

FAB196972-L

# Revit Fabrication Parts - Design to Spooling Update

Ralph Schoch  
Victaulic

## Learning Objectives

- Learn how to convert a design model to fabrication
- Learn how to efficiently make coordination and design changes
- Learn how to create assemblies and schedules
- Learn how to access data for fabrication

## Description

In this session, we will discuss how to propel your company into Revit 2019 software, exemplifying the advantages of using a singular model throughout the preconstruction process. Learn how the Victaulic VDC Team made the transition to Revit to go from design intent to fabrication spools using the improved functionality of Fabrication Parts. In this session, we will take a Revit design model and convert to Fabrication Parts, make design and coordination changes, define and detail fabrication spools, and create all construction documentation—all without ever leaving Revit. Attendees will gain first access to new 2019 software add-ins that streamline this process with prepopulated templates and content libraries. The session will reinforce best workflow practices and give users the tools they need to take their businesses to the next level.

## Speaker

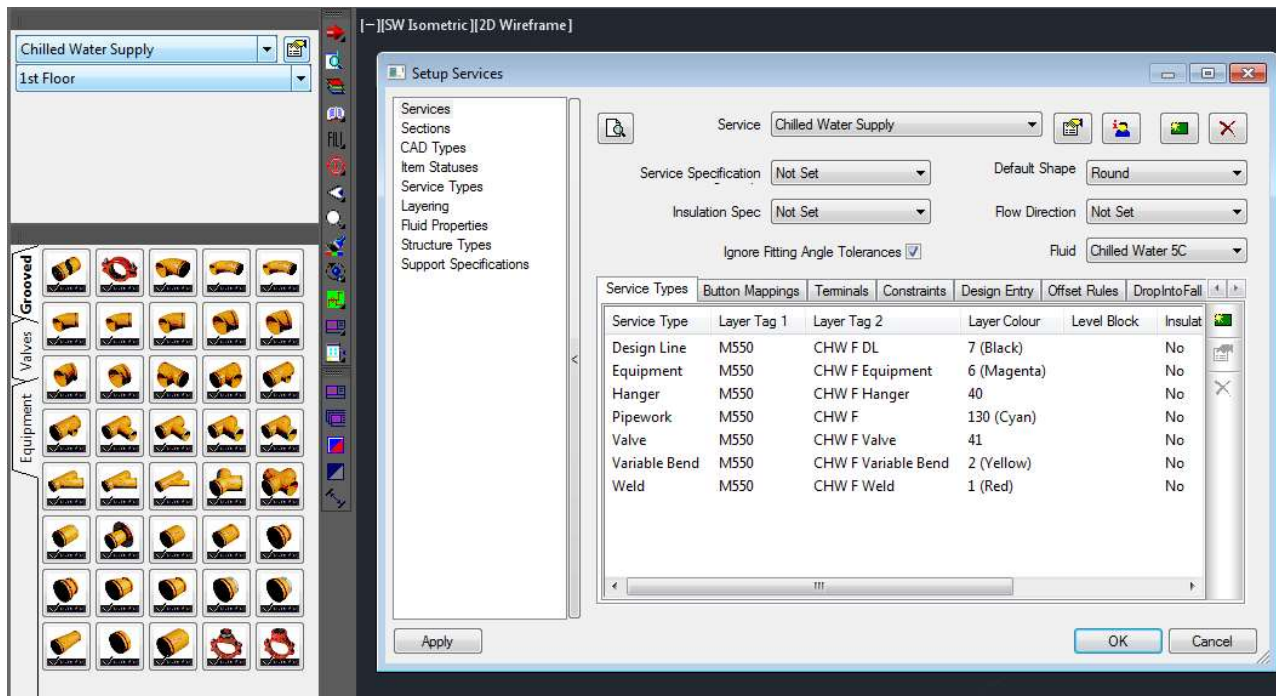
Ralph Schoch is the Software, Technology, and Internal Support Manager in the Virtual Design and Construction (VDC) department at Victaulic, a leading manufacturer of mechanical pipe-joining and fire protection systems. For 23 years he has been devoted to 3D piping system layout and design for global projects. His interest in 3D modeling software led him to begin developing content for Revit in 2009. Ralph develops Revit families and add-in applications that allow engineers and contractors to design piping systems within Revit using Victaulic products. These families and tools have been used around the world from engineering to construction with full fabrication from the Revit model. In addition to Revit, Ralph has experience in Autodesk Fabrication, Navisworks, Inventor, Solidworks, and Bentley Autoplant. He is a board member for the Lehigh Valley BIM Professionals Group and is a member of Autodesk Developers Network and Professional Member of AUGI. He also enjoys speaking at conference events for Autodesk University, BILT, and various other industry events.

## What are Fabrication Parts?

Autodesk Fabrication – CADmep is an AutoCAD arx based software developed in the late 1980's by MAP out of Europe. It uses the same database thru its suite of products (FABmep, ESTmep, & CAMduct).

There are three basic elements to fabrication.

- Configuration/Database – contains connector, specification, & pricing information
- ITM files – Based off specific patterns developed by Autodesk (One pattern for all elbows, one pattern for all valves)
- Services – Define what products are placed when routing a specific system based on pipe size and material.

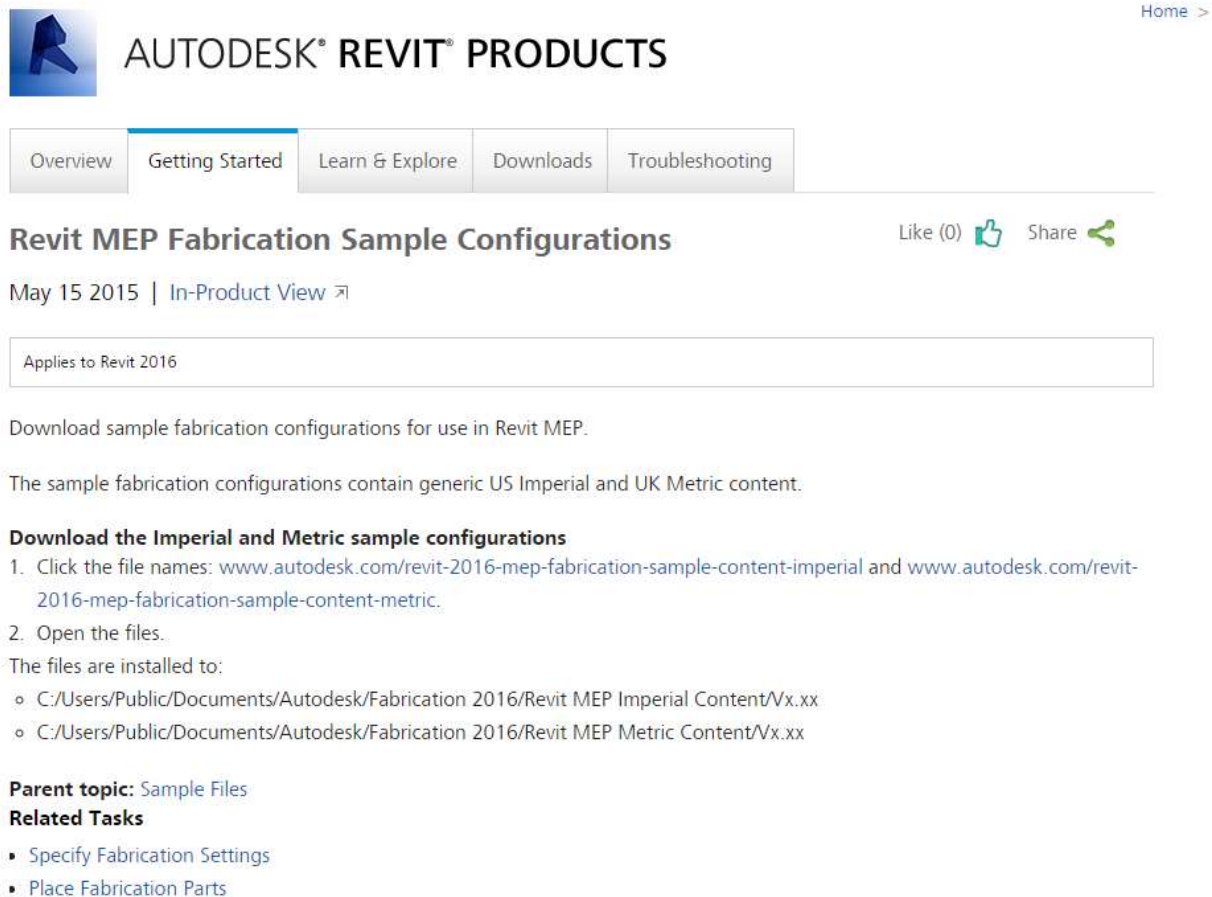


## Fabrication Parts Setup

To be able to route with fabrication parts you need to have an Autodesk Fabrication database. For Revit 2016 if you don't currently own the Fabrication suite you will need to download the sample databases provided by Autodesk. By going to the link below you will have the ability to download an Imperial or Metric database.

<http://knowledge.autodesk.com/support/revit-products/getting-started/caas/CloudHelp/cloudhelp/2016/ENU/Revit-GetStarted/files/GUID-12CF009B-3D4B-45D5-84C7-4EDEF2D8C52D-hm.html>

**For Revit 2017 and 2018 sample configurations are available during the installation of Revit. (Skip this step)**



The screenshot shows the Autodesk Revit Products page for "Revit MEP Fabrication Sample Configurations". The page has a navigation bar with tabs: Overview, Getting Started (selected), Learn & Explore, Downloads, and Troubleshooting. The main content area includes a title "Revit MEP Fabrication Sample Configurations", a date "May 15 2015", and an "In-Product View" link. A box indicates "Applies to Revit 2016". The text describes downloading sample fabrication configurations for use in Revit MEP, noting they contain generic US Imperial and UK Metric content. It provides instructions on how to download the Imperial and Metric sample configurations, including file names and paths. The page also includes a "Parent topic" link to "Sample Files" and a "Related Tasks" section with links to "Specify Fabrication Settings" and "Place Fabrication Parts".

**AUTODESK® REVIT® PRODUCTS**

Home >

Overview Getting Started Learn & Explore Downloads Troubleshooting

### Revit MEP Fabrication Sample Configurations

Like (0) Share

May 15 2015 | In-Product View

Applies to Revit 2016

Download sample fabrication configurations for use in Revit MEP.

The sample fabrication configurations contain generic US Imperial and UK Metric content.

**Download the Imperial and Metric sample configurations**

1. Click the file names: [www.autodesk.com/revit-2016-mep-fabrication-sample-content-imperial](http://www.autodesk.com/revit-2016-mep-fabrication-sample-content-imperial) and [www.autodesk.com/revit-2016-mep-fabrication-sample-content-metric](http://www.autodesk.com/revit-2016-mep-fabrication-sample-content-metric).
2. Open the files.

The files are installed to:

- C:/Users/Public/Documents/Autodesk/Fabrication 2016/Revit MEP Imperial Content/Vx.xx
- C:/Users/Public/Documents/Autodesk/Fabrication 2016/Revit MEP Metric Content/Vx.xx

**Parent topic:** [Sample Files](#)

**Related Tasks**

- [Specify Fabrication Settings](#)
- [Place Fabrication Parts](#)

## Importing and Exporting Fabrication

To import or export fabrication parts you will need to download the Revit Extension for Fabrication. This can be found on the Autodesk Desktop Application.

<https://knowledge.autodesk.com/search-result/caas/sfdarticles/sfdarticles/About-Autodesk-desktop-app.html>

You will also need access to the Fabrication database that was used to create the model. This can be a sizeable task since a working database can be over 500mb and contains over 17,000 files. You can also find contractors will not freely provide this database as it contains trade secret information on how they fabricate their duct components and may represent years of development.

For this reason I would recommend the contractor to provide a Revit project with all the fabrication parts imported. Keep in mind that if you want to make changes to the fabrication parts service templates you will need to have the fabrication database.

<https://apps.exchange.autodesk.com/en>

AUTODESK EXCHANGE
APPS
English
Forum
Sign In

Go to:
Select Product Store
Search Exchange Apps
Revit
Show All

Revit > Item Detail



**Revit Extension for Fabrication**  
Autodesk, Inc.  
★★★★★ (6 reviews)

Tweet
0
Like
8

OS: Win64
Language: English

**Description**

With the Autodesk® Revit® Extension for Autodesk® Fabrication, Autodesk® Revit® 2016 software users can save models that have been produced in Revit 2016 or Revit MEP 2016 using Fabrication Parts to a file compatible with Autodesk® Fabrication 2016 software products (Fabrication CADmep, Fabrication ESTmep, Fabrication CAMduct). This interoperability allows users to utilize fabrication model data authored in Revit for use in Fabrication workflows. Additionally, supported parts in models created in the Fabrication software products can be opened for continued modelling in Revit, or Revit hand-off at the end of the project.

[Read Help Document](#)

**About This Version**

Version 1.0, 8/5/2015  
First Release

## Available Parts

Search Autodesk Fabrication Parts Database

<http://aec-projects.com/autodesk-fabrication/search-itm-content/>



## Autodesk Fabrication & Autodesk Revit Search Fabrication Parts

Fabrication Parts, or .ITM files, are individual pieces of content that represent the geometrical dimensions and the associated data of the manufacturers' product. They are native to Autodesk Fabrication software products, Autodesk Revit 2016 software, and Autodesk Revit MEP 2016 software.

Autodesk provides an extensive sample dataset of building manufacturers' product content in both imperial and metric units that can be used to build databases that suit the needs for your business or project.

You can search the available content using the fields below. To download individual Fabrication Parts, visit [www.building3dcontent.com](http://www.building3dcontent.com).

