DWG and IFC from CADmep to Revit MEP

An alternative to loading geometry via a .RIF file mapping.

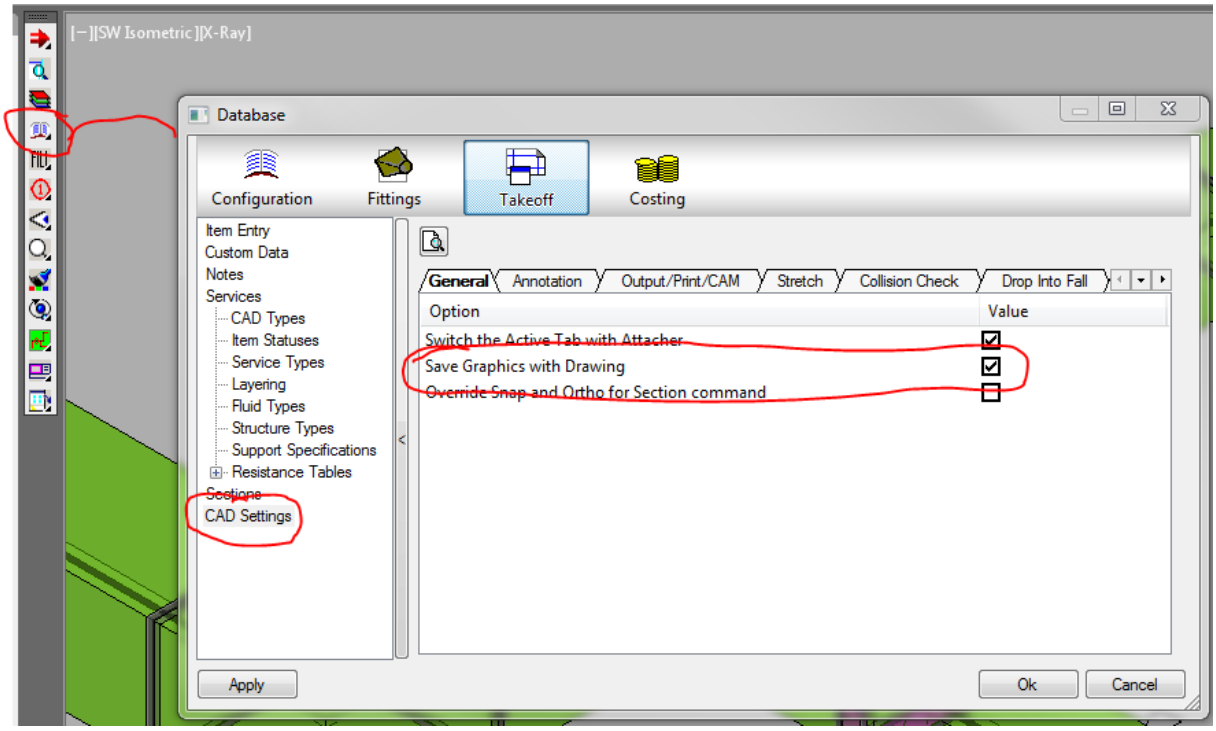
For Architects and MEP Designers creating 'Design Intent' models in Revit there is the .RIF file export to send those models to Autodesk Fabrication Products. This same mechanism can be used to bring models in from Fabrication products back in Revit as well. However the .RIF file transfer mechanism is a mapping exercise from Fabrication 'Button Code Parts' to Revit Family Parts and this of course will introduce some margin of difference between the two geometries. That difference is down to a number of installation criteria, user specific options and workflow decisions. The situation is compounded with multiple people doing these tasks – co-ordination between people becomes all important.

