1 time. Since ITMProcess 2.2, it is possible to add parameters to each dyestuff record and even formulas (see IP2 TN011 - Quantity related to each dye.doc).
With this new feature, you can simplify the following procedure by including the dyestuff factor calculation directly in the dyestuff record.

General.

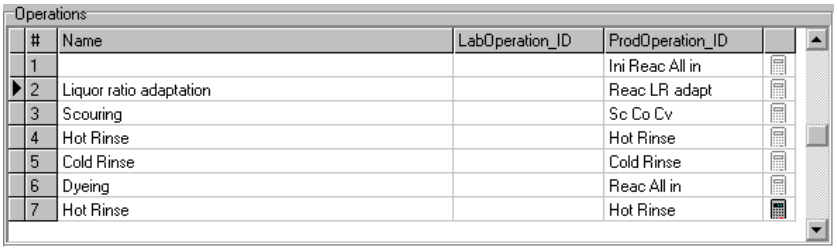
In the dyeclass operation line and only in this line, it is possible to modify the dyestuffs quantities individually using the Table rule.

Be care that the rules depending on the amount of dyes, before the dyeclass operation line, won't reflect the modification of the amount of dyes done in the dyeclass operation line.
To go round this problem, you can create a parameter that will contain the new amount of dyes and modify the previous rules so that they depend on this parameter.

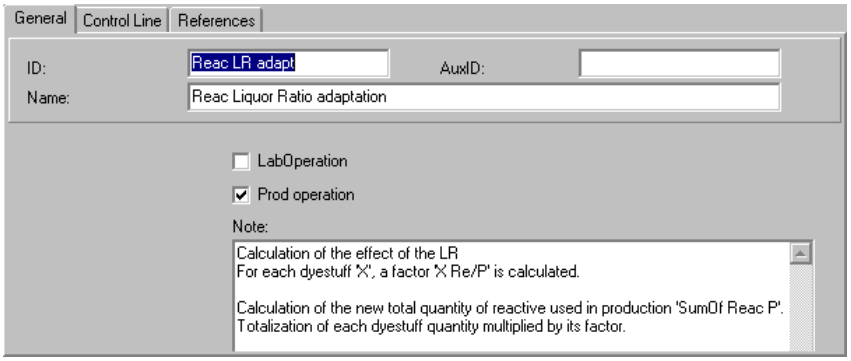
When doing production correction, the quantities of dyestuffs used are the quantities that are in the recipe, not the quantities after modification. In other words, concerning our example, correction calculation is done based on the liquor ratio of the recipe. The calculated correction at recipe liquor ratio should then be readapted to the liquor ratio of production.

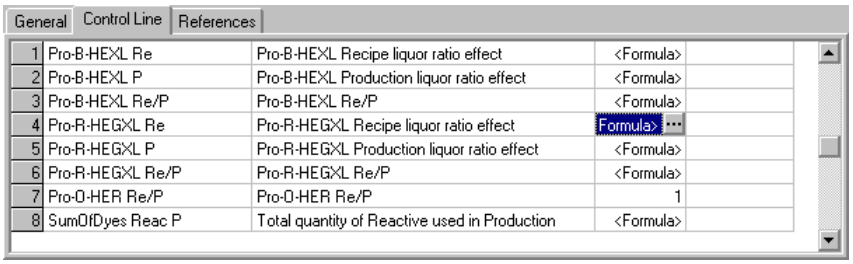
Rules.

1. We add a new operation ‘Liquor ratio adaptation’ at the beginning of the treatment.



2. In this operation, we calculate a factor for each dyestuff and then we recalculate the total quantity of reactive.





2.1. In our example, we have to calculate an ‘effect’ depending on the liquor ratio.

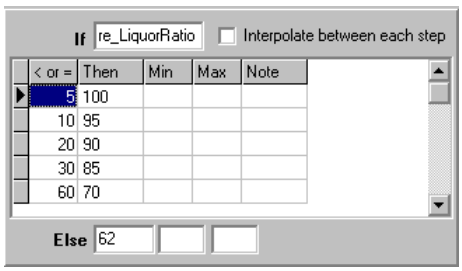
The parameter ‘X Re’ is the effect for the dyestuff ‘X’ at recipe liquor ratio.

The parameter ‘X P’ is the effect for the dyestuff ‘X’ at production liquor ratio.