Content last updated on **April 2, 2015**

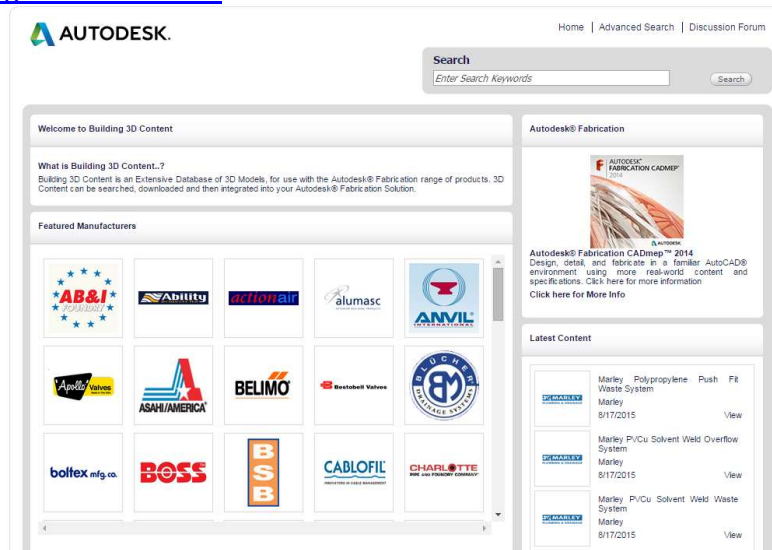
### Group: Mechanical

[BACK](#)

| Manufacturer:                          | Range                                   | Material                                   | Description                                                 | Sizes        |
|----------------------------------------|-----------------------------------------|--------------------------------------------|-------------------------------------------------------------|--------------|
| <input type="text" value="Victaulic"/> | <input type="text" value="All Ranges"/> | <input type="text" value="All Materials"/> |                                                             |              |
| Victaulic                              | IPS                                     | Carbon Steel                               | No29M - Tee (Threaded)<br>(Fabricated)                      | Multiple (+) |
| Victaulic                              | IPS                                     | Carbon Steel                               | No53 - Swaged Nipple<br>(Grooved x Grooved)<br>(Fabricated) | Multiple (+) |

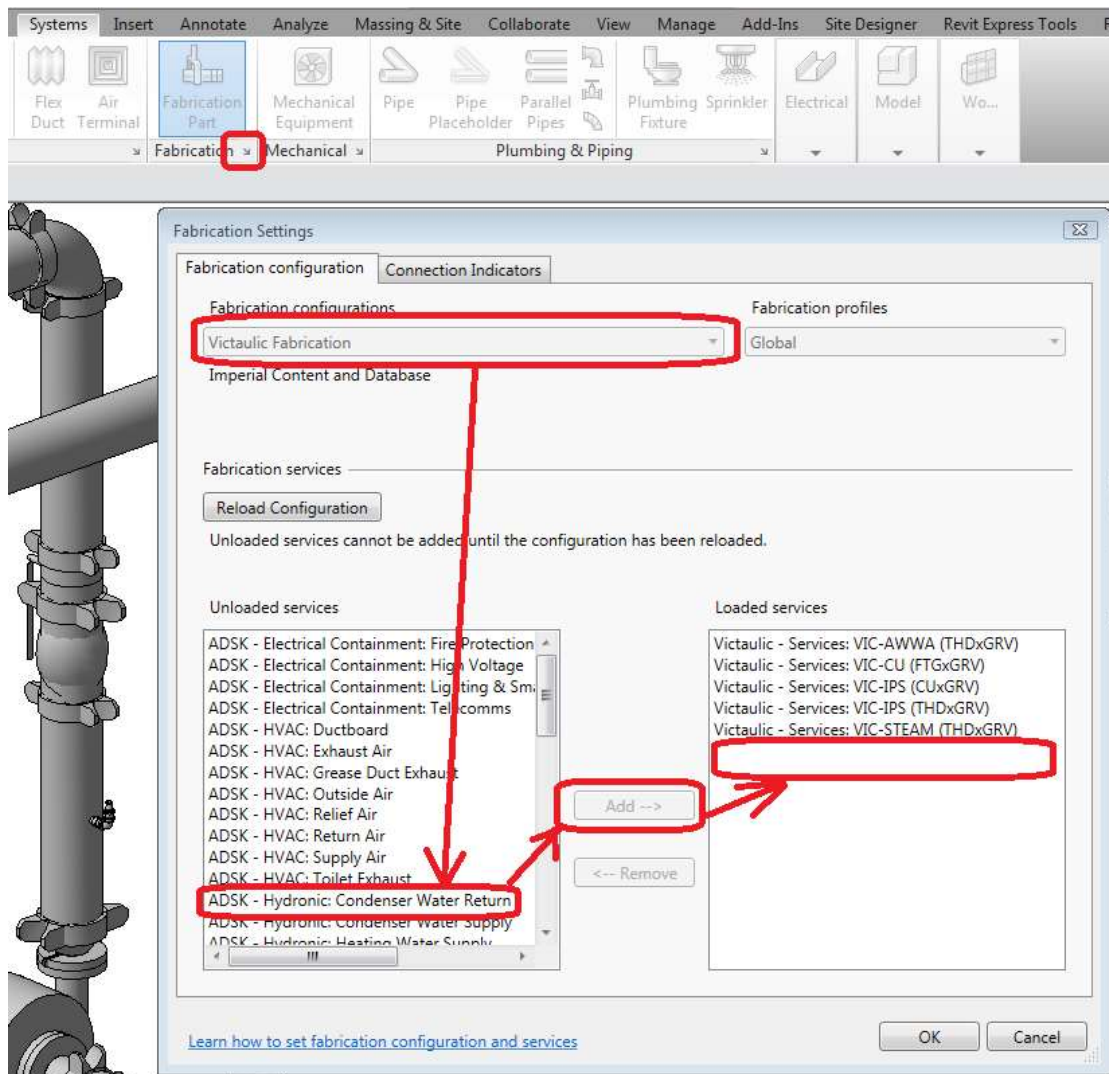
IEZ file are used to import content into your service using the fabrication software.

<http://www.building3dcontent.com/>

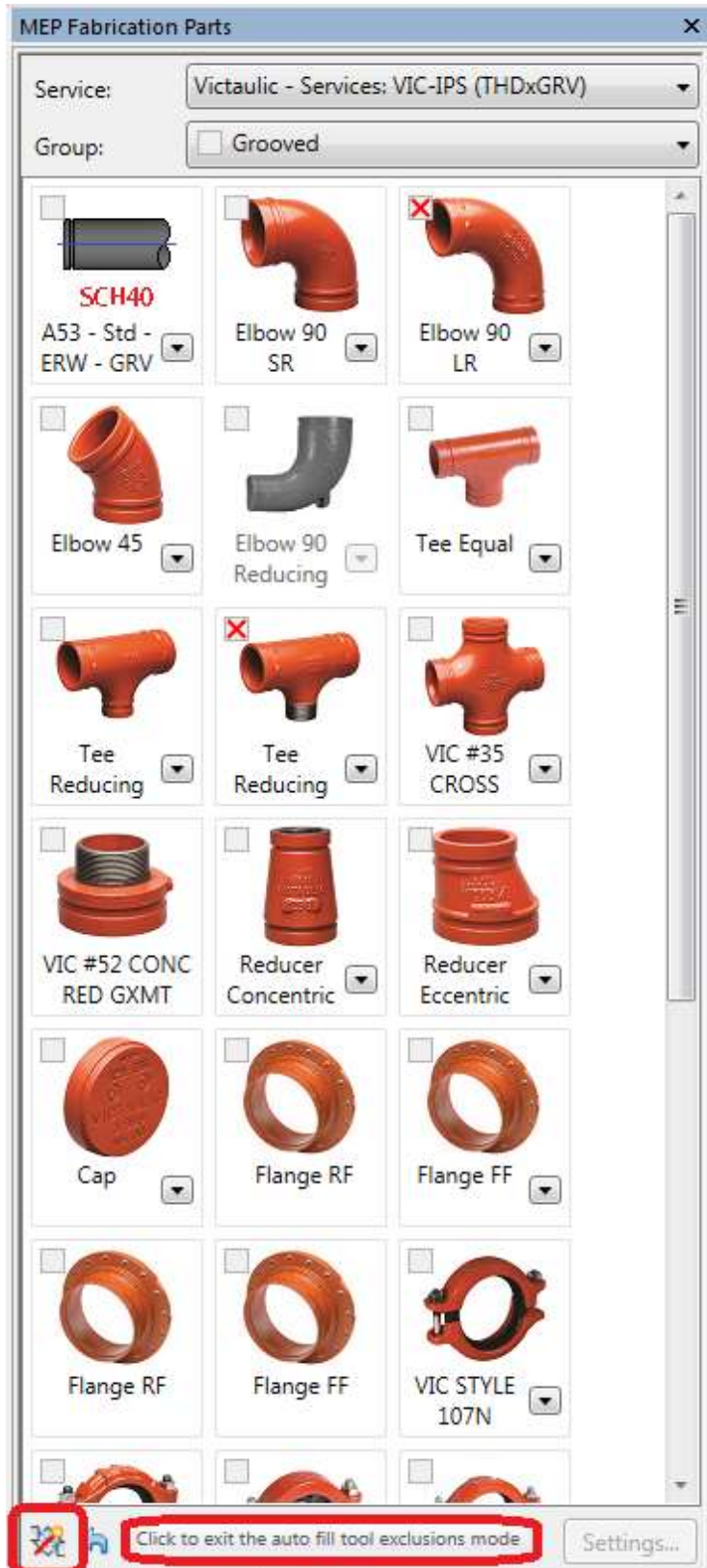


## Accessing the Fabrication Configuration in Revit

Keyboard shortcut “FS” you will access the Fabrication Settings window, there you can select the desired fabrication configuration. Imperial and Metric configurations are available or load a customize company specific configuration. Note: To customize the configuration this is limited to the Fabrication software and not currently available in Revit.



## Placing Fabrication Parts



Using the keyboard shortcut "PB" the MEP Fabrication Parts palette will appear.

Select your desired Service and Group.

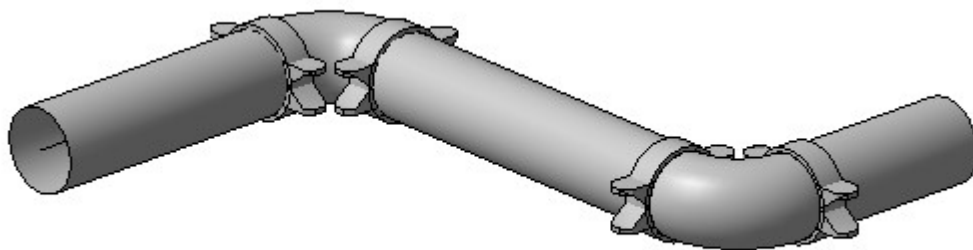
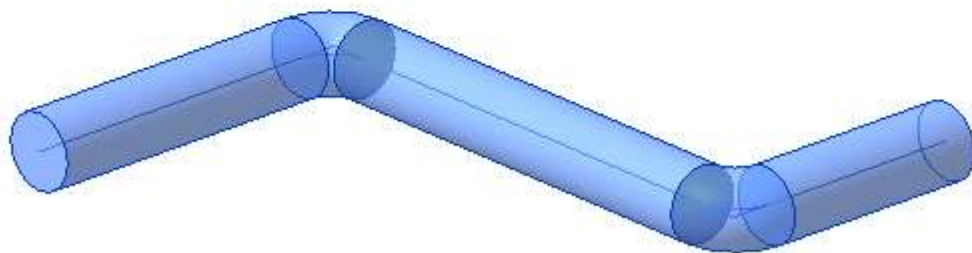
Now you can place fabrication parts using any of the parts buttons.

Notice some buttons have an arrow revealing additional parts available in the same button.

With Revit 2017.1 you now have the auto fill tool exclusions mode.

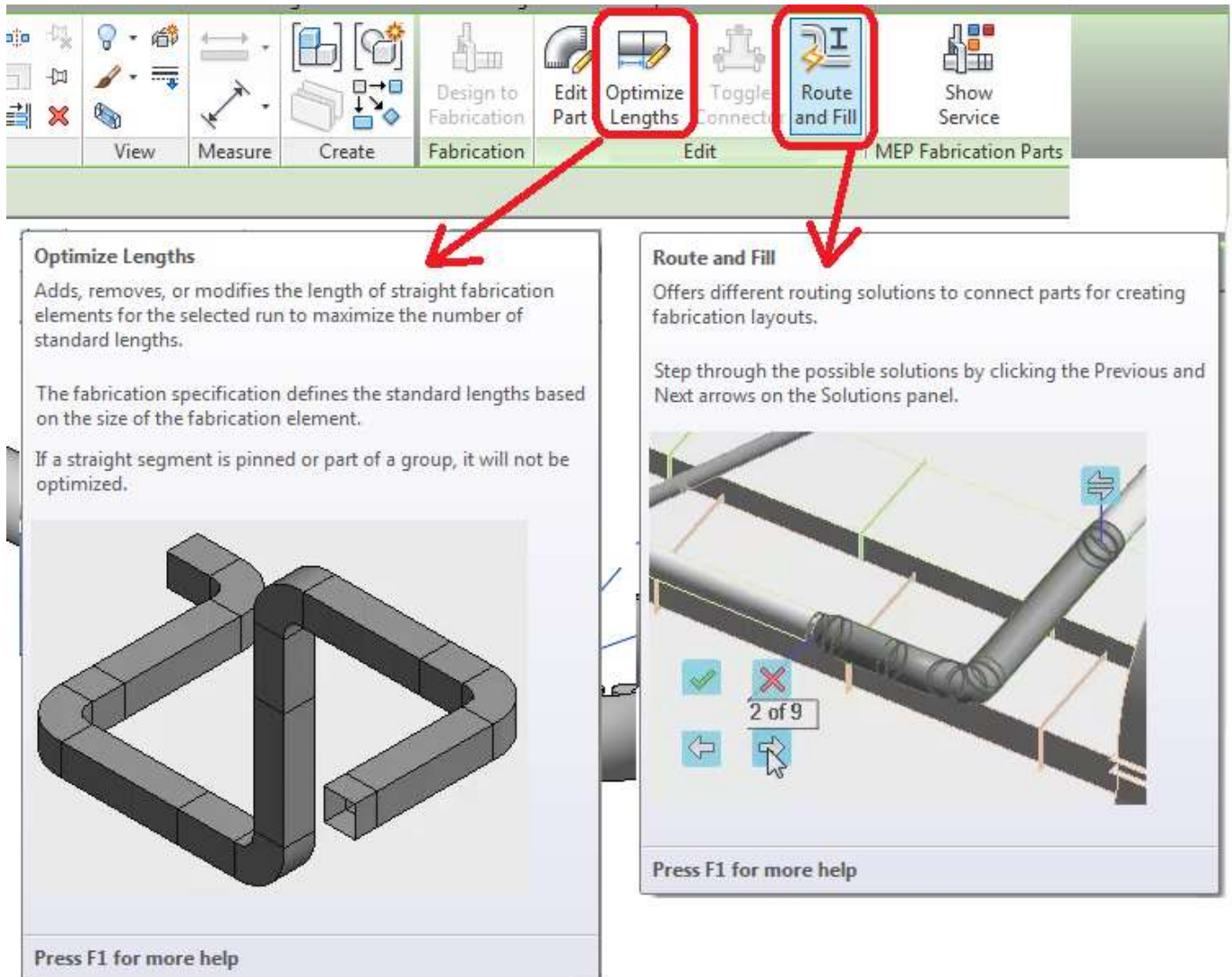
## Design to Fabrication

Convert Revit design routings to fabrication parts by making a selection and you will see the Design to Fabrication button appear in the contextual ribbon. This also allows you to convert to fabrication parts.