If there is a requirement to get the exact geometry into a Revit file without any mapping there are 2 options:

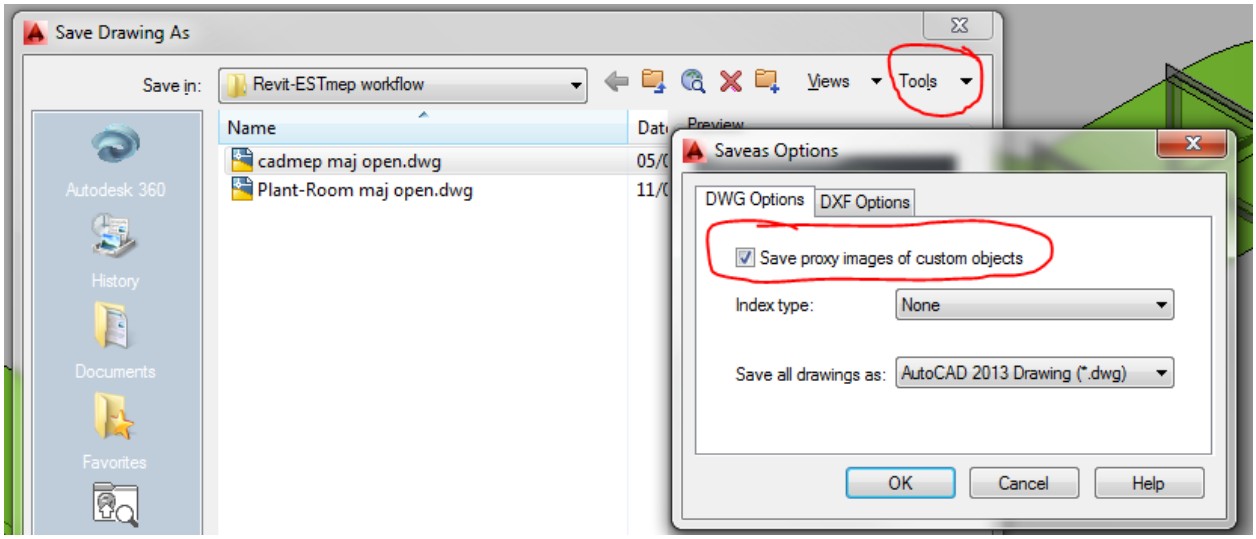
1. Use the traditional Revit Link CAD tool

This will enable us to load the .DWG file from CADmep directly into Revit.

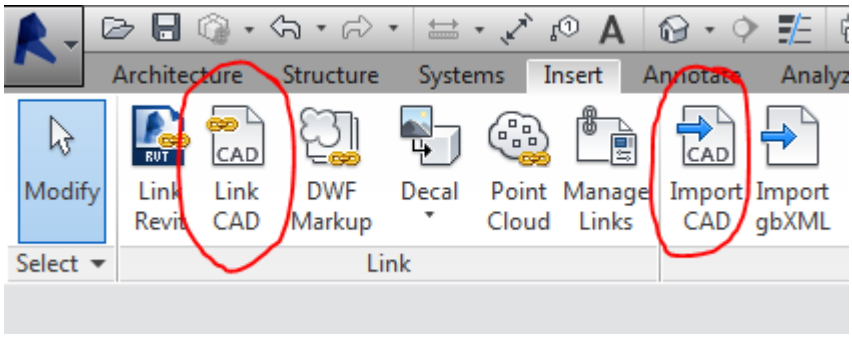
Firstly, in CADmep, ensure you have the correct Takeoff settings to '**Save graphics with Drawing**'…



It is worth checking that you are also saving Proxy graphics as well, check you DWG saving options…

