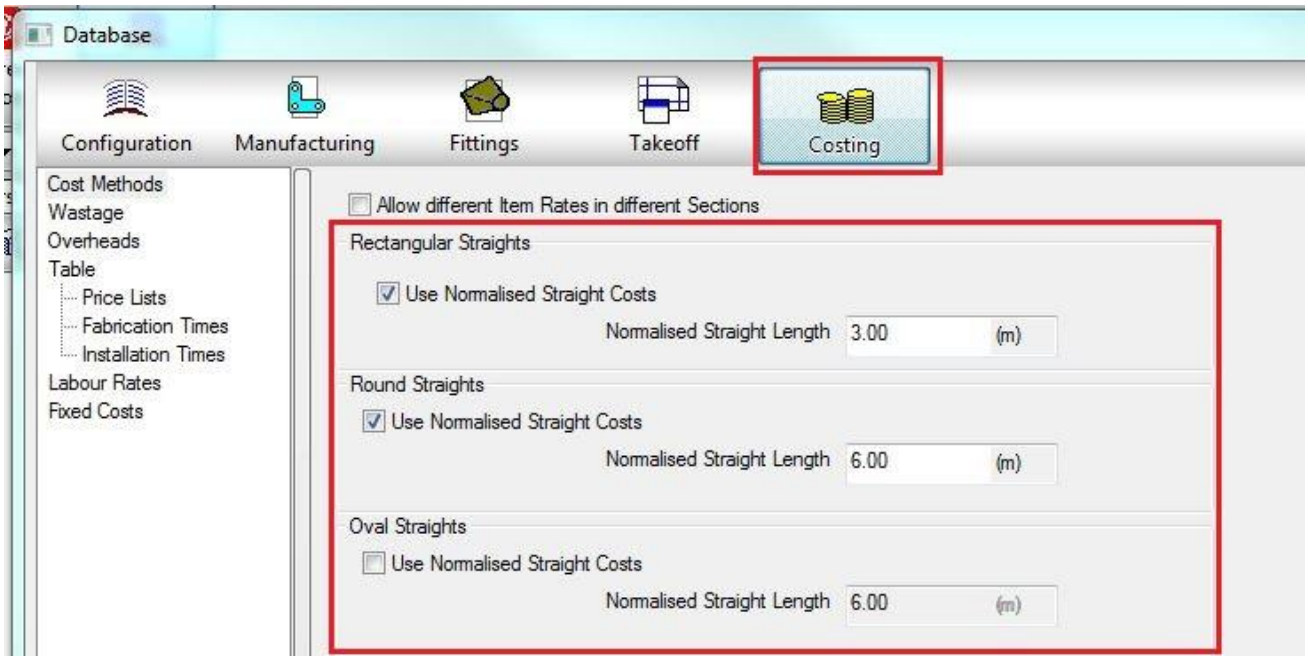
Working with Normalised costing in Fabrication ESTmep.

Autodesk Fabrication ESTmep

There are a few steps to check and configure when setting up your Fabrication ESTmep installation to give 'Normalised costs'.