## Fabrication Routing

Select a run of parts and have the option to Optimize Lengths and Route and Fill.



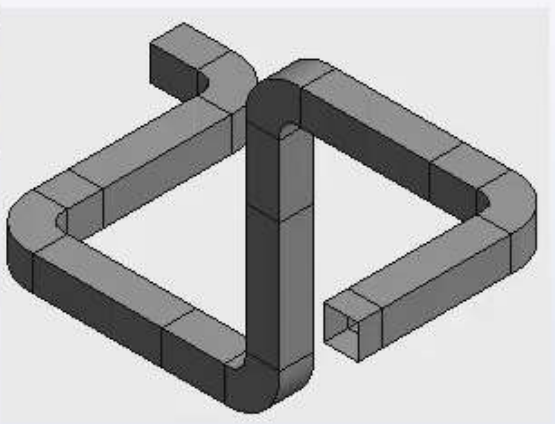
The screenshot shows the Autodesk software interface with the **Fabrication** ribbon active. The **Optimize Lengths** and **Route and Fill** buttons are highlighted with red boxes. Red arrows point from these buttons to their respective help panels below.

### Optimize Lengths

Adds, removes, or modifies the length of straight fabrication elements for the selected run to maximize the number of standard lengths.

The fabrication specification defines the standard lengths based on the size of the fabrication element.

If a straight segment is pinned or part of a group, it will not be optimized.

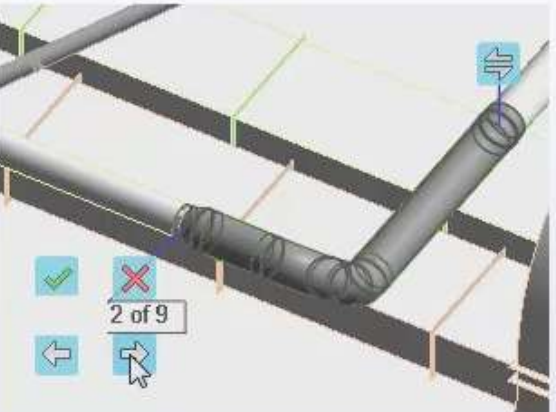


Press F1 for more help

### Route and Fill

Offers different routing solutions to connect parts for creating fabrication layouts.

Step through the possible solutions by clicking the Previous and Next arrows on the Solutions panel.

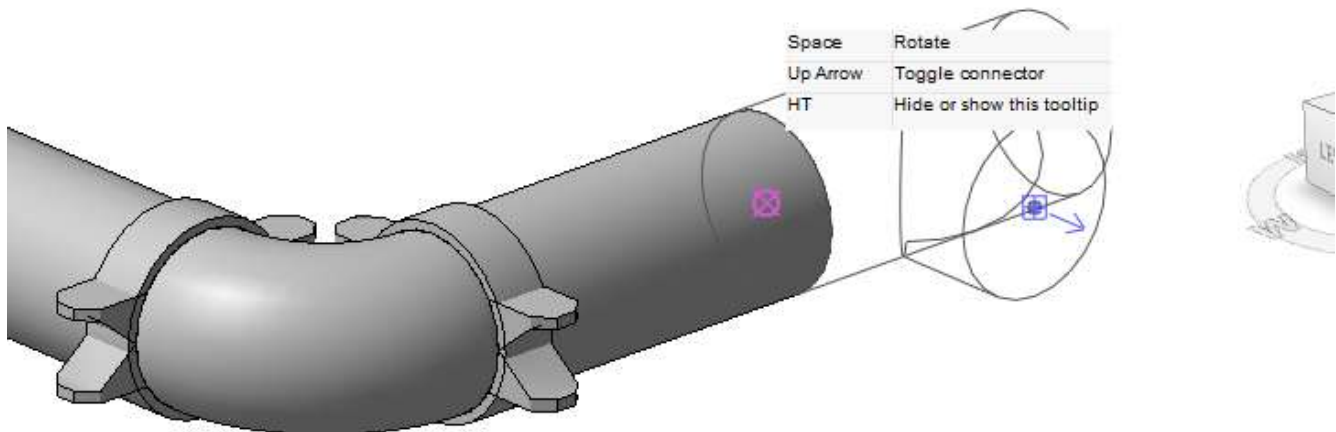
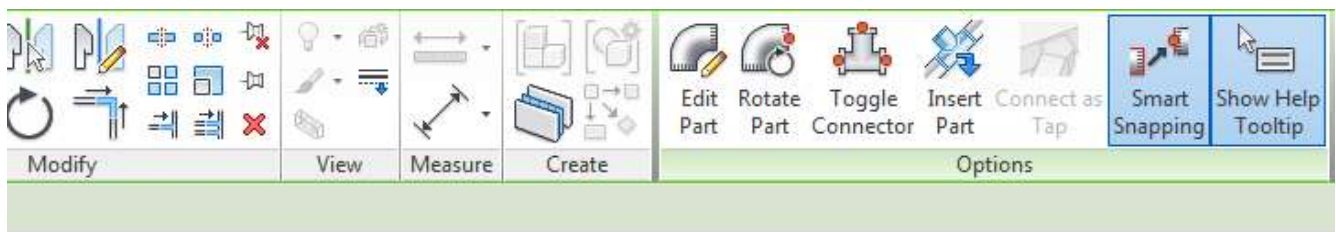


Press F1 for more help

## Fabrication Routing

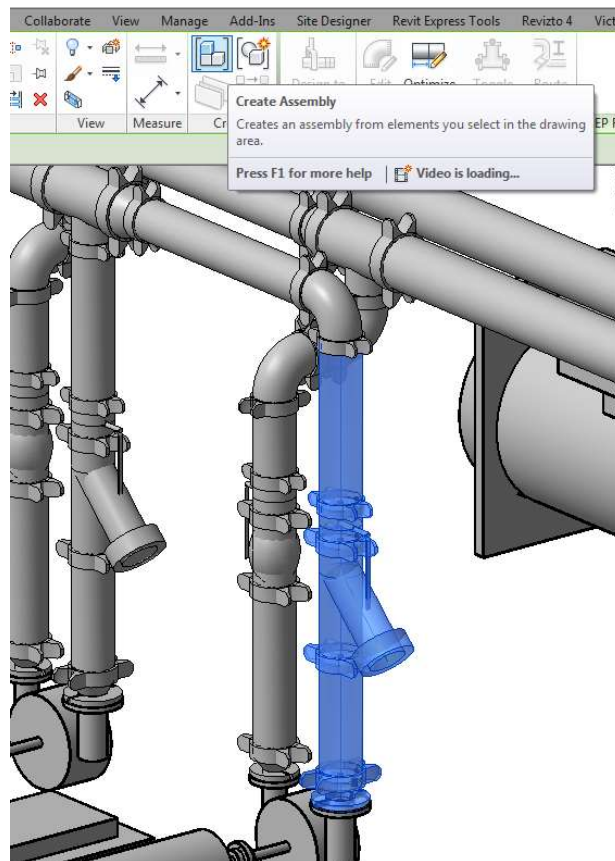
As you place fabrication parts you are presented many options.

- Rotate Part (Space Bar)
- Toggle Connector (Up Arrow)
- Insert Part (Set to a Keyboard Shortcut)
- Connect as Tap
- Show Help Tooltips

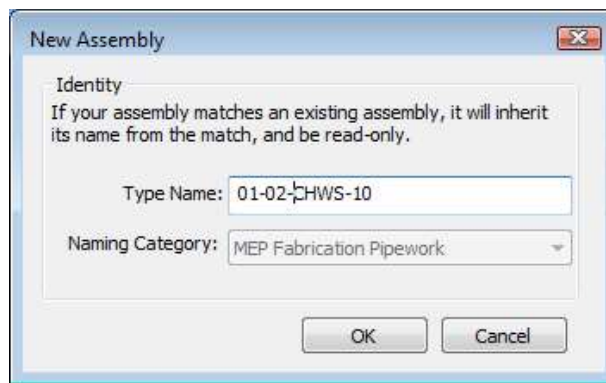


## Creating Assemblies (Spools)

Select the group of components to become the new Assembly. Click the Create Assembly button.

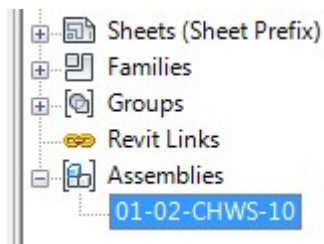


Define the spool name and sequential number.

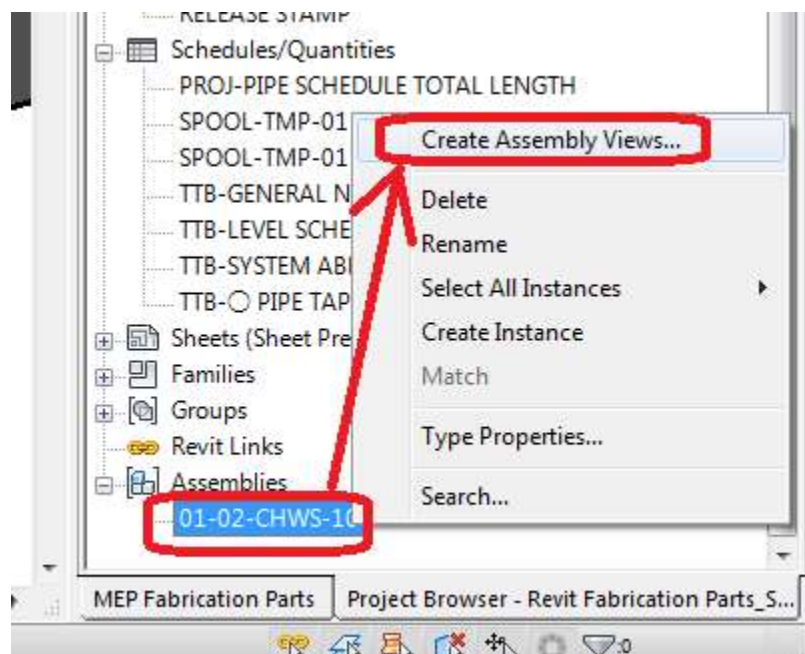


## Creating Assemblies (Spools)

In the bottom of the Project Browser you will see the new Assembly appear.

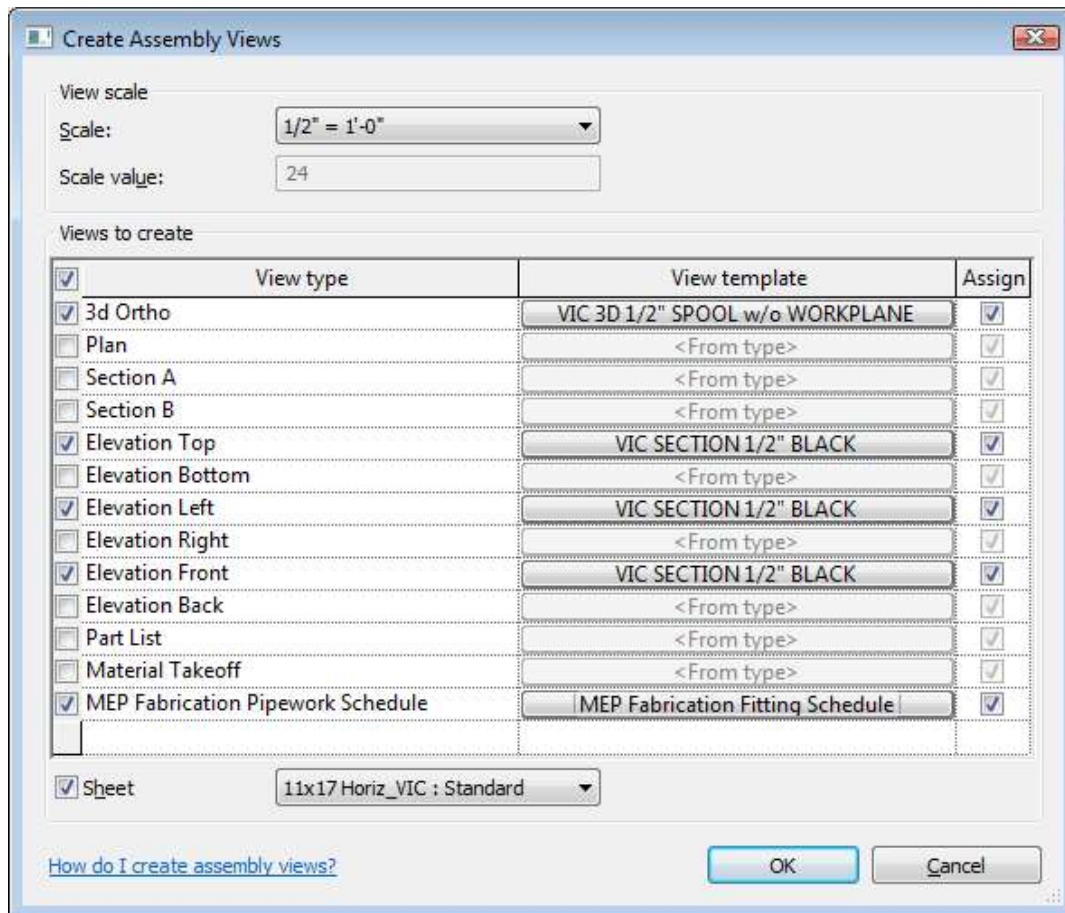


Right click on the assembly in the project browser and select Create Assembly Views.