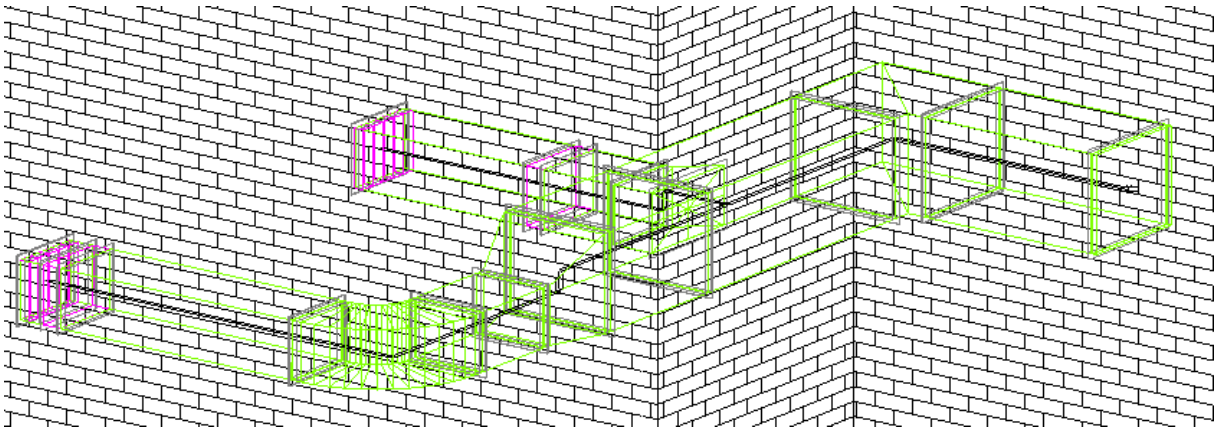


After that you're ready to load into Revit but you will only get outline edges at this stage if you do.



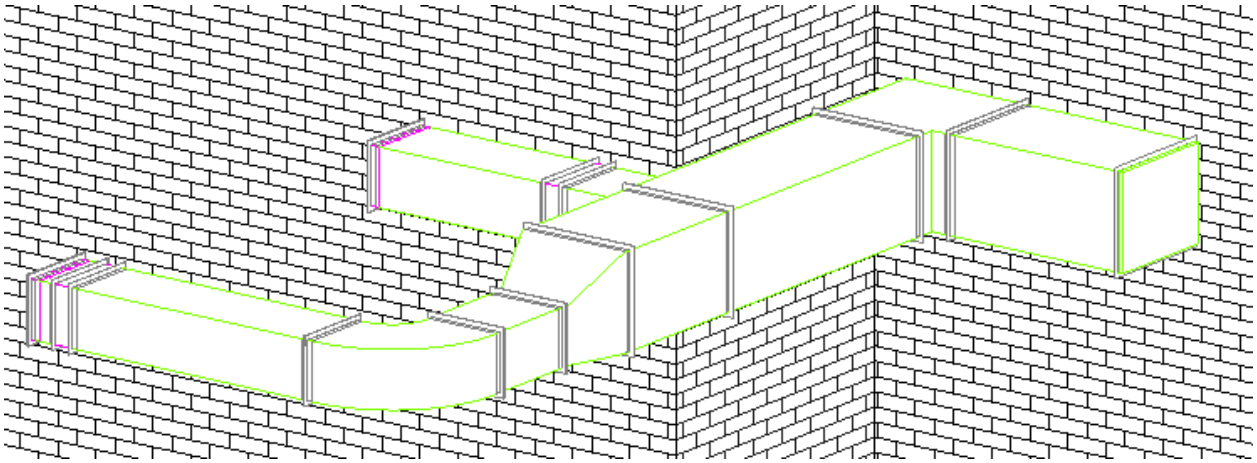
Either Linkning or Importing will work.

In the following screenshot I am showing the result of linking the file…



If you want 3dFaces then you will also have to **EXPLODE** all the CADmep objects in the DWG file as well. Obviously you will not want to do this to your original, so I suggest saving a copy to explode and link into Revit.