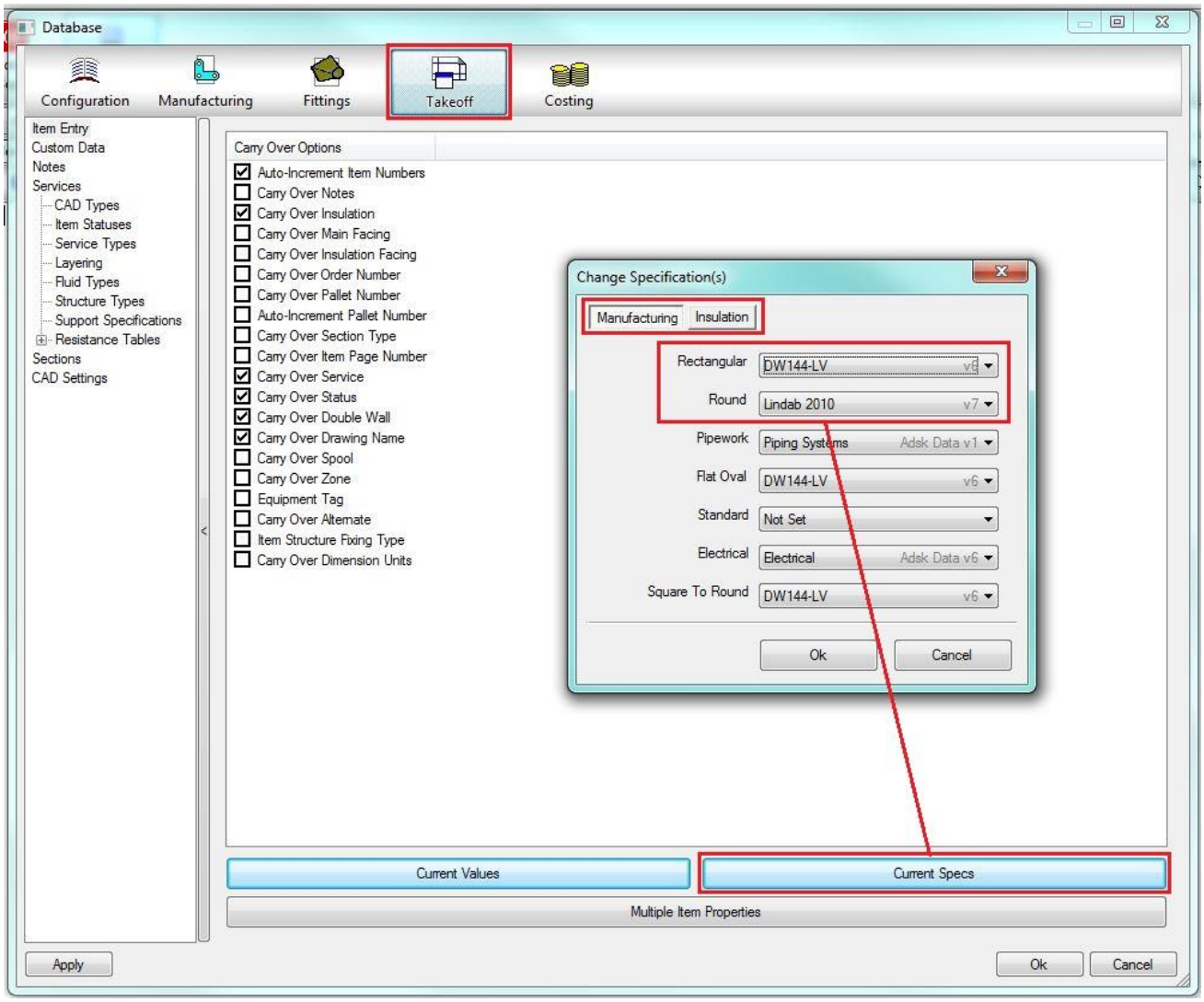
A 'Normalised Cost' is given by calculating the total cost of producing a certain amount of ductwork and then recalculating and presenting that as a single cost per / metre.

Firstly, we need to set the length of duct we want calculated and thus normalised. In the following screenshot I have set rectangular duct to 3m and 6m for round. In this example we are using 2 standard lengths of duct so that we also get and connectors and supports calculated into the normalised value. Rectangular is 2 x 1.5m, Round is 2 x 3m.