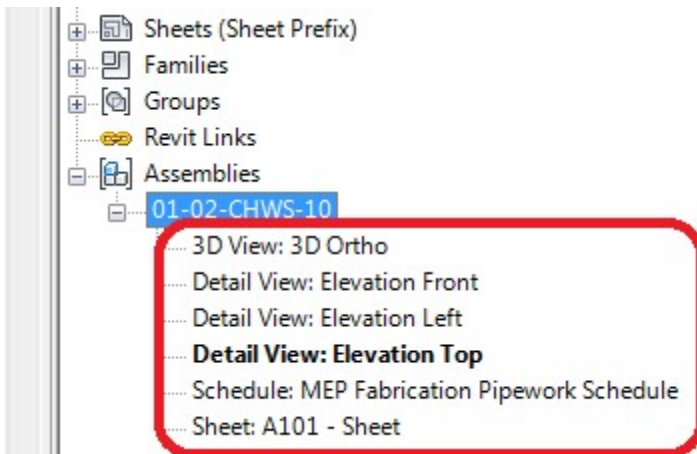


## Creating Assemblies (Spools)

Create the Assembly Views – be sure to select the correct View Templates.

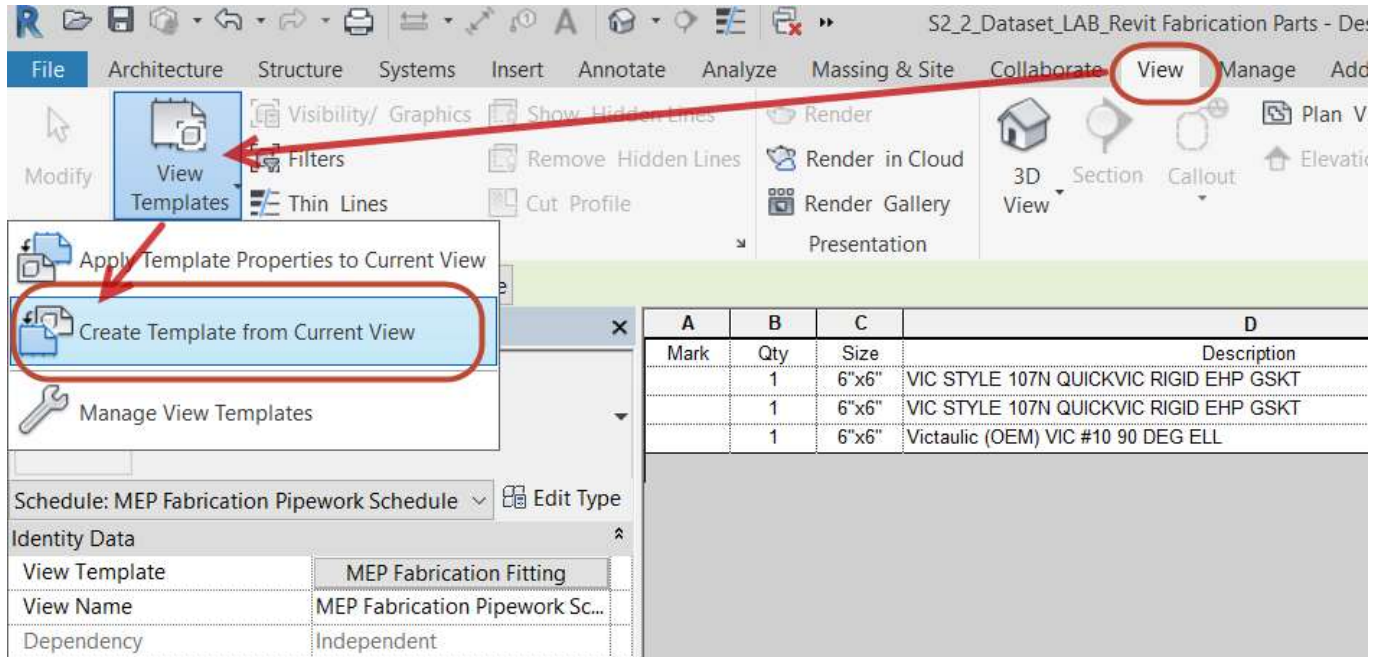


After clicking OK you will see the views and sheet appear in the project browser.



## Creating Assemblies (Spools)

Tip: To create a view template for the MEP Fabrication Schedule in assemblies you will need to create a blank schedule first. Modify the blank schedule to your needs and then you can create a view template from the current view.



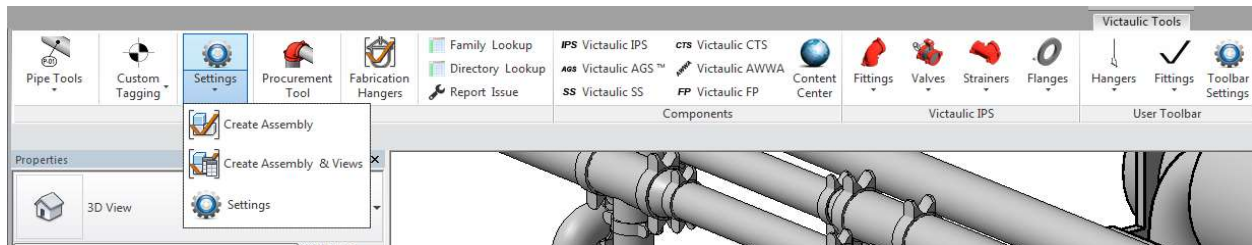
The schedules in assemblies are different than the schedules in the rest of the project browser and view templates from other schedules will not in assembly views.



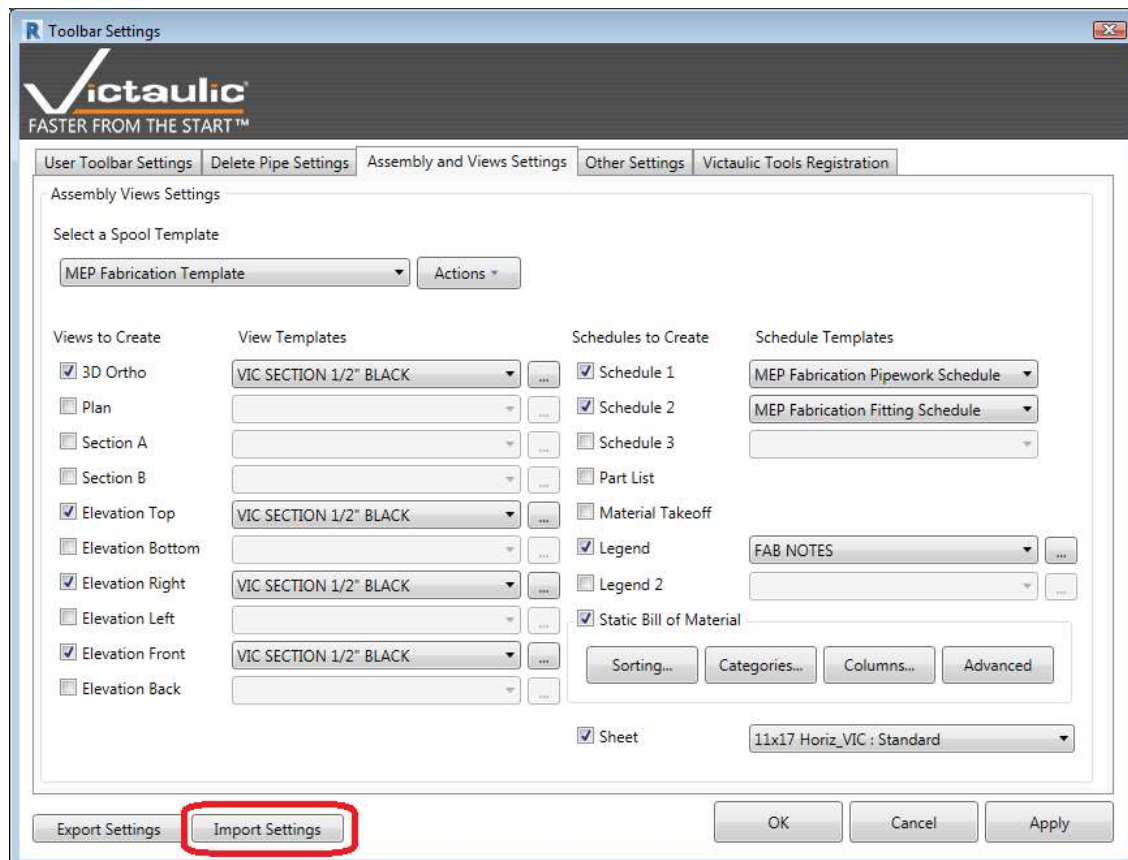
## Creating Assemblies (Spools)

Now we are going to use Victaulic Tools for Revit  
[www.VictaulicSoftware.com](http://www.VictaulicSoftware.com)

Click the Settings button under Create Assembly

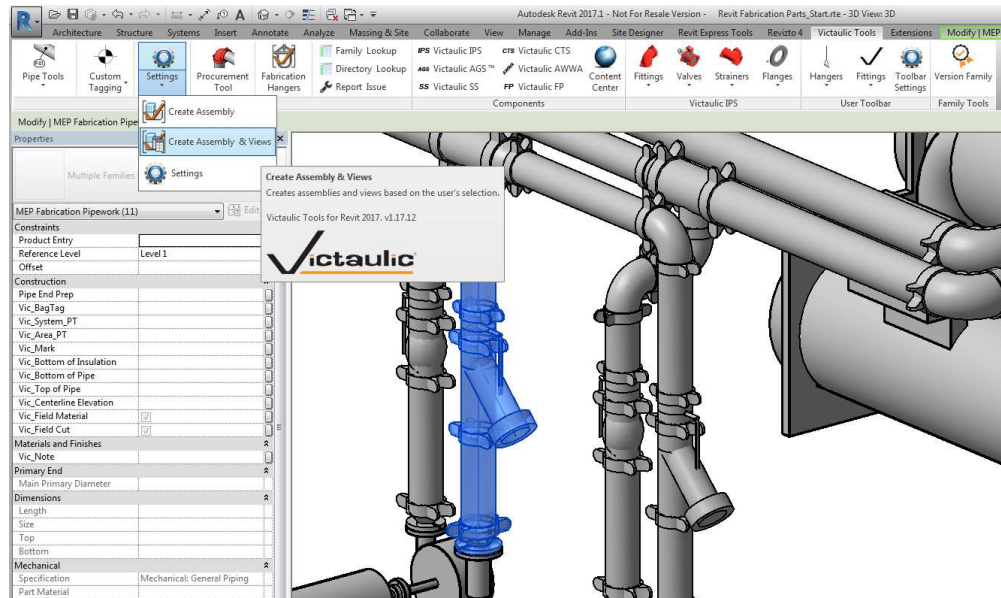


For ease of setup we are going to import the settings from the text file provided.

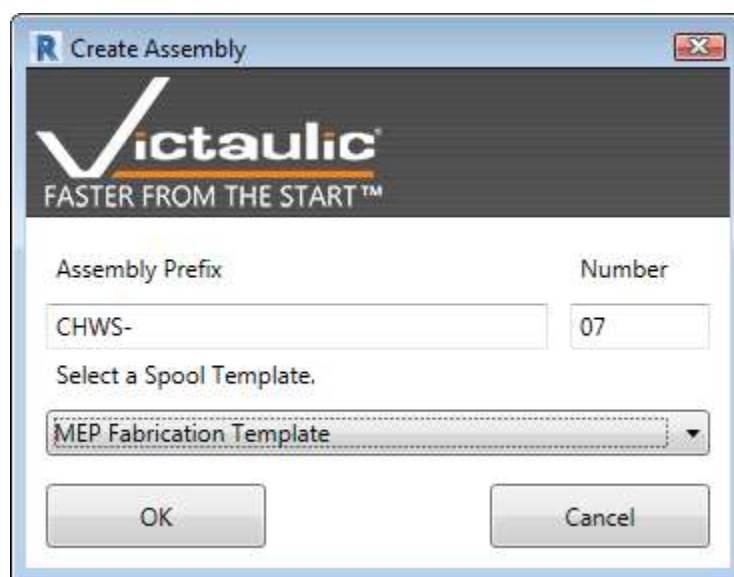


## Creating Assemblies (Spools)

Now click the “Create Assembly and Views” button after selecting the items you want on the assembly.



Select the “MEP Fabrication Template” and click Ok.

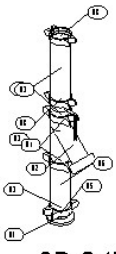


## Creating Assemblies (Spools)

The assembly is created, views are placed on the sheet, and tags are placed and auto sequenced. View location is also set based on your settings.

| No. | Qty | Size | Description                | End Fitting | Pipe End Length |      |          | Location | Part Number | Height   |
|-----|-----|------|----------------------------|-------------|-----------------|------|----------|----------|-------------|----------|
|     |     |      |                            |             | Length          | Weld | Height   |          |             |          |
| 01  | 1   | 8"   | PIPE 8 STD SCH 40S (R)     |             | 1' - 6 3/4"     | Weld | 35.42 IN |          | 1818711FER  | 7.18 IN  |
| 02  | 1   | 8"   | PIPE 8 STD SCH 40S (R)     |             | 2' - 1"         |      | 65.25 IN |          | 0000737PER  | 75.00 IN |
| 03  | 3   | 8"   | FLANGE 8 IN DIA 150 LB (R) |             |                 |      |          |          | 0000737PER  | 35.42 IN |
| 04  | 1   | 8"   | FLANGE 8 IN DIA 150 LB (R) |             |                 |      |          |          | 0000737PER  | 35.42 IN |
| 05  | 1   | 8"   | FLANGE 8 IN DIA 150 LB (R) |             |                 |      |          |          | 0000737PER  | 35.42 IN |
| 06  | 2   | 8"   | FLANGE 8 IN DIA 150 LB (R) |             |                 |      |          |          | 0000737PER  | 35.42 IN |

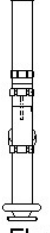
  



**3D Ortho**



**Elevation Top**  
1/2" = 1'-0"



**Elevation Right**  
1/2" = 1'-0"



**Elevation Front**  
1/2" = 1'-0"

**PRELIMINARY**

**MECHANICAL CONTRACTOR PROJECT NAME**

**CONSTRUCTION PIPING SERVICES**

**NOTE:** Contractor to field verify all equipment configurations, inside loading dimensions and materials for compliance to local, state and federal codes. Please notify the Mechanical Contractor Piping Services Division for recommendations regarding any deviations.

