

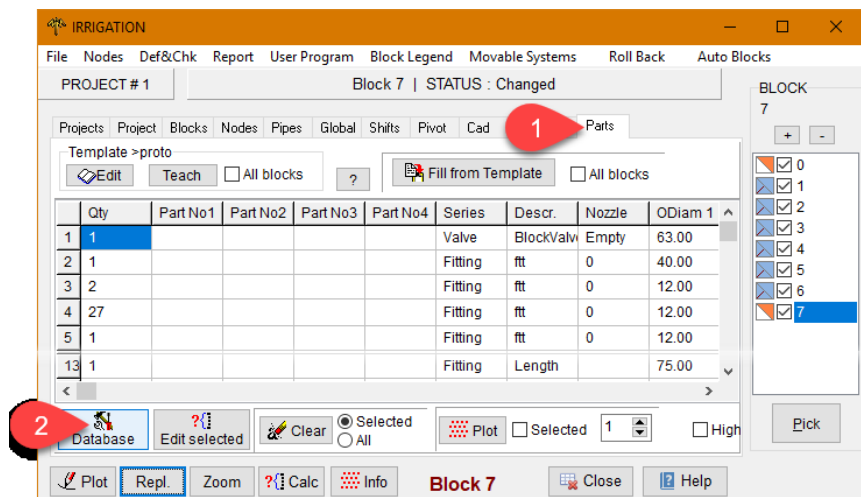
IrriMaker – Bill of material tip: one extra connector per roll of pipe

IrriMaker have an excellent bill of material tool that allow the user to teach the software to remember pipe and node combinations and intelligently create parts and clusters of parts for the bill of material. I discussed this function and how to use it in a previous article. The parts and clusters tool will generate an automatic bill of material giving the user the confidence and time to focus on other business matters instead of wasting valuable time counting parts and preparing quotations.

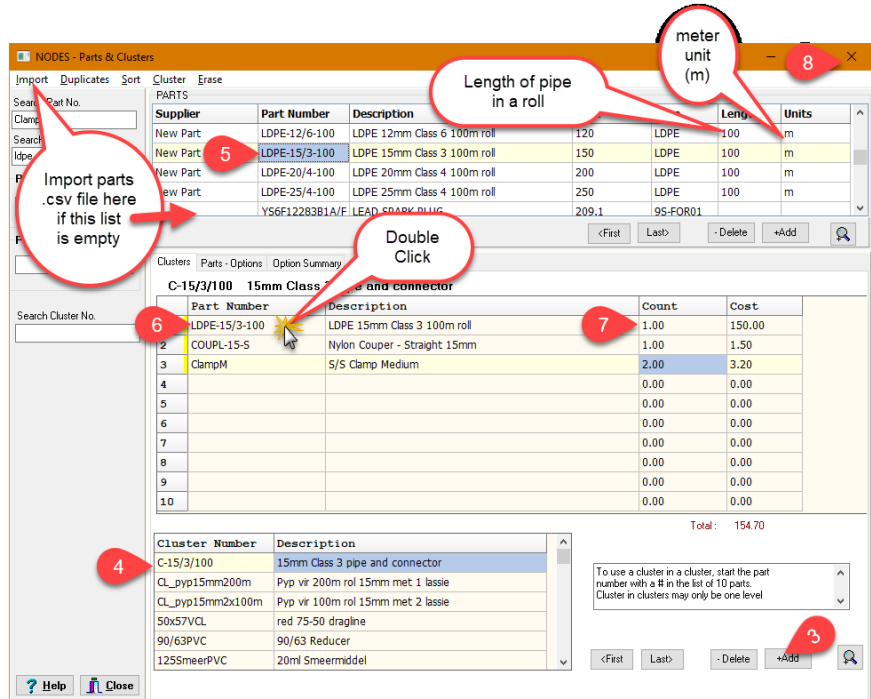
In this article I will show you how you can automatically add enough pipe connectors or couplings to connect rolls of pipe of the same diameter where needed. This is often left out of the bill of material or quotation by designers because there are no physical nodes representing the coupler for each roll of pipe in the design, and IrriMaker cannot predict how a roll of pipe will be divided during the installation.