Following is the same linked file but now with exploded CADmep objects…

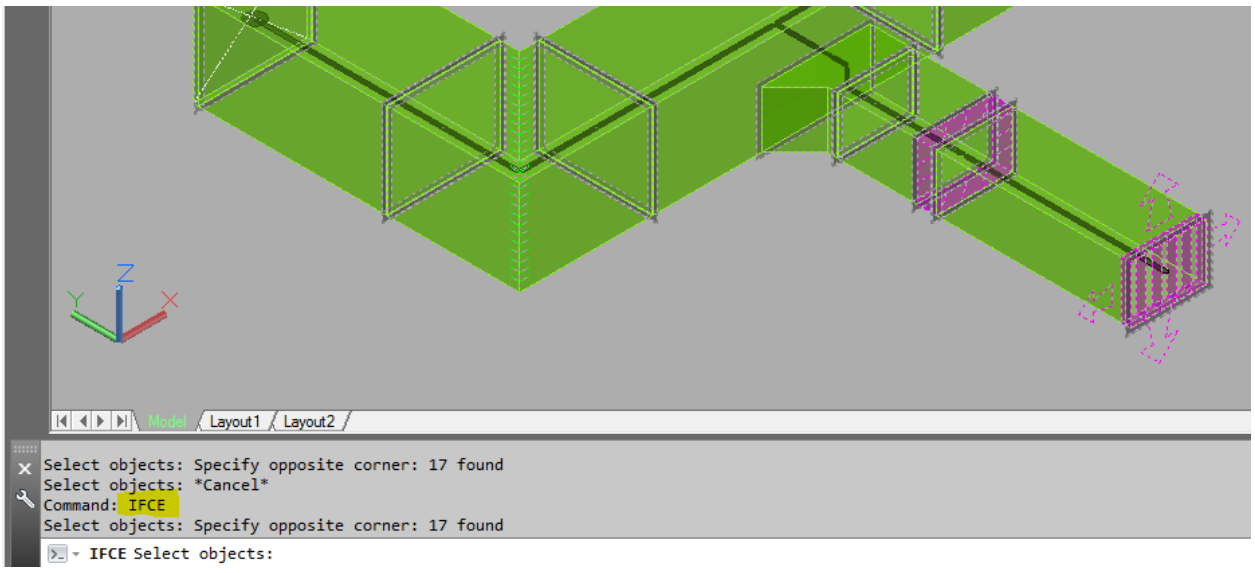


Additionally, if you load this CAD file into a Revit Family and then into your Revit Project then not only is it nicely encapsulated it and it will also work correctly with Revit Sections.

2. Use IFC to import the geometry

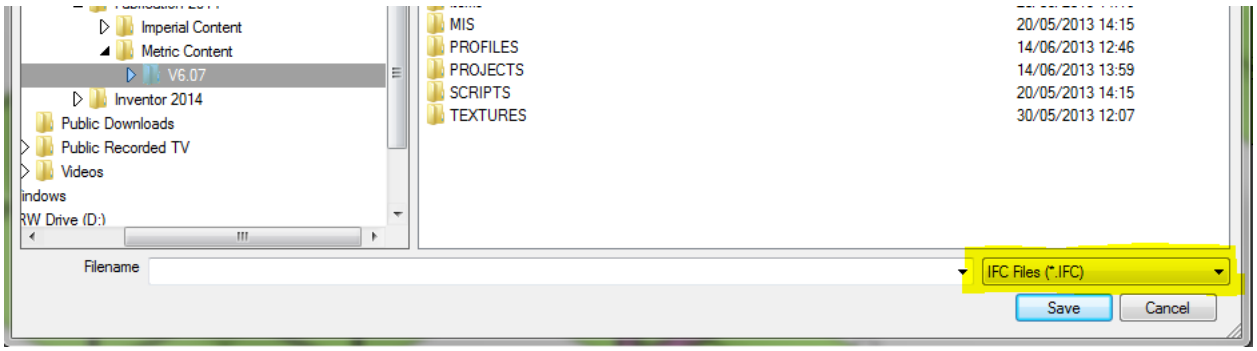
This method allows us to use the standard IFC 2x3 format to pass the geometry across. Of note, of course, is that this can be used for a number of other transfer packages as well. Between DWG and IFC you should have most bases covered.