**NOTE:** All Victaulic drawings and engineering documents are based on information furnished to us and are provided as a guide only. The Mechanical Contractor is not responsible for design, engineering, or operation. Liability of Victaulic Company is limited to the amount charged to the Mechanical Contractor for preparing the drawing. Questions in the field of any other Victaulic products must be used in accordance with applicable specifications and Victaulic literature.

| Rev | Description | Date |
|-----|-------------|------|
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |

|                    |        |
|--------------------|--------|
| PROJECT: XI-XXXX   | AREA # |
| P.O. # 000000-0000 | LEVEL  |
| DRN. BY: 000001    | DATE   |
| CHK. BY: 000001    | DATE   |
| FAB NUMBER         | REV.   |

**CHWS-07**

**FAB NOTES**

1. ALL DIMENSIONS ARE TO THE END OF PIPE, FACE OF FLANGE, OR CENTERLINE OF FITTING, UNLESS OTHERWISE NOTED.

1/15/2016 3:55:21 PM

### **Fabrication Parts (Updates)**

- Automatic cut in of tees, valves, or taps – Revit 2016 R2
- Added hidden lines – Revit 2016 R2
- Added trim/extend editing – Revit 2017
- Added model categories Revit 2017
- MEP Fabrication Containment, Ductwork, Hangers, Pipework
- Ability to resize routing Revit 2017.1
- Ability to swap fittings – Revit 2017 and better for 2017.1
- Awesome Tagging for - Revit 2017 (Elevation at location)
- Improved AutoCAD Exports - Revit 2016 R2
- Route and Fill auto routing – Revit 2017
- Slope routing improvements – Revit 2018
- Auto Route and Fill – Revit 2018
- Ability to resize and change service – Revit 2018.2

### **Fabrication Parts (plus)**

- Database controls content – all content consistence with patterns supplied by Autodesk
- Pricing, labor, and part number data available
- Dimensionally accurate
- One source of content for both Fabrication and Revit
- Large Database of Manufactures content
- Autodesk commitment of development

### **Fabrication Parts (negative)**

- No flow calculations
- Must use ESTmep or CADmep to edit and create services
- Learning curve in the ESTmep and CADmep can be steep. Creating content and services requires some effort.



## **Victaulic Tools for Revit®**

User Manual  
Revit 2017, 2018, 2019

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# Introduction to Victaulic Tools for Revit®

Victaulic has created a set of tools for Revit® that increase drawing productivity, overcome shortcomings in Revit MEP and allow you to do BIM efficiently.



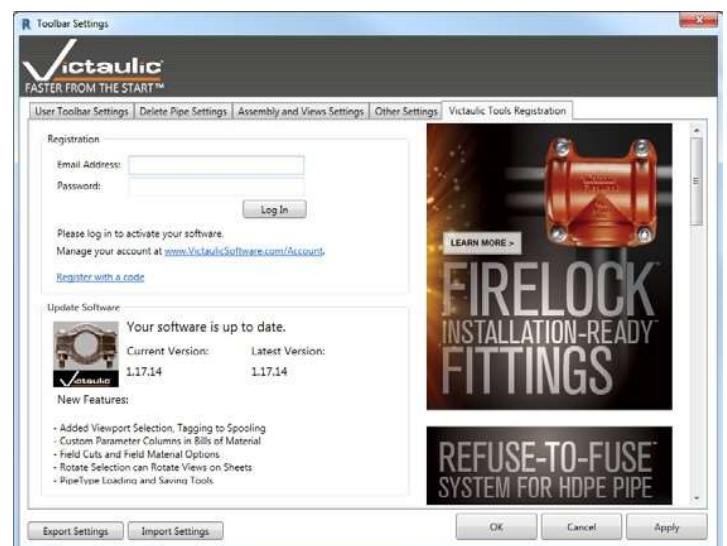
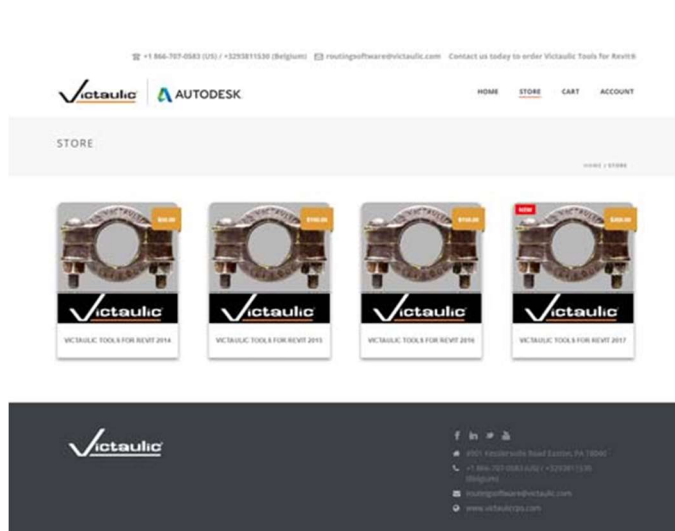
The tools can be found on the Victaulic website [www.victaulicsoftware.com](http://www.victaulicsoftware.com)

## 01 – Licensing



After downloading your 30 day free trial of Victaulic Tools for Revit, you will see a “Register Victaulic Tools” button in the ribbon of your Revit software. Licenses can be purchased from [www.VictaulicSoftware.com/Store](http://www.VictaulicSoftware.com/Store). Once purchased, use the email address and password from our store to register your software.

Multiple installations can be licensed using the same email address and password combination. After your tools have been licensed you will no longer see the Register Victaulic Tools button.



## 02 – Pipe Tools (Pipe / Duct / Conduit Splitting)



When routing in Revit®, pipe and duct lengths are not cut into commercially available lengths. The “Pipe Tools” Split Pipe/Duct button cuts the pipe or duct at predetermined lengths. The minimum length will prevent you from having cuts that are difficult to groove.

After you select the “Pipe Tools” button in the ribbon the “Pipe / Duct Length” window will appear. Be aware the lengths are in feet or millimeters. Uncheck “Use Default Coupling” to choose a specific coupling between the pipe segments.

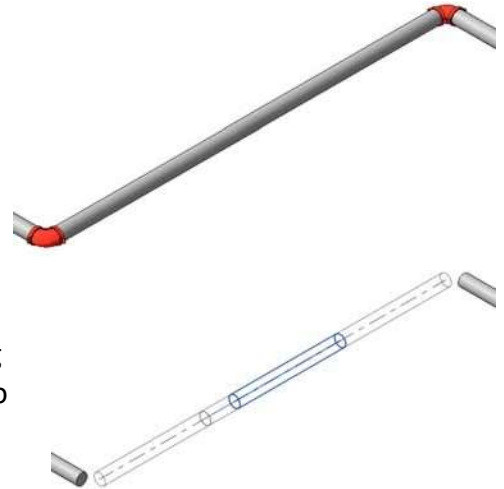
The “Use Non-Connectors” check box is only used when you specify couplings as “flanges” in the pipe type. A Non-Connector family will automatically be loaded. *More on this below.*

“Single Click Splitting” allows the user to split an entire length of pipe or duct with a single click.

When selecting, pipe and duct will start splitting from the end where your mouse pointer is located.

The “Force Length” mode can be used to set a specific length for existing pipes. Set the desired length and each pipe you click will be set exactly to the length you specified.

These splitting and forcing length tools work with all pipe types, conduit, duct, and fabrication pipework.



**Splitting Tool**

Use the settings below to split long lengths of pipe, duct, or conduit by the determined minimum and maximum lengths.

**Mode**

☒ Split Length   ☐ Force Length

**Standard**

☒ Imperial   ☐ Metric

Minimum    Maximum

**Options**

☒ Single Click Splitting  
☒ Use Default Coupling per Pipe Type  
☒ Use Non-Connectors

**Coupling / Joint**

Family Name

Buttweld-Weld Carbon Steel

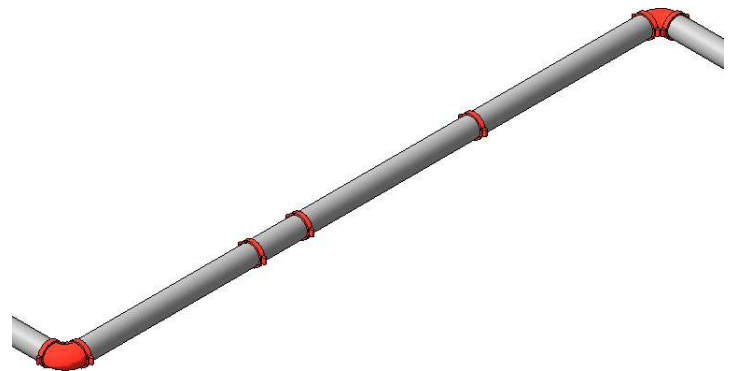
Flange - Slip-on - Steel - Class 150

Flange - Weld Neck - Steel - Class 150

Non-Connector

Flange - Threaded - GI - Class 125



## 03 – Pipe Tools (Pipe / Duct Tagging)



Select the “Pipe Tools” button in the ribbon and the “Pipe Tagging” window is displayed. You can define a prefix, starting number, and set the format of the tag numbers. You can specify a pipe tag to be placed by checking the “Include Tags” checkbox.

In the list you can specify what Pipe Tag annotation family from your project to place.

The Vic Mark shared parameter is created and populated with an auto-incrementing number while selecting the order of pipe. Your Annotation family must use this shared parameter for the annotation to receive the Vic Mark parameter values.

Select the pipe in the order you would like them tagged.

Annotation Tool

Use this tool to incrementally annotate straights of pipe, duct and conduit. This tool is also compatible with Fabrication Parts.

Type

☒ Pipe ☐ Duct ☐ Conduit ☐ Fabrication

Prefix P- [ ]

Starting Number 16

Format 00

Options

☒ Include Tags

☐ Manual Tag Placement

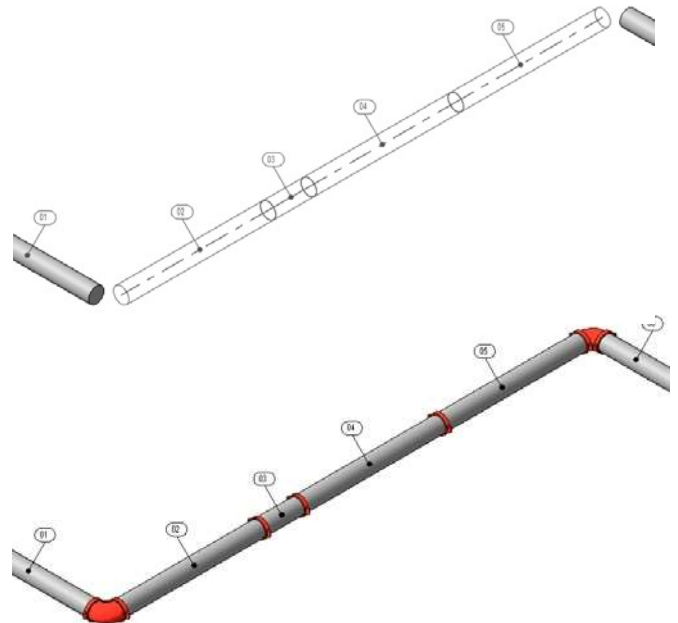
Numbers will be populated in the Vic\_Mark parameter. Optionally, choose a parameter below to populate.

Additional Parameter Mark

Tag Family / Type

| Tag Name                                                        |
|-----------------------------------------------------------------|
| Pipe - System Abbreviation Tag : Piping System Abbreviation Tag |
| Pipe - Size Tag : Pipe Size Tag                                 |
| Pipe - Size-System Tag : Pipe Size-System Tag                   |
| Pipe - Size System Elev Tag_VIC : Line Length .75"              |

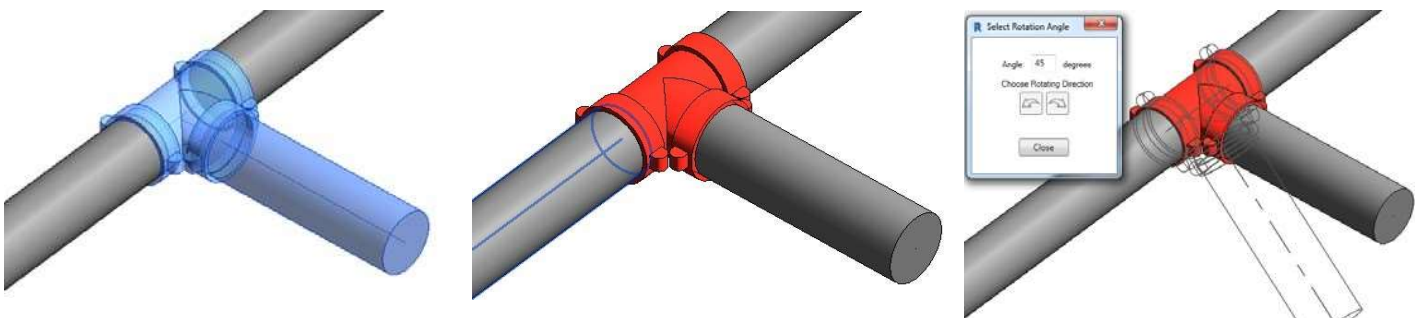
Start Tagging



## 04 – Rotate Selection



Select the families you wish to rotate click the “Rotate Selection” button. Select a pipe, coupling, or weld to define the axis of rotation and the “Select Rotation Angle” window will appear. Specify the angle and watch your selection rotate. This tool is useful when you need to route pipe from a header at an angle.