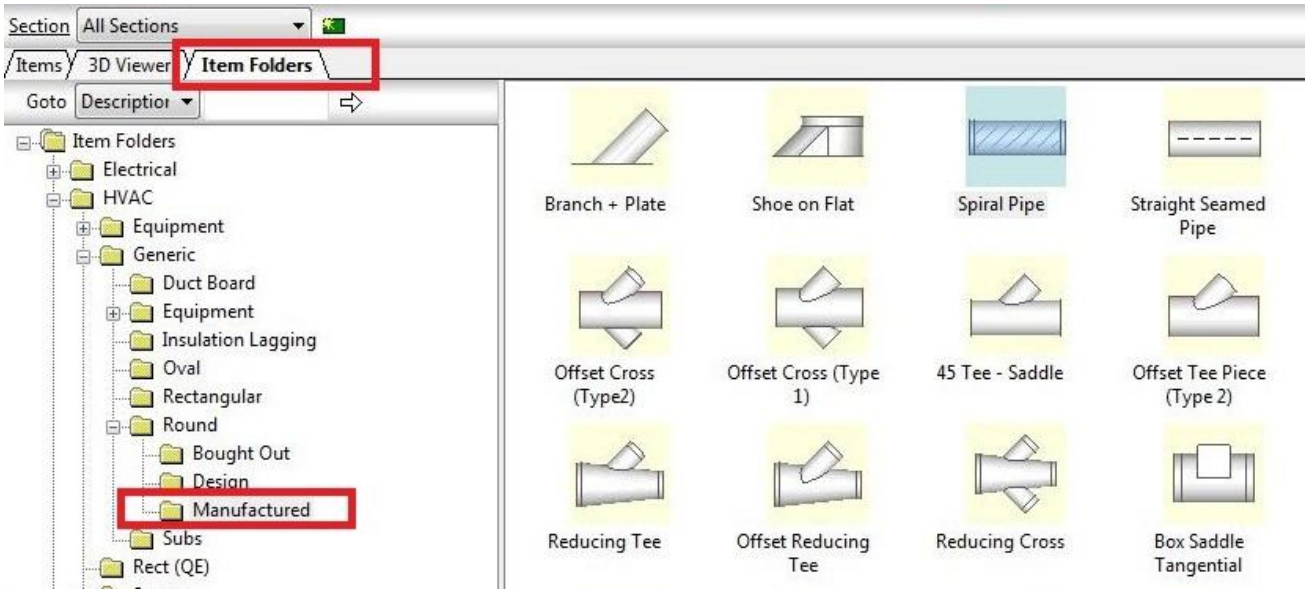


The next step checks the default Specifications your system is set to. This is the base setting referred to anywhere the Spec is not given explicitly and will give us such information as the standard lengths, hanger types etc.

Note here, in the following screenshot, the different Specs I have set for the Rectangular and Round duct. The Rectangular uses **DW144 –LV** and the Round uses **Lindab2010**. This is because the round sections on all the Service Templates ESTmep provides by default are based on 'Bought Out' items from Lindab rather than from manufactured items.



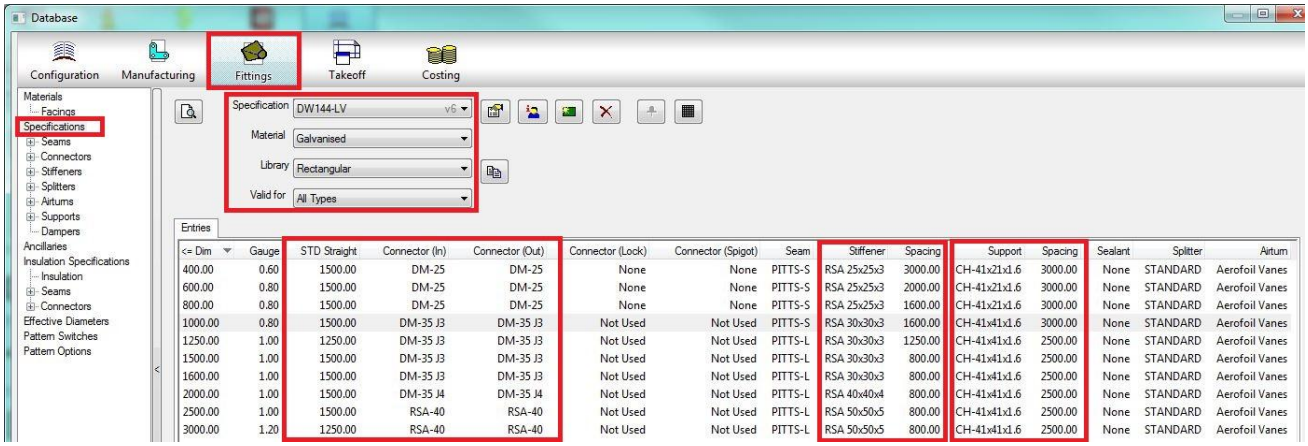
As an aside, if you wanted to use a manufactured round cost basis you would need to create a Round Service Template using the manufactured round fittings shown in the Items Folder below. I will not be showing these steps in this White Paper as it's a whole different topic.