OK. Starting in your Autodesk Fabrication CADmep file you can use the **IFCE** command – on the CAD screen Right Click > CADMep > Utilities > Export as IFC…



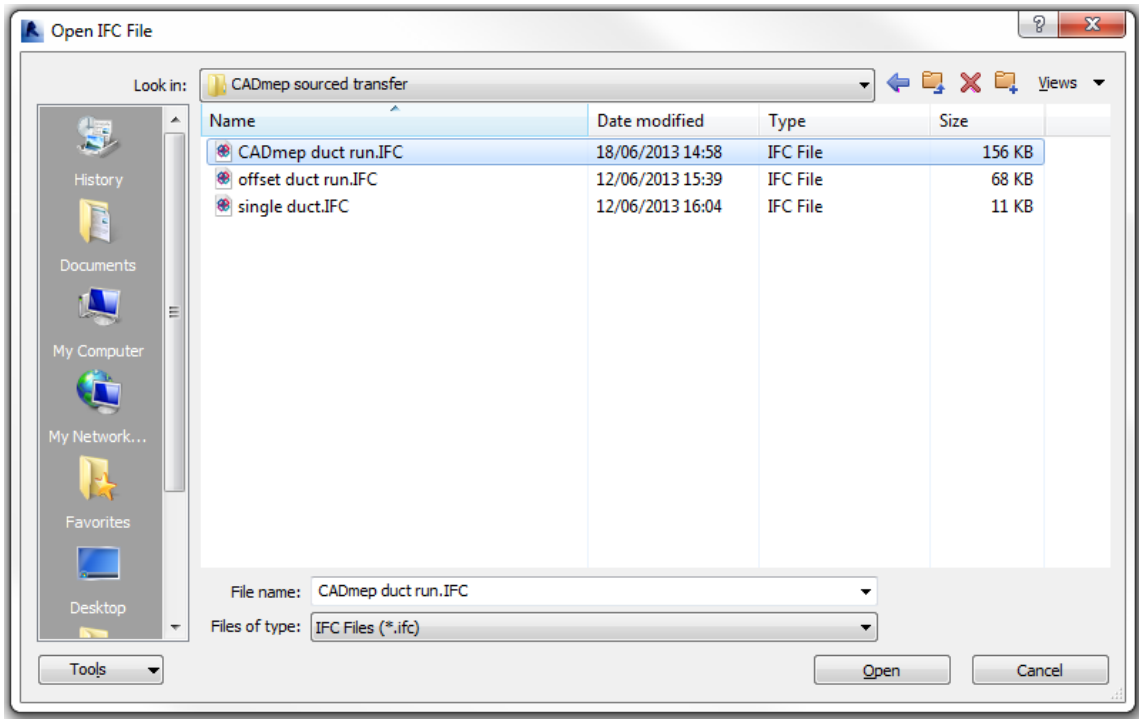
Select the items you want to export and press Enter to select the save file location…

You can use the .IFC .ifcZIP or .ifcXML types for up to Revit 2014.