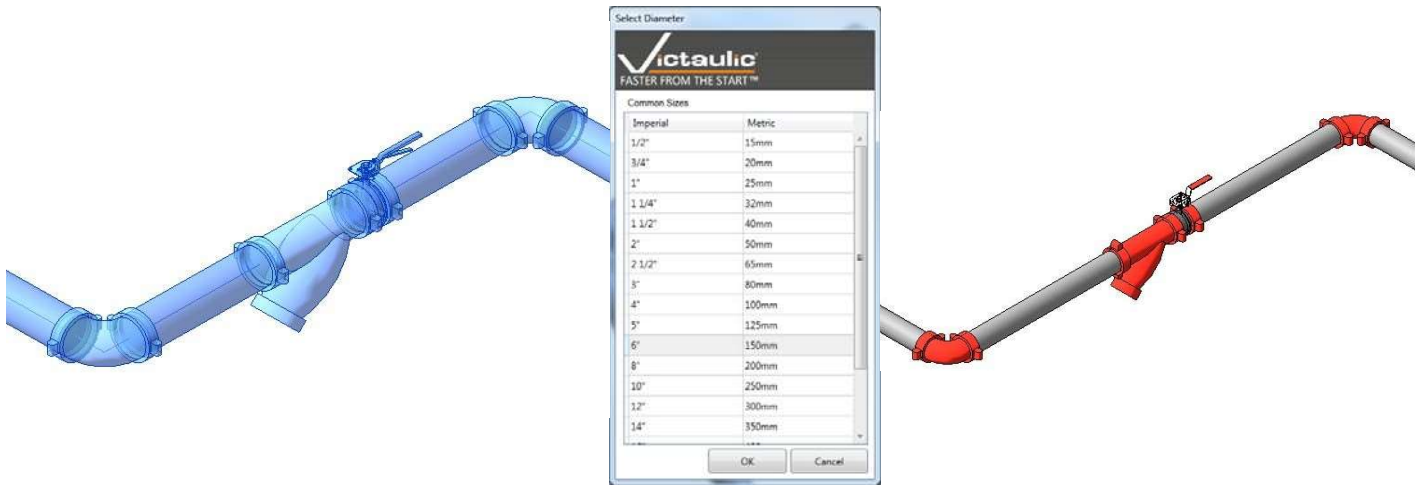


## 05 – Resize

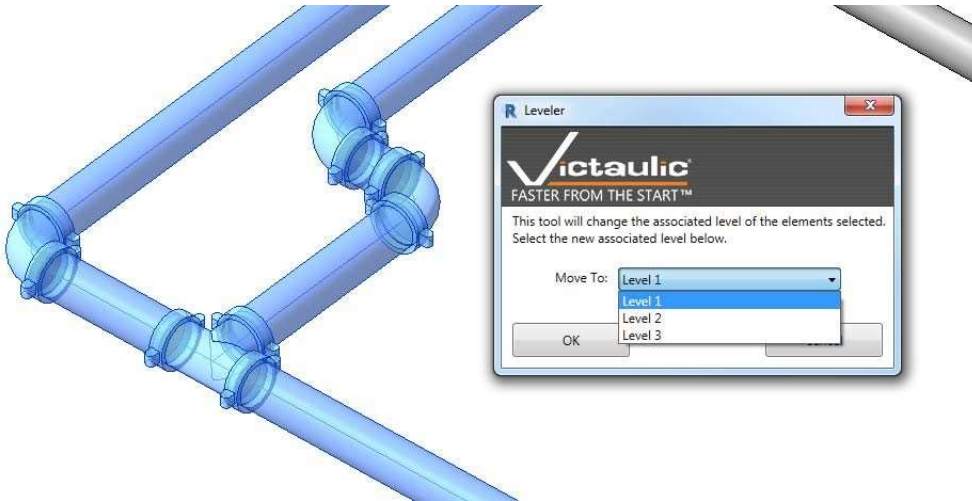


Resize Selection

Select the fittings and accessories you want to resize click the “Resize Selection” button. The current size will be highlighted. Select the desired size from the list and click the “Change Size” button.



## 06 – Leveler



The Leveler is a selection based tool to fix the associated reference level of elements in your project. This tool will correct the reference level of each element without moving the element or losing connectivity.

Just select the items you want to change and run the Leveler tool. Select the new reference Level and click “OK”. The items will be referenced to the new level retaining connectivity and their position in your model.

## 07 – Tap Creator



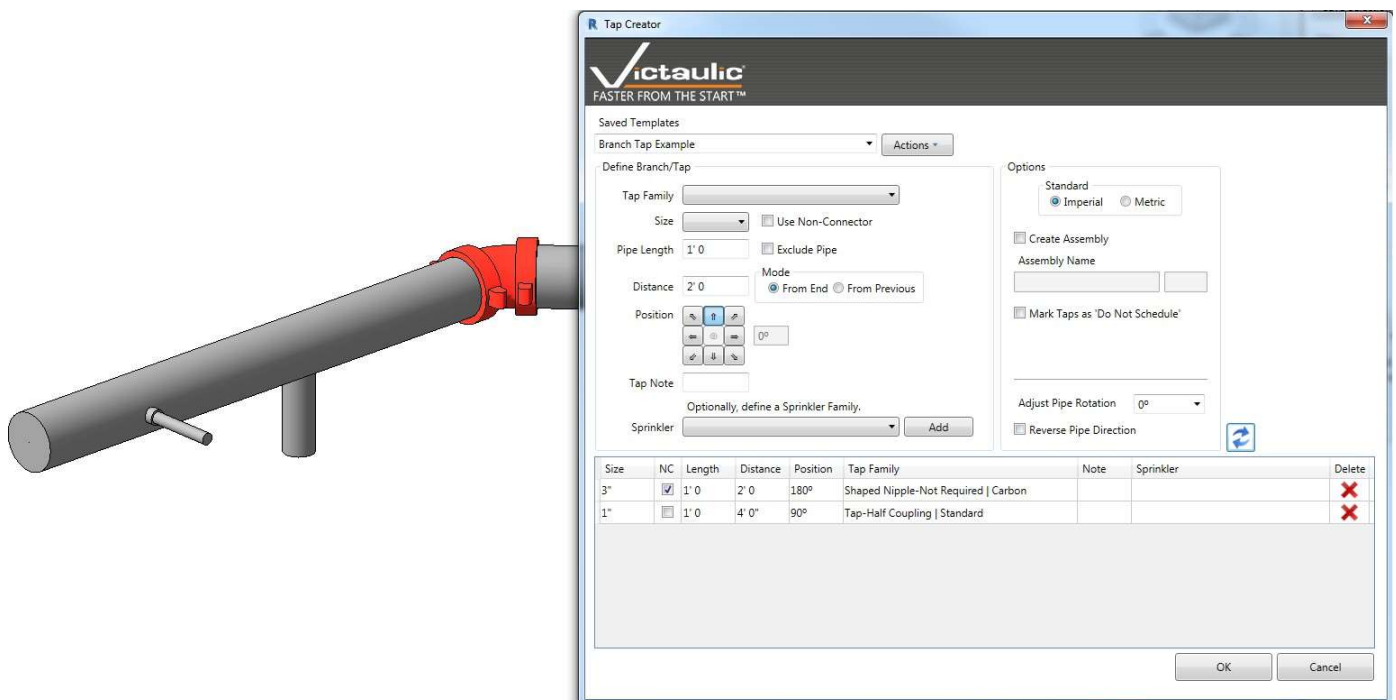
The Tap Creator is a database driven tool to create tap connections off of pipe. Historically, the task of tap placement has involved section and elevation views as well as multiple Pipe Types for correct family placement.

Whether you're placing small diameter outlets on a vertical pipe or large branches off a header, the Tap Creator will place any Tap family on any Pipe Type.

To use the Tap Creator:

1. Select one or multiple pipes in your project.
2. Select the tap family, size, length, distance and position of the tap.
3. Optionally, specify a note to be applied to the Vic Note parameter and/or specify a sprinkler head to be placed at the end of the new pipe.
4. Edit the lines in the table to make any updates to your configuration. A preview of your changes will be available in your original view.
5. Use the Templates section to save what you've created.

Additional tools are available to create an Assembly from your newly created taps, to mark tap families as 'Do Not Schedule', and to reverse or adjust the main pipe's rotation.

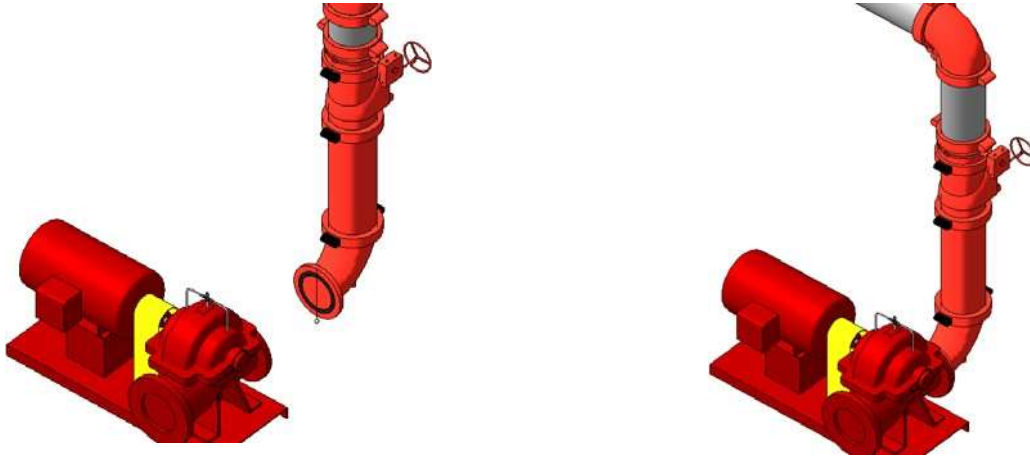


## 08 – Any Connect



The Any Connect Tool moves, resizes, and connects components based on the user's selection. Click the first element; then click on the second element and the second element will move and align on the connectors facing each other.

In a fitting to fitting scenario, this tool will automatically place a coupling or flange based on the settings for the Delete Pipe tool found on the next page.

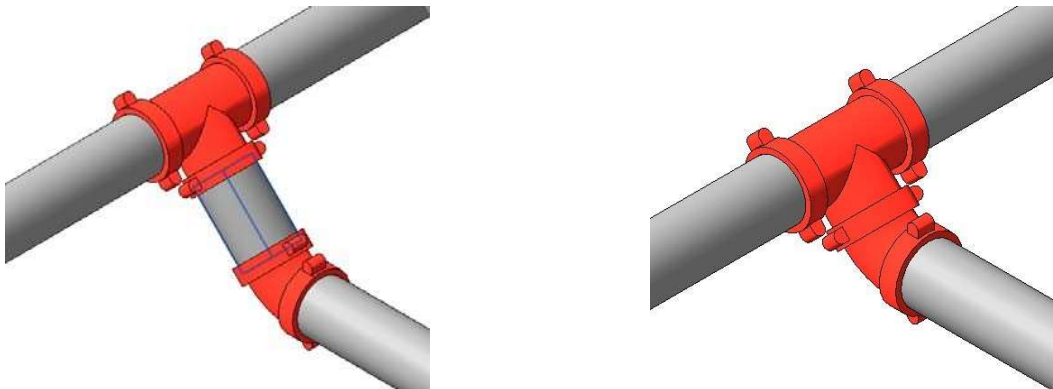


## 09 – Delete Pipe



Deletes the selected pipe and connects the families fitting to fitting, making sure your piping system stays properly connected.

Click on the Delete Pipe button on your toolbar. Select the end of pipe you want the fittings to move towards. You will see the pipe delete and a multiport family is placed according to the Delete Pipe Settings per pipe type.



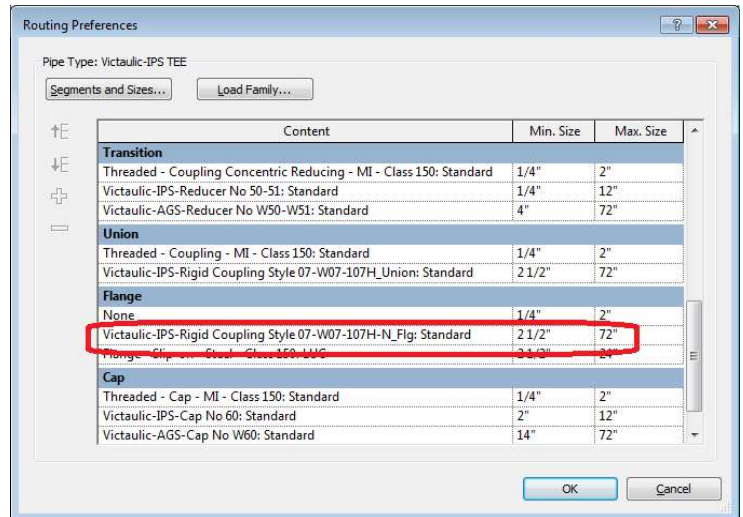
## 10 – Settings - Delete Pipe



The delete pipe settings button is where you define what, if any, family is placed between fittings or accessories when you delete pipe.

If you do not specify a flange in your pipe type Routing Preferences then you do not need to set a multiport fitting in the Delete Pipe Settings. See sample Routing Preferences at right

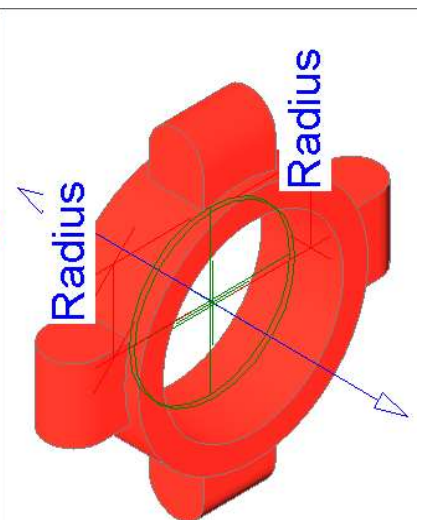
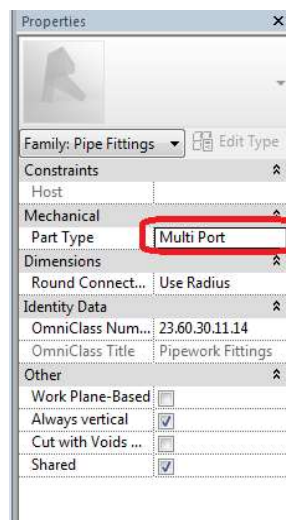
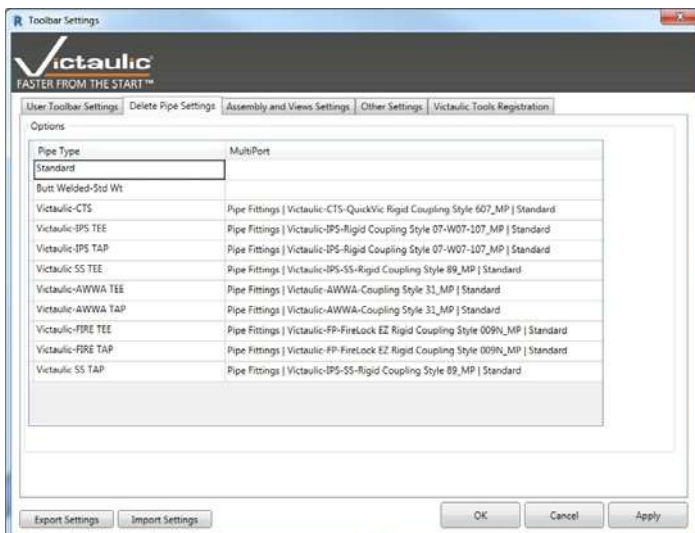
We have found that changing our coupling family to the flange part type and specifying it in the pipe type Routing Preferences as a “flange”, enables placement of a coupling at each connection as a flanged system would in Revit. Setting a flange you will find that deleting pipe between accessories the flange families will also delete. For this reason we have also created Multi Port part type couplings. You will find that Multi Port pipe fitting families will not automatically be deleted between accessories when the piping is changed.