OK, so now we can go and check our Specifications for relevant settings. **Database > Fittings > Specifications**

Rectangular Ductwork: Firstly let's look at the situation for rectangular ductwork. Ensure you select the right combination of Spec and Material. Below is an example from the DW144-LV Galvanised Rectangular settings.

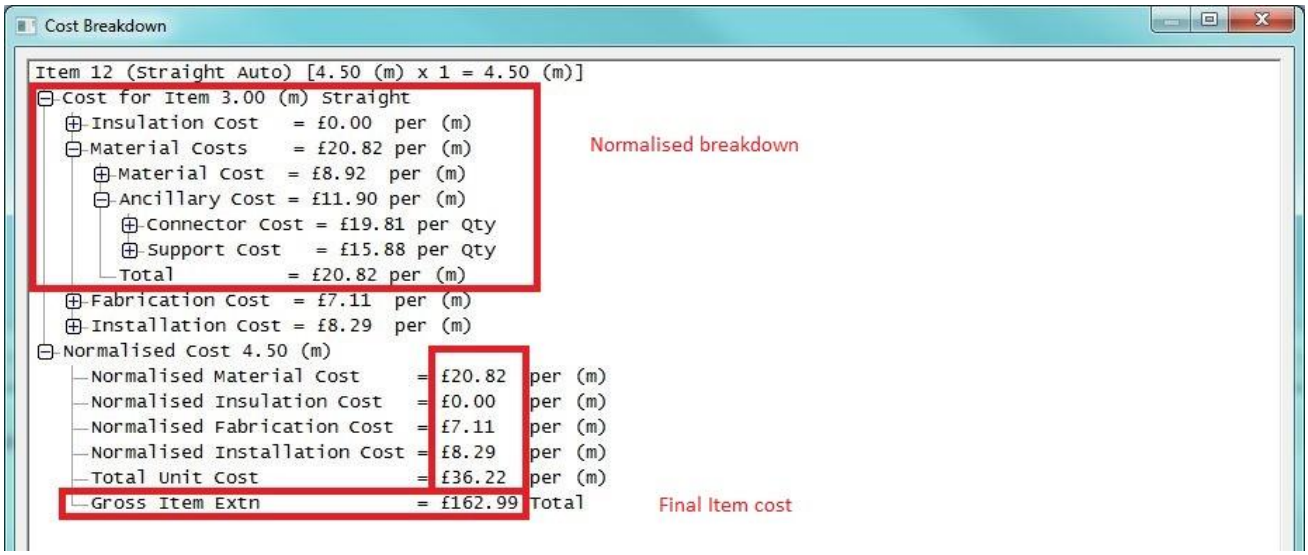
I have highlighted the Standard lengths, Connector, stiffener and Support settings. The spacing values for the stiffener lengths need to be smaller than the STD lengths in order to be placed but the Support lengths only need to be shorter than the normalised length (set previously above).