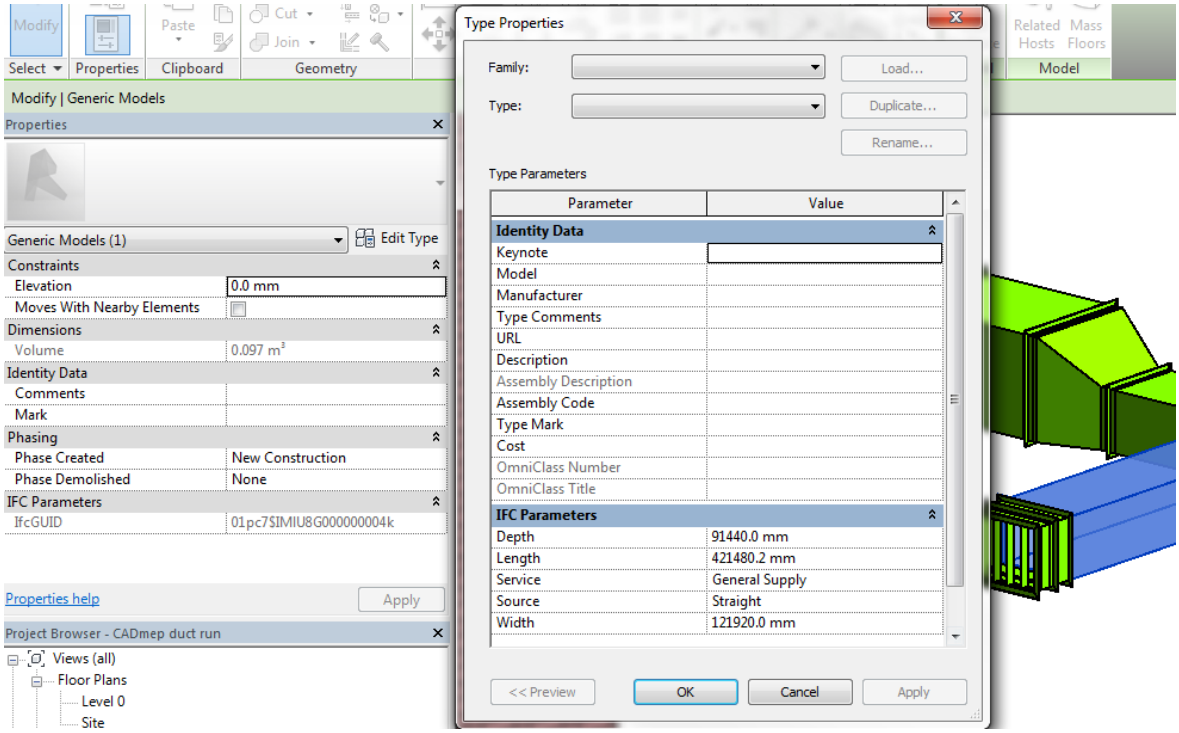


These are using the IFX2x3 format.

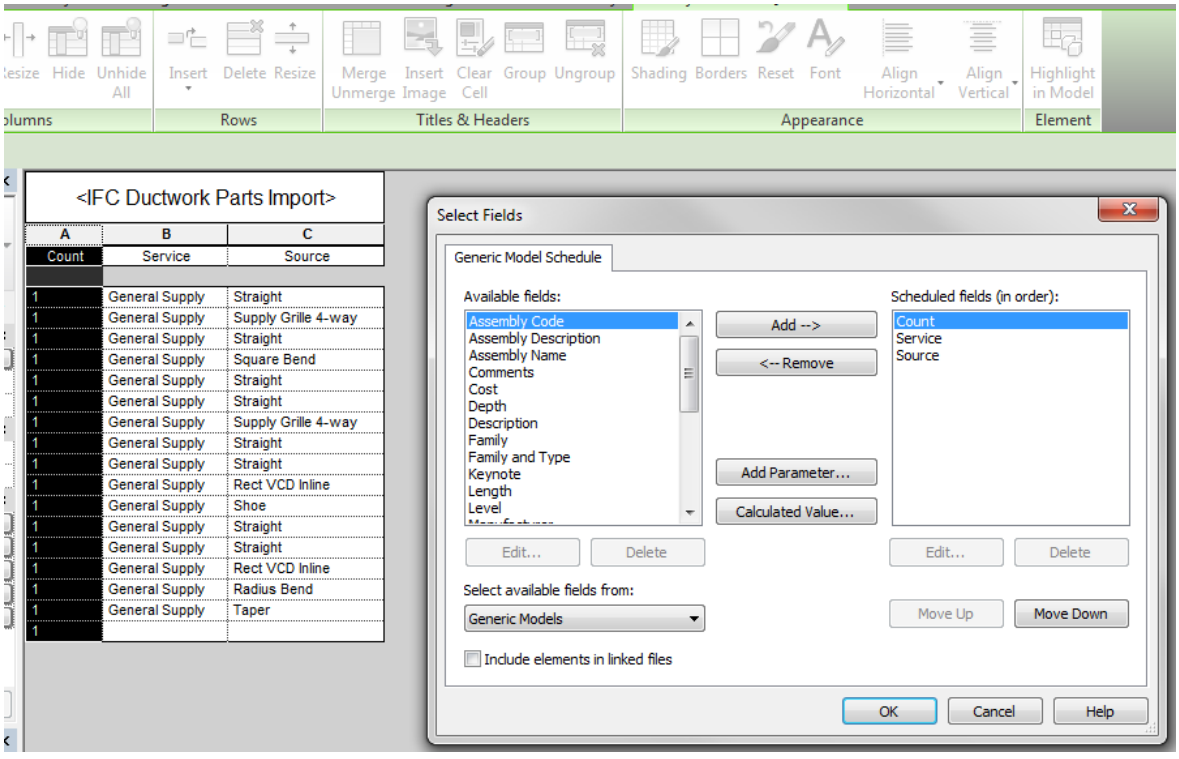
Then in Revit, use the **OPEN** > **IFC** command to select the file and import it directly in. Please note there is a command below this to configure the **IFC Options** but this is not relevant for this workflow from Fabrication products at this time.