Our delete pipe tool will automatically place these multiport fittings when needed. Below you can see we name our multiport families “\_MP”.

Below there is also a lookup table based system for specifying pipe fittings to use while going fitting-to-fitting. Certain pipe types will not require a setting.

Below are the default settings while using our Project Template file which is available for free from Victaulic.



# 11 – Custom Tagging



Custom Tagging is a multifunction tool that assists in annotations of multiple types of families. The user can select a proper annotation symbol per family category. This tool is split into 5 sections that can be used together.

1. Here are options to incrementally number the selected family. This tool writes to the Vic\_Mark shared parameter. Included tags with our Project Template have many example annotation families that utilize this shared parameter.

2. The Multi-Select Elements check box gives options for placement. Left, Right, Top, Bottom, and Scatter. With this option selected and Manual Tag Placement not selected, the tags will

automatically be aligned to your selection. Using Multi-Select Elements checked with Manual Tag Placement checked, each component will be highlighted in red while tags are being placed.

3. This section allows you to have four preset groups of preferred annotation families to be placed when annotating the project.
4. Here is where you would specify which annotation families the tool will use while placing tags. The Show column can be used to show/hide specific family categories. This assists with locating families on complicated views. The Prefix column will append a text prefix to the Vic Mark shared parameter.
5. Here are the options for leaders. Available options are Free End and Attached End. This section also allows for using this tool without placing tags. This is useful for renumbering components that already have annotations.

The screenshot shows the 'Custom Tagging' dialog box. It features the Victaulic logo and the tagline 'FASTER FROM THE START™'. Below this, a text box states: 'Using the settings below, this tool allows for exact placement of correct tags as well as incremental mark numbering.' The dialog is divided into several sections:

- Section 1:** 'Assign Mark Numbers' with a 'Starting Number' field set to '01' and a 'Format' dropdown set to '00'.
- Section 2:** 'Multi-Select Elements' with an 'Align' dropdown set to 'Scatter'.
- Section 3:** 'User Defined Groups' with four buttons labeled '1', '2', '3', and '4'. Button '1' is highlighted.
- Section 4:** A table with columns 'Show', 'Prefix', 'Category', and 'Tag'. It lists various pipe and duct families with checkboxes in the 'Show' column.
- Section 5:** 'Include Tags' with a 'Leader' dropdown set to 'Free End'.

At the bottom right are 'OK' and 'Close' buttons.

*\*This tool is useful when creating assembly drawings and fabrication maps.  
You must tab to select fittings in an assembly.*

## 12 – Create Assembly / Continuous



Create Assembly

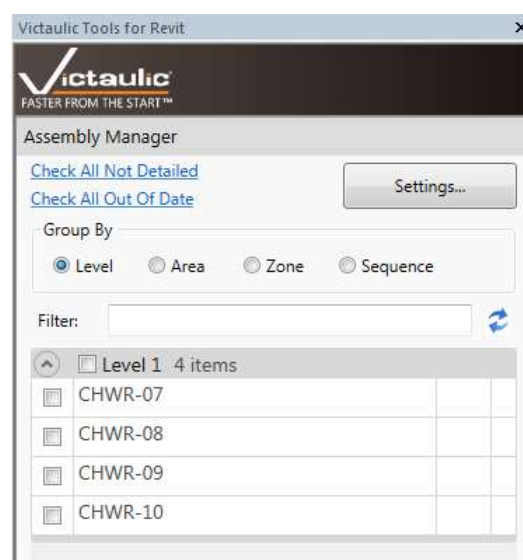
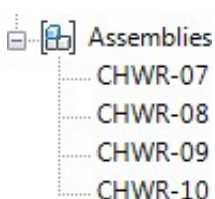
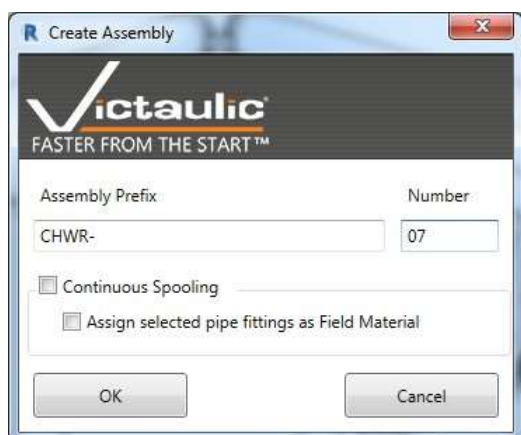
This tool allows you to select all the families you want to be in your assembly (spool) drawing. There are some key differences between this tool and the native Revit assembly tool. This tool will ensure all nested families are correctly brought into the assembly where the native Revit assembly tool ignores all nested families. The Create Assembly tool will also keep assemblies completely separate from each other. Using the native Revit assembly tool will group assemblies if the parts selected are identical to a previous assembly. Depending on your needs, you can choose to use either Assembly Creation tool.

The Assembly Name window will allow you to define the assembly prefix and sequence number.

At the bottom of the project browser you will see your newly created assemblies. You will also see these newly created assemblies in the Victaulic Dock – Assembly Manager (See Pg. 14)

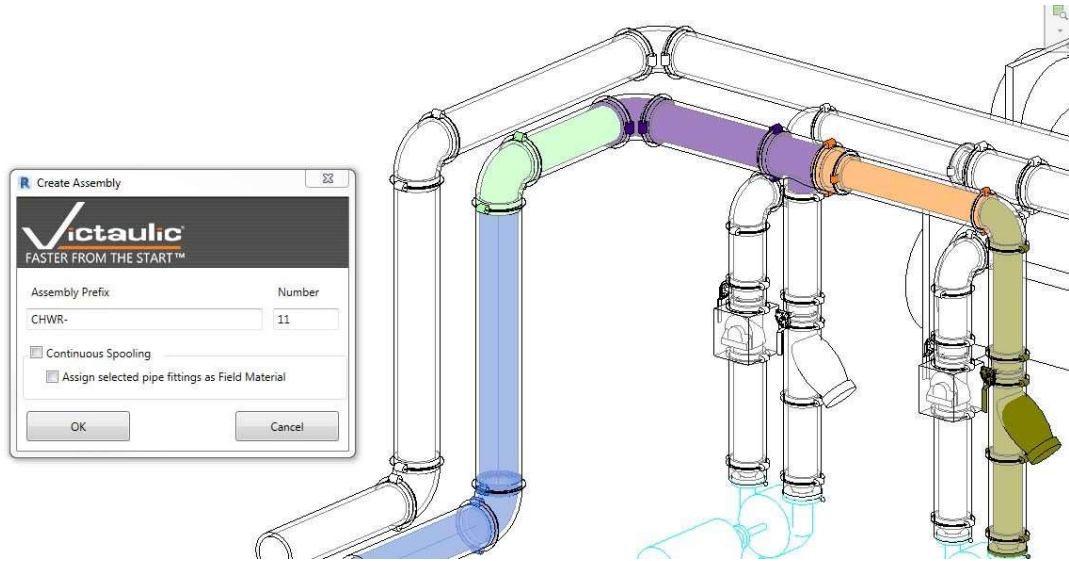
Using Continuous Spooling you will be prompted for the last component for each assembly. The components between your previous assembly and your selected element will be automatically added to the new assembly and incrementally numbered.

Field Material can also be defined. With this option checked, the last element in every defined assembly will be considered Field Material and the Vic\_Field Material parameter will be set as checked.



12 – Create Assembly / Continuous Spooling

\*Note – Be sure to look at our Project Template. We have views designed to assist in defining spools. Our template is fully equipped with View Templates, Viewports and Title Blocks that can be customized for your needs. Below is an image of our Spooling View which colorizes the components that are associated with an assembly. Also pictured is an example of an intelligent title block which will read information from your project. These and many more valuable objects are available in our project template files.



3D Iso

Elevation Top  
1/2" = 1'-0"

Elevation Front  
1/2" = 1'-0"

Elevation Right  
1/2" = 1'-0"

| Mark | Qty | Size  | Description                              | End Prep | Length     |
|------|-----|-------|------------------------------------------|----------|------------|
| 01   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL SCH 40 |          | 2'-2 5/16" |
| 02   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL SCH 40 |          | 1'-7 1/8"  |
| 03   | 1   | 6"    | VIC 90 DEG ELBOW No. 10                  |          |            |
| 04   | 5   | 6"    | VIC QUICKVIC COUPLING STYLE 107N (RIGID) |          |            |
| 05   | 1   | 4"    | VIC FLANGE ADAPTER STYLE 741             |          |            |
| 06   | 1   | 6"x4" | VIC CONCENTRIC REDUCER No 80             |          |            |
| 07   | 1   | 4"    | 150LB BOLT SET                           |          |            |
| 08   | 1   | 6"    | VIC-300 MASTERSEAL BUTTERFLY VALVE W/WH  |          |            |
| 09   | 1   | 6"    | VIC WYE TYPE STRAINER S/732              |          |            |

**FAB NOTES**

1. ALL DIMENSIONS ARE TO THE END OF PIPE, FACE OF FLANGE, OR CENTERLINE OF FITTING, UNLESS OTHERWISE NOTED.

**PRELIMINARY**

**Victaulic** CONSTRUCTION PIPING SERVICES

Mechanical Contractor  
Project Name

NOTE: Contractor to verify all equipment configurations, hoist loading dimensions and elevations for conformance to Victaulic layout drawings PRIOR TO CUTTING PIPE. Please notify Victaulic Construction Piping Services Division for recommendations regarding any deviations.

All Victaulic drawings and piping engineering submittals will be based on information furnished to us and is provided solely as an aid to procurement and installation. The Victaulic Company is not responsible for design by engineer of record, erection, or operation. Liability of Victaulic Company with reference to descriptions, weights, locations, dimensions, or any other data shown herein is limited to the amount charged by Victaulic Company for producing the drawing in question. In the event of an order, Victaulic products must be used in accordance with published specifications and Victaulic literature.

| Rev | Description | Date |
|-----|-------------|------|
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |

PROJ# XX-XXXXE  
P.O.# 00000000-0000  
DRN BY: Author  
CHK BY: Checker  
FAB NUMBER

AREA #:  
LEVEL:  
SYSTEM  
Scale As Indicated

CHWR-07

REV.

## 13 – Create Assembly Views



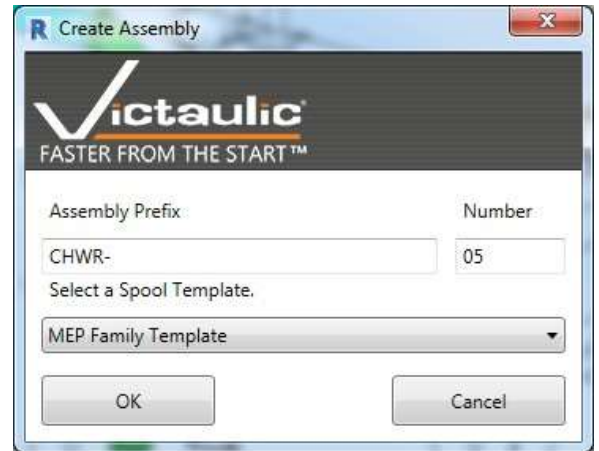
Create Assembly and Views is a very powerful tool to automate the detailing of assembly drawings (spool drawings). It utilizes a user's predetermined settings and delivers a complete spool drawing with only a few clicks.

There are two ways to use this tool:

1. For a single assembly, select a group of components and choose "Create Assembly and Views" from the Victaulic Tools Toolbar.

You will be presented with a similar window to the assembly creation tool. Note that the Spool Template section is now activated. Select one of your predetermined Spool Templates and click OK.

In the next section, we'll cover all the options for Spool Templates including tagging options, viewport selection and schedule creation.

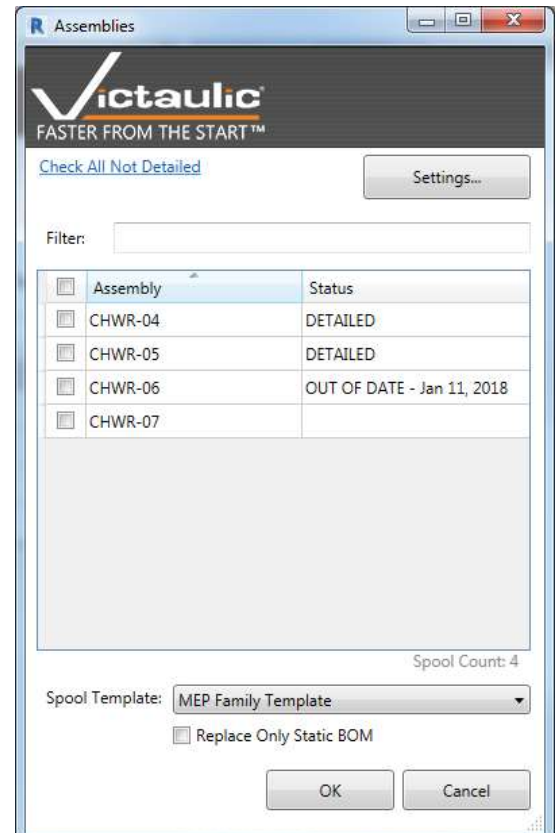


2. This tool can also be run on multiple assemblies at once. To create the views for an assembly already defined make sure you have nothing selected and click on the "Create Assembly & Views" button. A list of assemblies will be displayed allowing you to check off the views you would like to create.