<= Dim	Gauge	STD Straight	Connector (In)	Connector (Out)	Connector (Lock)	Connector (Spigot)	Seam	Stiffener	Spacing	Support	Spacing	Sealant	Splitter	Airtum
400.00	0.60	1500.00	DM-25	DM-25	None	None	PITTS-S	RSA 25x25x3	3000.00	CH-41x21x1.6	3000.00	None	STANDARD	Aerofoil Vanes
600.00	0.80	1500.00	DM-25	DM-25	None	None	PITTS-S	RSA 25x25x3	2000.00	CH-41x21x1.6	3000.00	None	STANDARD	Aerofoil Vanes
800.00	0.80	1500.00	DM-25	DM-25	None	None	PITTS-S	RSA 25x25x3	1600.00	CH-41x21x1.6	3000.00	None	STANDARD	Aerofoil Vanes
1000.00	0.80	1500.00	DM-35 J3	DM-35 J3	Not Used	Not Used	PITTS-S	RSA 30x30x3	1600.00	CH-41x41x1.6	3000.00	None	STANDARD	Aerofoil Vanes
1250.00	1.00	1250.00	DM-35 J3	DM-35 J3	Not Used	Not Used	PITTS-L	RSA 30x30x3	1250.00	CH-41x41x1.6	2500.00	None	STANDARD	Aerofoil Vanes
1500.00	1.00	1500.00	DM-35 J3	DM-35 J3	Not Used	Not Used	PITTS-L	RSA 30x30x3	800.00	CH-41x41x1.6	2500.00	None	STANDARD	Aerofoil Vanes
1600.00	1.00	1500.00	DM-35 J3	DM-35 J3	Not Used	Not Used	PITTS-L	RSA 30x30x3	800.00	CH-41x41x1.6	2500.00	None	STANDARD	Aerofoil Vanes
2000.00	1.00	1500.00	DM-35 J4	DM-35 J4	Not Used	Not Used	PITTS-L	RSA 40x40x4	800.00	CH-41x41x1.6	2500.00	None	STANDARD	Aerofoil Vanes
2500.00	1.00	1500.00	RSA-40	RSA-40	Not Used	Not Used	PITTS-L	RSA 50x50x5	800.00	CH-41x41x1.6	2500.00	None	STANDARD	Aerofoil Vanes
3000.00	1.20	1250.00	RSA-40	RSA-40	Not Used	Not Used	PITTS-L	RSA 50x50x5	800.00	CH-41x41x1.6	2500.00	None	STANDARD	Aerofoil Vanes

So let's use the **Keyboard Entry** service to have a look at the costs. I've placed a 600x400 duct 4.5m long…

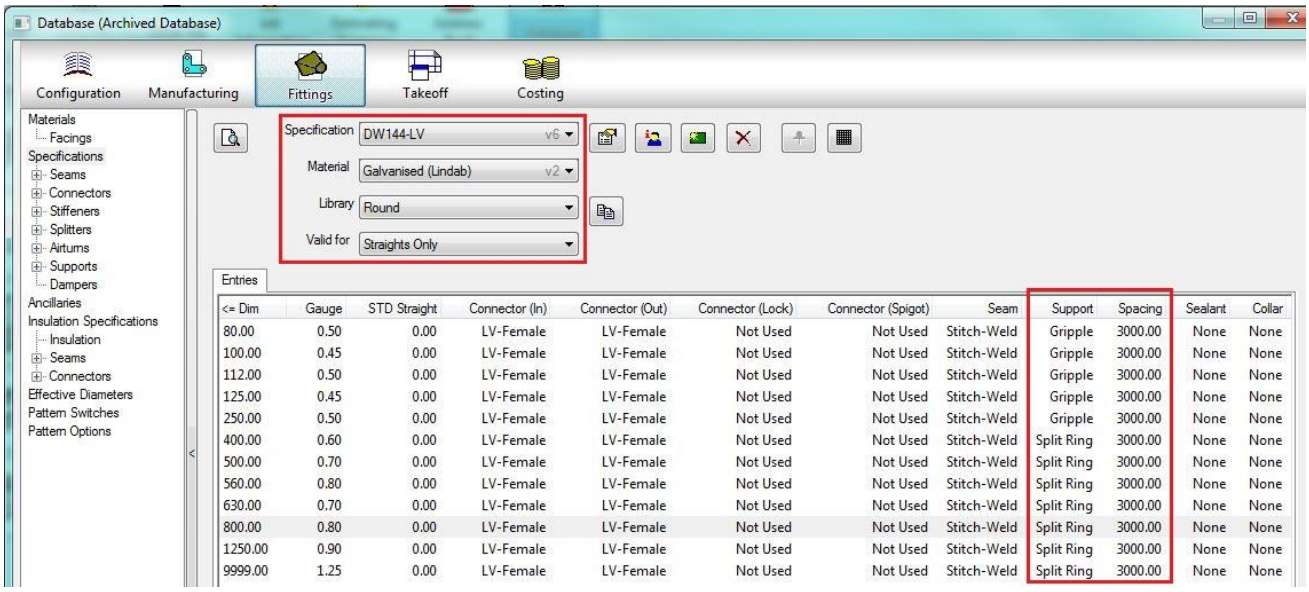
And looking at the **Cost Breakdown** you can see the items required for the normalised length and how much they work out at per/m. The final price is then this per/m cost multiplied by the duct length.