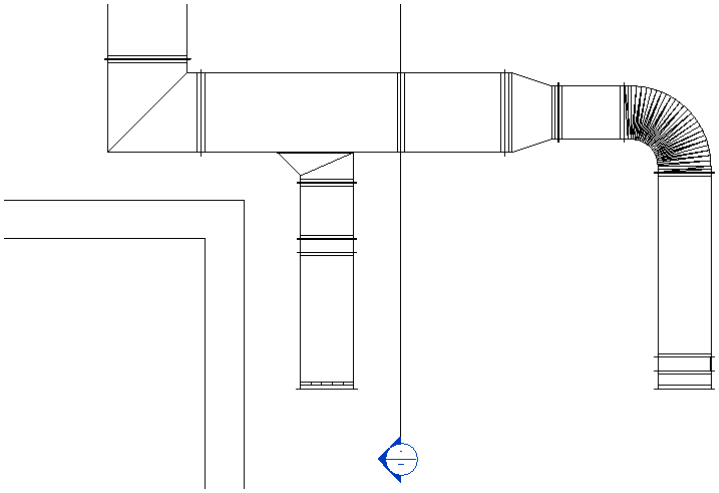
The Properties of the objects will not reveal much, but the Type shows the **ifcProperties** from the part…

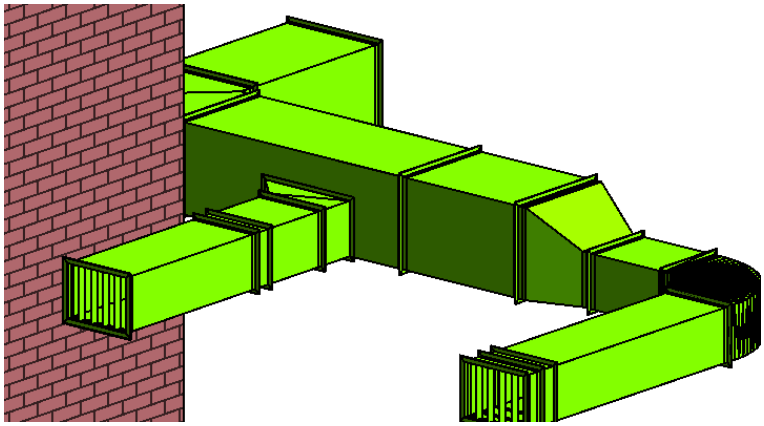


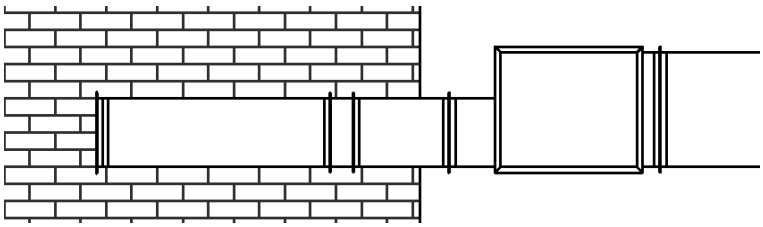
So here as an example I have listed a Schedule of all parts by selecting **Generic Model**, **Service** and **Source…**