Pipes are represented by part numbers in the pipes database. There is however just space for a single part number. By creating a cluster number instead, you can now describe a roll of pipe to include much needed pipe connectors and clamps where needed. Here are the steps:

Step 1: Create the new cluster by going to (1) Parts - (2) Database

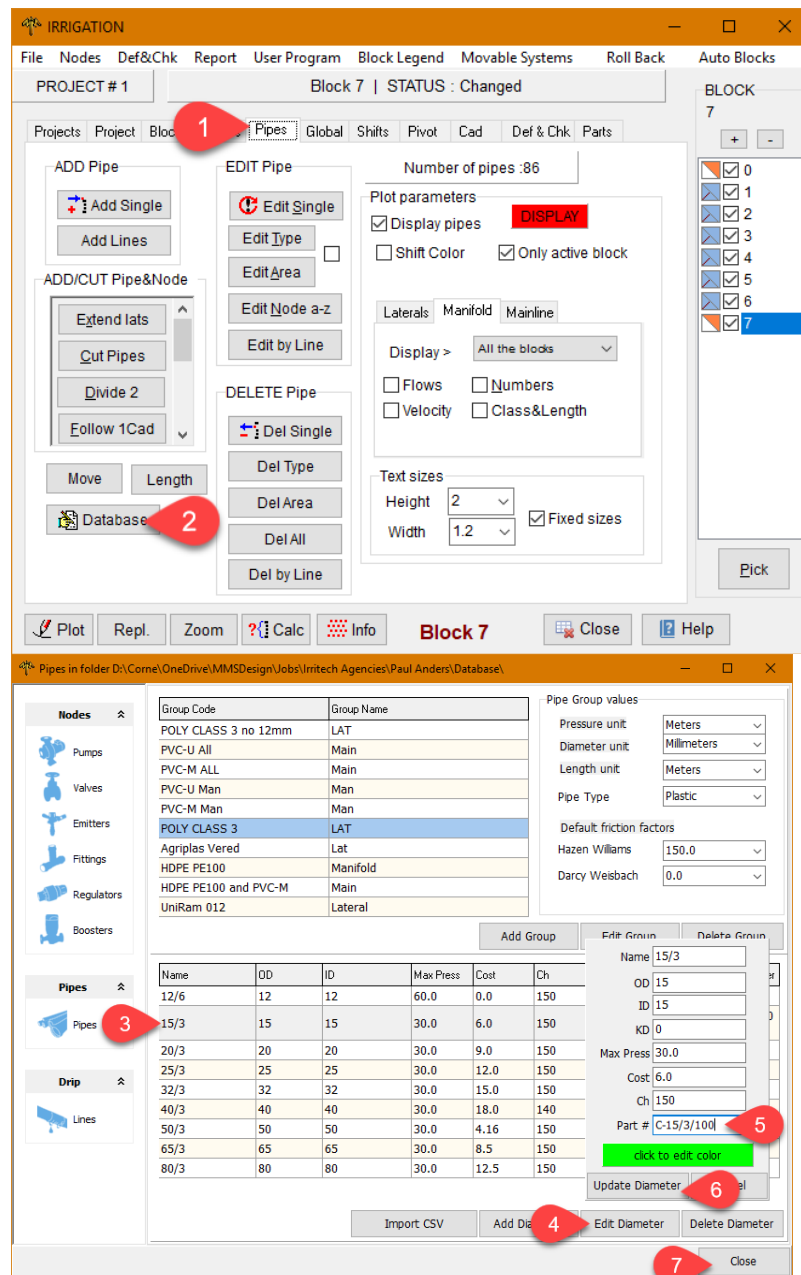


Assuming you already have parts in your parts database, create a new cluster by clicking on (3) "+Add" in the Cluster section at the bottom of the dialog. (4) Type in a suitable cluster number and description (in this example I use nr. "C-15/3/100"). Select the first part that should form part of the cluster (5) then double click in the clusters part number column (6) to copy the selected part into the cluster. Then enter the number of instances (7) of that part in the cluster. Don't leave it zero "0". Repeat steps (5), (6) and (7) until all the parts needed are part of the cluster. Finally close the parts database editor (8).