So we have a a normalised price that includes all items and from here a total item cost of the length of ductwork we entered.

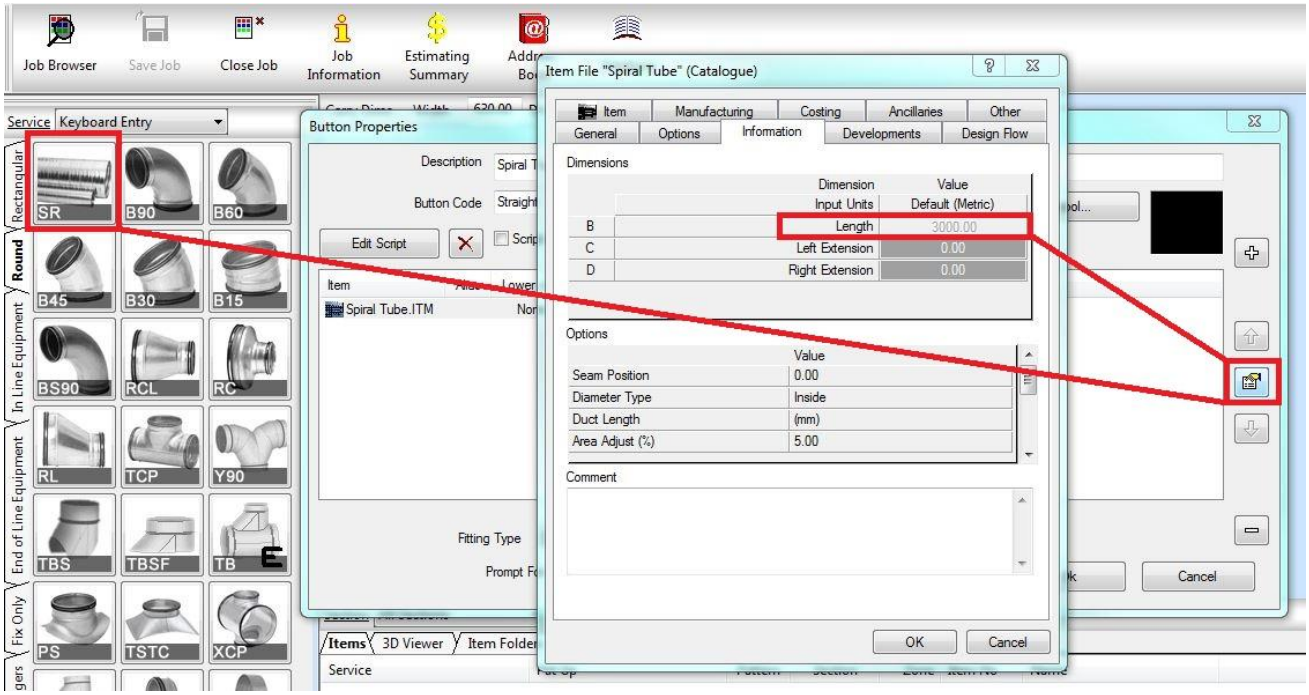
Round Ductwork: Below is an example from the DW144-LV Galvanised Rectangular settings.

I have highlighted the Connector and Support settings. The spacing values for any stiffener lengths need to be smaller than the STD lengths in order to be placed but the Support lengths only need to be shorter than the normalised length (set previously above).