The parameter ‘X Re/P’ is the ratio of the effects (’X Re’/’X P’).

All these parameters have the following setting: Calculate without print.

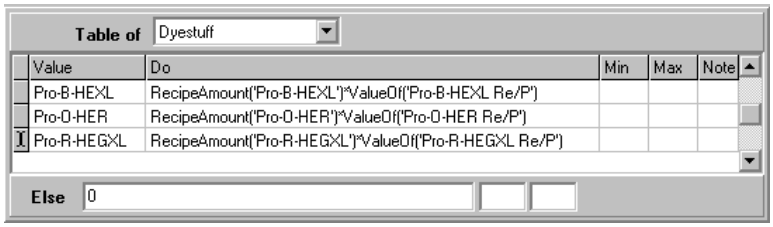
Formula for ‘Pro-R-HEGXL Re’:



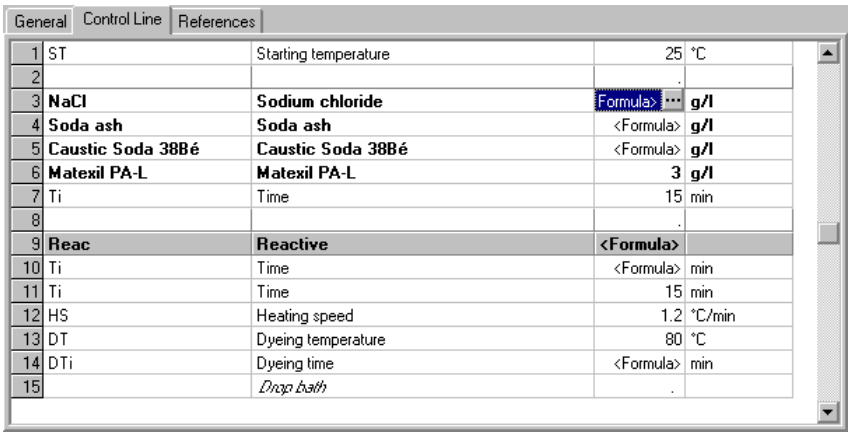
2.2. At the end, we calculate the value of 'SumOf Reac P'.

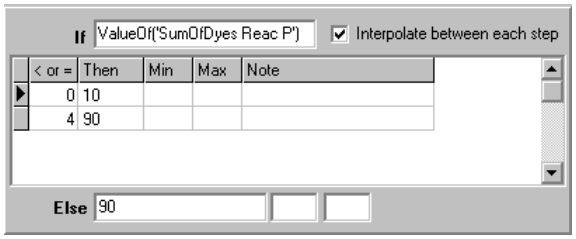
We list in a table all reactive dyes that may be used with this operation, even if there is no modification of their quantity.

This parameter has the following settings: Calculate without print and Totalize.

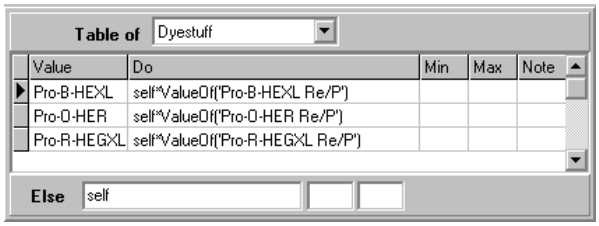


3. In all operations of the treatment, we replace SumOfDyes('Reac') by ValueOf('SumOfDyes Reac P').





4. We insert a formula in the dyeclass operation line that recalculates the quantity of each dyestuff.



Result.

Here is a recipe at liquor ratio 1/20.

	Dy...	Dye process	Part	DyeFiberGroup		Colorant set
▶		Reactive Exhaust	100%	Co	1/20	

	#	Product ID	Product Name	Conc	Old
▶	1	Pro-B-HEXL	Procion Blue HEXL	0,001	
	2	Pro-R-HEGXL	Procion Brillant Red HEGXL	0,031	
	3	Pro-O-HER	Procion Orange HER	0,002	

Here is a dyelot using the previous recipe with a liquor ratio of 1/5.

Volume **1000 l**

Liquor ratio **1/5**

Procion Blue HEXL	0,001 %	**1,96** g
Procion Brillant Red HEGXL	0,0279 %	**55,8** g
Procion Orange HER	0,002 %	**4** g