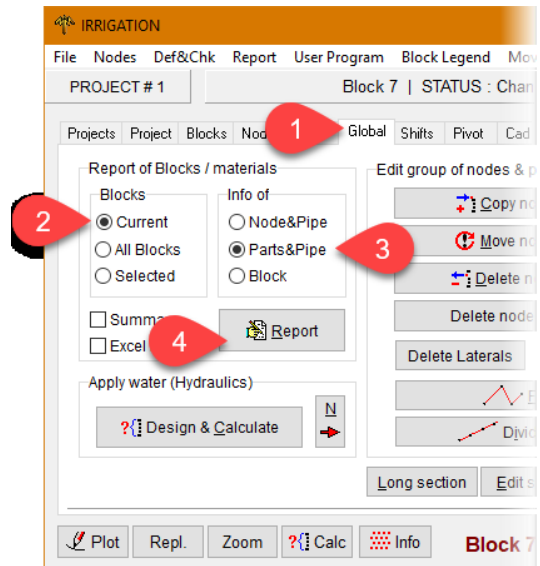
Step 2: Link the new cluster number to the relevant pipe size as follows. Go to (1) Pipes then database (2).

Locate and highlight the diameter pipe in the correct pipe group that should be described by your new cluster number (3). Click the "Edit Diameter" (4), enter the cluster number you created into the "Part #" field (5). Update (6) and close the database.



Repeat **Step 1 & 2** for all the pipe diameters, then do your designs as normal. After the design process, you can view the bill of material report showing your connectors associated with your pipes as follows:

Step 3: To view the bill of material report, go to (1) Global, then choose the blocks you want to view a report of (2). Make sure you select "Parts & Pipe" (3) and run the "Report" (4).



Report Extract

Part No.	Pipes	Quantity (Slope Length)	Price	Total	Units	Type
A	C-15/4/100	652.0	0.00	0.00		
	LAT POLY CLASS 3 12/6	127.0	E 1.55	196.47	2	LDPE
This Part is a cluster						
Part in cluster :	Part No.	Quantity	Cost		Units	Total G
Part in cluster :	LDPE-15/4-100	1.0	150.00		2.0	300.00
Part in cluster :	COUPL-15-S	1.0	1.50		2.0	3.00
Part in cluster :	ClampM	2.0	1.60		4.0	6.40
	LAT POLY CLASS 3 20/3	186.0	9.00	1674.00		

NODES - Parts & Clusters
Import Duplicates Sort Cluster Erase
Search Part No.
ClampM
Search Part Description
ldpe
Parts - By type
Parts - By Suppliers
Search Cluster No.

PARTS

Supplier	Part Number	Description	Cost	Type	Length	Units
New Part	LDPE-15/3-100	LDPE 15mm Class 3 100m roll	150	LDPE	100	m

Clusters Parts - Options Option Summary
C-15/3/100 15mm Class 3 pipe and connector

	Part Number	Description	Count	Cost
1	LDPE-15/3-100	LDPE 15mm Class 3 100m roll	1.00	150.00
2	COUPL-15-S	Nylon Couper - Straight 15mm	1.00	1.50
3	ClampM	S/S Clamp Medium	2.00	3.20
4			0.00	0.00
5			0.00	0.00
6			0.00	0.00
7			0.00	0.00
8			0.00	0.00
9			0.00	0.00
10			0.00	0.00

Cluster Number	Description
A C-15/3/100	15mm Class 3 pipe and connector

Total: 154.70 **C**
To use a cluster in a cluster start the part

Cluster Price 154.7 / 100m = 1.55

In the report you will see the cluster number (A) applied to, in this case only 15/3 LDPE pipe for a single block (the current block based on our selection in the previous step). The slope length of pipe used in the block is 127m (B). The Cluster total cost (C) divided by the length of the 100m (D) roll of pipe, gives us a price per meter of 1.55 (E) value is rounded to 2 decimals. This brings us to a total cost of 127 (B) x 1.55 (E) = 196.47 (F). And because the part in the database consist of a 100m roll (D), we need 2 clusters to

provide enough pipe to provide enough material for the installation, bringing our absolute cost to 309.40 (G) for the 15/3 LDPE pipe in this specific irrigation block. Best of all is, the coupling and clamps are also accounted for and will not be forgotten.