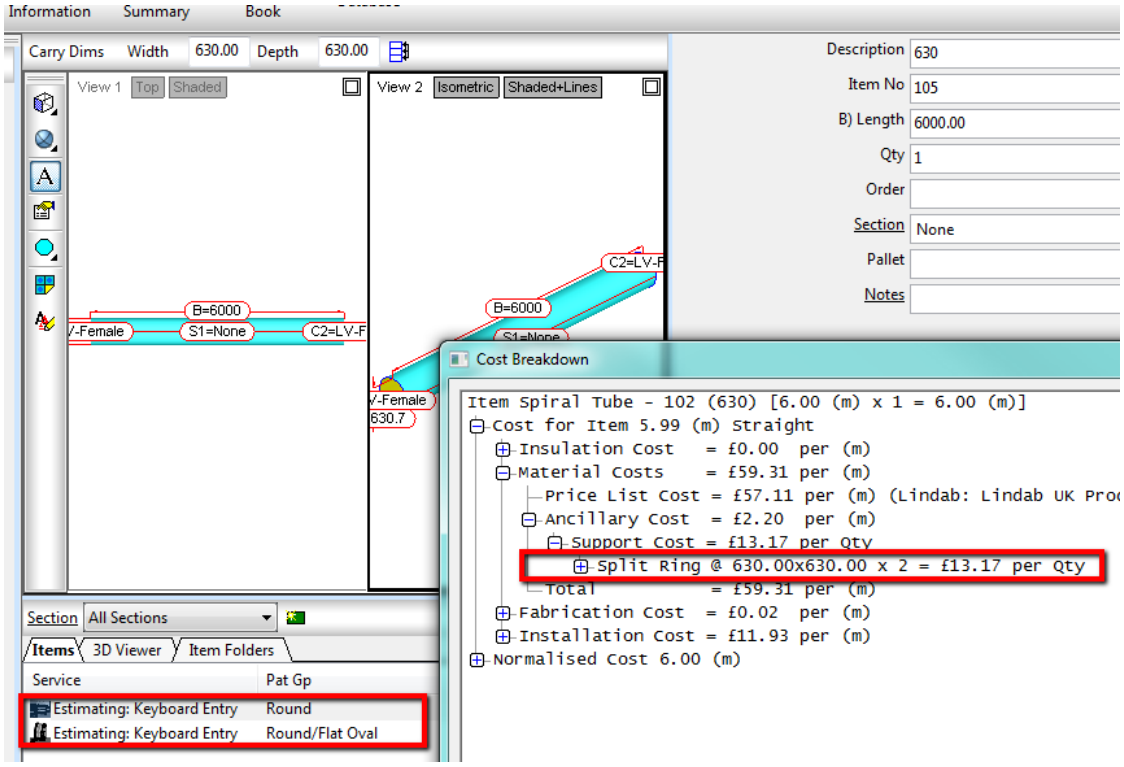


<= Dim	Gauge	STD Straight	Connector (In)	Connector (Out)	Connector (Lock)	Connector (Spigot)	Seam	Support	Spacing	Sealant	Collar
80.00	0.50	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Gripple	3000.00	None	None
100.00	0.45	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Gripple	3000.00	None	None
112.00	0.50	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Gripple	3000.00	None	None
125.00	0.45	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Gripple	3000.00	None	None
250.00	0.50	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Gripple	3000.00	None	None
400.00	0.60	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Split Ring	3000.00	None	None
500.00	0.70	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Split Ring	3000.00	None	None
560.00	0.80	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Split Ring	3000.00	None	None
630.00	0.70	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Split Ring	3000.00	None	None
800.00	0.80	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Split Ring	3000.00	None	None
1250.00	0.90	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Split Ring	3000.00	None	None
9999.00	1.25	0.00	LV-Female	LV-Female	Not Used	Not Used	Stitch-Weld	Split Ring	3000.00	None	None

Note that the straight segments are bought out lengths and thus not taken from the spec. Therefore the standard length is taken from the item pattern. Right click on the button code to get through to the properties shown below…



Note the couplings, which get placed as separate items rather than as ancillary items on the main section. See below to see the supports as ancillary items and the coupling as a separate item…



Lastly, ensure that your menu item has couplings being placed automatically but not supports…