So what you get is an exact geometric representation that appears in plan, 3D and Sections…

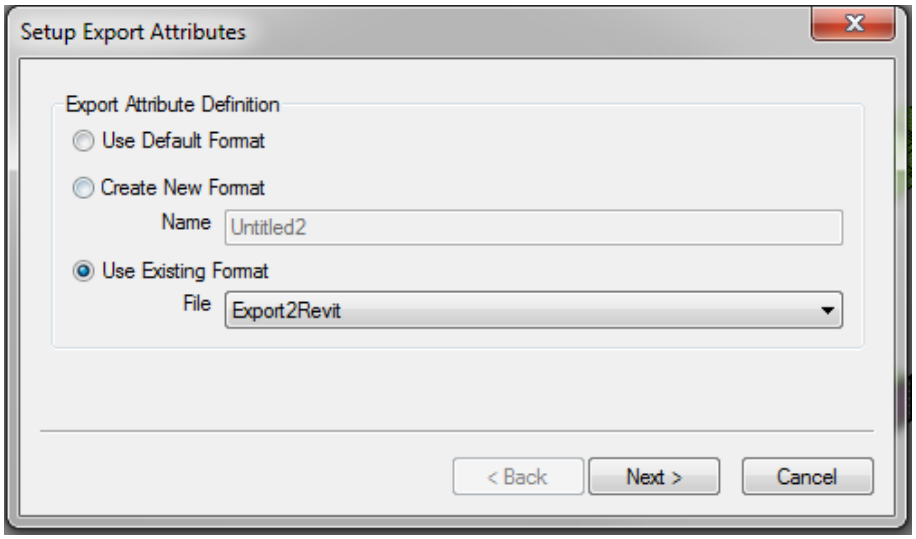




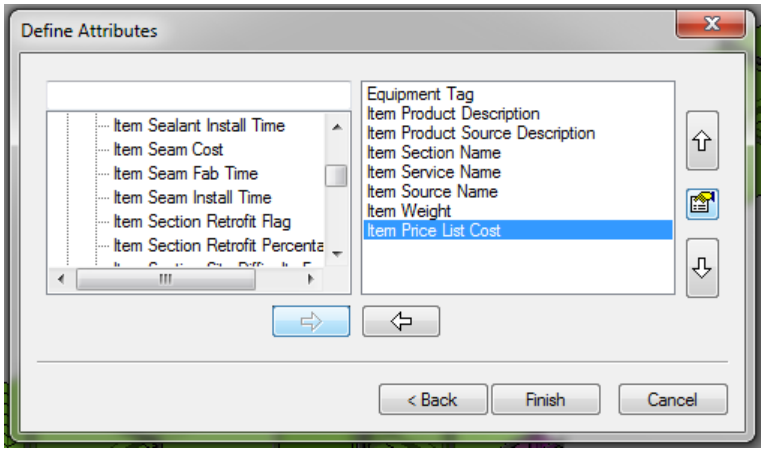


Please note that although there is a command to modify the IFC import options (Revit menu > OPEN > IFC Options) in Revit that at the moment this s not used in the IFC import workflow from CADmep.

Lastly, you may be interested in passing some more information through to the IFC file from CADmep. In CADmep use the **IFCATTR** command to configure what attributes are written out…



Use the **Create New Format** options to select the attributes you want exported…



Good luck working with these workflows.

Remember if you'd like some more help just look us up on www.cadlinecommunity.co.uk , or call the support help desk.