This screen also includes a selection of a spool template. Assemblies that already have sheets will display as "DETAILED". It is possible to create a new sheet for previously detailed assemblies. This process will delete any views and sheets that exist and recreate the elements using the Spool Template settings.

Either use the "Settings..." button on this screen or the Settings button from the Victaulic Tools toolbar to access the Spool Templates.

Use the "Replace Only Static BOM" option to refresh the bill of material on the sheet without affecting any custom detailing you've done to sheets and views.



## 14 – Victaulic Dock / Assembly



The Victaulic Dock is a dockable window that can be available at all times while working in Revit. The Assembly Manager is a tool for organizing, processing, revisioning, and printing assembly sheets.

As Assemblies are being created and detailed, the list and status of each assembly will be updated. Detailed assembly sheets can be accessed by clicking the icon on the right side of the list. Use the “Generate Fabrication Sheets” section at the bottom to create views and sheets based on the settings described in the following section of this manual.

Use the ‘Group By’ toggles to group assemblies by level, area, zone or sequence. This can be useful when processing sheets for specific sections or levels. Each section can be expanded and collapsed which can be especially valuable for larger projects with a high number of assemblies.

Using the ‘Move To’ tool at the bottom, assemblies can be updated and organized by writing specific parameter values to the elements and the assembly. Reference Levels can also be adjusted using this tool without moving or disconnecting elements.

Revisions can also be added to multiple sheets at once using the ‘Add Revision’ section.

Expanding the dockable window’s width will make more fields available. With the exception of Level, typing into these fields will apply that parameter data to the elements and to the Assembly itself. This becomes a very quick way to manage parameter data of all assemblies and components.

Victaulic Tools for Revit

**Victaulic**  
FASTER FROM THE START™

Assembly Manager

[Check All Not Detailed](#) [Check All Out Of Date](#) [Settings...](#)

Group By: ☒ Level ☐ Area ☐ Zone ☐ Sequence

Filter:

Level 1 4 items

| Assembly | Level   | Area   | Zone   | Sequence | Status |
|----------|---------|--------|--------|----------|--------|
| CHWR-04  | Level 1 | Area 1 | Zone 2 | Seq A    | ✓      |
| CHWR-05  | Level 1 | Area 1 | Zone 2 | Seq A    | ✓      |
| CHWR-06  | Level 1 | Area 1 | Zone 2 | Seq B    | ✗      |
| CHWR-07  | Level 1 | Area 1 | Zone 2 | Seq B    |        |

[Expand All](#) / [Collapse All](#) Spool Count: 4

Move To:  [Go](#)

Add Revision:  [Go](#)

[Print...](#)

Generate Fabrication Sheets

Spool Template:

☐ Replace Only Static BOM [Go](#)

| Assembly        | Level   | Area   | Zone   | Sequence |   |
|-----------------|---------|--------|--------|----------|---|
| Level 1 4 items |         |        |        |          |   |
| CHWR-04         | Level 1 | Area 1 | Zone 2 | Seq A    | ✓ |
| CHWR-05         | Level 1 | Area 1 | Zone 2 | Seq A    | ✓ |
| CHWR-06         | Level 1 | Area 1 | Zone 2 | Seq B    | ✗ |
| CHWR-07         | Level 1 | Area 1 | Zone 2 | Seq B    |   |

# 14 – Victaulic Dock / Assembly Manager

**Sheet Icons**

No icon indicates that a Sheet has not been created for this Assembly.

 This icon indicates that a Sheet has been created without a Static Bill of Material.

 This icon indicates that a Sheet has been created with a Static Bill of Material.

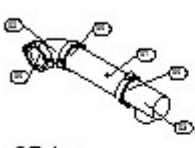
 This icon indicates that a Sheet has been created with a Static Bill of Material that is out of date from the model.

Apart from being a quick way to access the assembly sheet, each sheet icon has a different meaning. These icons are determined by the status of the Static Bill of Material. Refer to the Settings for Assemblies and Views section for further explanation on how to customize and place the Static Bill of Material.

For assemblies that use the Static Bill of Material, The Assembly Manager is aware of dimensional and parameter changes that happen in the model. If the assembly is moved in your model or if certain parameters are updated the icon will change from the orange Victaulic V to the red X. This is a notification to the user to update the Static Bill of Material for that assembly.

There are tools in the Assembly Manager to assist with this. At the top of the Assembly Manager is a 'Check All Out of Date' button. Clicking this and then using the 'Replace Only Static BOM' option while generating Fabrication Sheets will update all the Static BOMs that are out of date.

In our project template is a Sheet that takes advantage of this Static BOM Status. This will prevent a sheet from being issued with an incorrect bill of material.



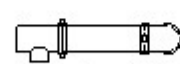
3D Iso



Elevation Top  
1/2" = 1'-0"



Elevation Front  
1/2" = 1'-0"



Elevation Right  
1/2" = 1'-0"

| Matl | Qty | Size  | Description                           | End Ring | Length    |
|------|-----|-------|---------------------------------------|----------|-----------|
| 01   | 1   | 6"    | PPE 18751 6-EL BRN BLACK STEEL SCH 40 |          | 2'-4 1/2" |
| 02   | 1   | 6"    | VIC 60 600 ELCOIT No. 10              |          |           |
| 03   | 1   | 6"X6" | VIC 600 100 TO 35                     |          |           |
| 04   | 4   | 6"    | VIC 600VTC COUPLING STYLE 10N 10000   |          |           |

OUT OF DATE - Jan 11, 2018

**PRELIMINARY**

**Victaulic** CONSTRUCTION PIPING SERVICES

Mechanical Contractor  
Project Name

Notes: 1. All dimensions are to the end of pipe, flange, or centerline of fitting, unless otherwise noted.

| Rev | Drawn by | Date | Project Number | Sheet |
|-----|----------|------|----------------|-------|
|     |          |      | CHWR-06        |       |

## 15 – Victaulic Dock / Component

The Component Bank is a tool designed to expedite the placement of components in your model. A selection based bank can be created to store a typical combination of piping components and can then be recalled in a different project.

Being a database driven tool, measurements have been put into place to prevent conflicts between families, pipe types, materials, and systems.

Banks can be stored, exported and shared with others using Victaulic Tools for Revit via zip files.

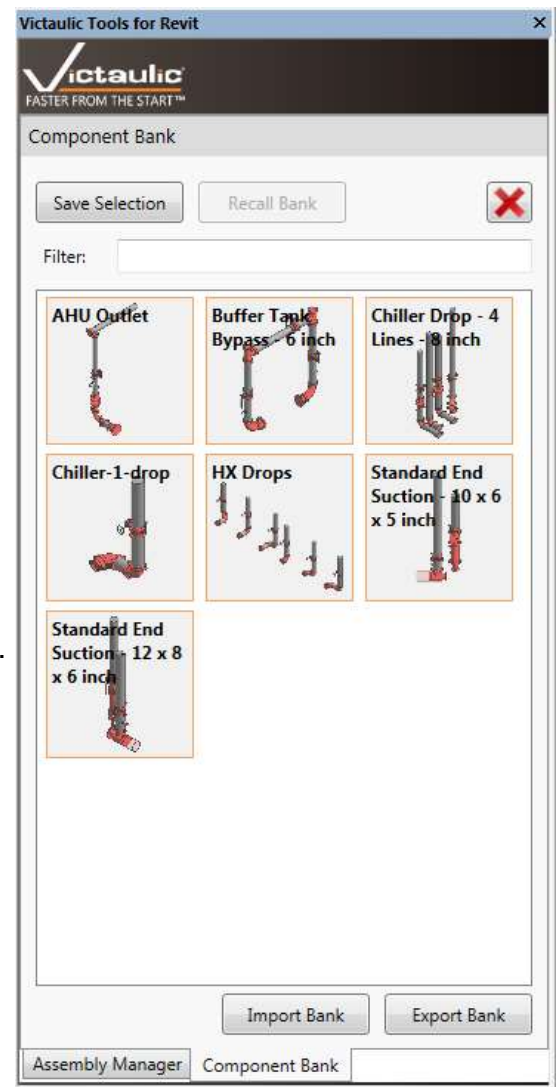
To save a Component Bank:

1. Make a selection of piping components in your model.
2. Click the Save Selection button in the Component Bank.
3. Assign a name to your new Bank.

To recall a Component Bank:

1. Click the icon for the bank within the Victaulic Dock.
2. Click Recall Bank.
3. In a 2D View, placement can be done with a single click inside the view.
4. In a 3D View, select a plane within the view (a floor, a concrete pad, or anything flat). This will tell the tool which level you'd like the Component Bank to be associated. Then click where you'd like the Component Bank to be placed.

There is no limit to the number of Component Banks you can have loaded. Use the filter at the top to find specific banks. Component Banks are available in any project but the associated elements are not loaded in your project until a Component Bank is placed in your model.



## 16 – Settings (Create Assembly)



Within the settings window for assembly views you can define which views to create and the view template to be used when the views are placed on the selected spool sheet. Schedules, Legends, and Victaulic's Static Bill of Material can be automatically generated using these settings (Below to the right).

**Toolbar Settings**  
FASTER FROM THE START™

User Toolbar Settings | Delete Pipe Settings | **Assembly and Views Settings** | Other Settings | Victaulic Tools Registration

Assembly Views Settings

Select a Spool Template  
MEP Family Template [Actions]

| Views to Create                                     | View Templates         | Schedules to Create                                         | Schedule Templates         |
|-----------------------------------------------------|------------------------|-------------------------------------------------------------|----------------------------|
| <input checked="" type="checkbox"/> 3D Ortho        | VIC SECTION 1/2" BLACK | <input type="checkbox"/> Schedule 1                         | MEP Pipe Fittings Schedule |
| <input type="checkbox"/> Plan                       |                        | <input type="checkbox"/> Schedule 2                         | MEP Pipe Schedule          |
| <input type="checkbox"/> Section A                  |                        | <input type="checkbox"/> Schedule 3                         |                            |
| <input type="checkbox"/> Section B                  |                        | <input type="checkbox"/> Part List                          |                            |
| <input checked="" type="checkbox"/> Elevation Top   | VIC SECTION 1/2" BLACK | <input type="checkbox"/> Material Takeoff                   |                            |
| <input type="checkbox"/> Elevation Bottom           |                        | <input checked="" type="checkbox"/> Legend                  | LAYOUT LEGEND              |
| <input checked="" type="checkbox"/> Elevation Right | VIC SECTION 1/2" BLACK | <input type="checkbox"/> Legend 2                           |                            |
| <input type="checkbox"/> Elevation Left             |                        | <input checked="" type="checkbox"/> Static Bill of Material |                            |
| <input type="checkbox"/> Elevation Front            |                        |                                                             |                            |
| <input type="checkbox"/> Elevation Back             |                        |                                                             |                            |

Sorting... Categories... Columns... Advanced

☒ Sheet 11x17 Horiz\_VIC : Standard

Export Settings Import Settings OK Cancel Apply

There are additional settings for views and legends available with the "..." button next to each view. In this form, a user can select exactly which Viewport should be used along with options for annotating the components. The annotations behavior is similar to the Custom Tagging tool when used in Multi-Select Elements mode. The annotation tags that will be placed are from the first user defined group in the Custom Tagging tool (Below to the Left).

For more information on the Static Bill of Material, refer to the Procurement Tool section of this document.

**Viewport Options**

FASTER FROM THE START™

Select the Viewport Type and the Tagging Options.

Viewport  
Viewport Title Small\_VIC

☒ Enable Tagging

Align: Scatter

OK Cancel

## 17 – Procurement Tool



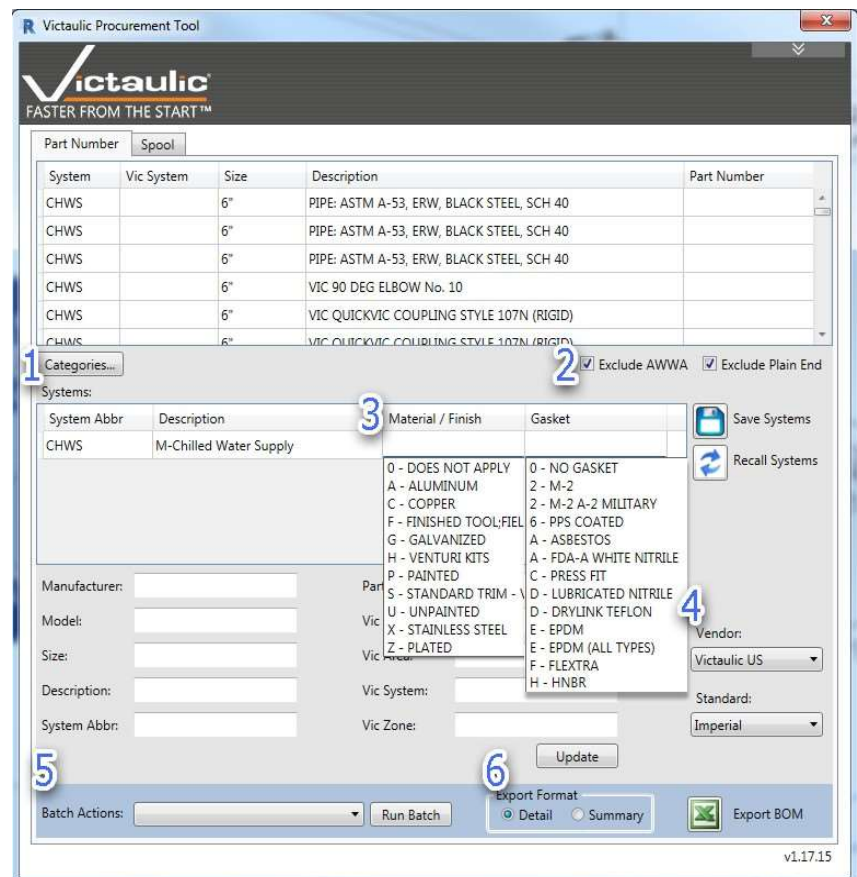
The procurement tool is a selection based bill of material tool. Inside Revit the only way to create material list is via schedules filtered on parameters, assigned to the families in the project. The “Procurement Tool” allows you to window select families for a simple, selection based bill of material.

To use, select the families you want in the bill of material and click the “Procurement Tool” button. It is always best to use a 3D view so you don’t accidentally miss the selection of accessories in the vertical. It is important to note that this tool is primarily for creating assembly (spool) bills of material, for project bills of material it will take some time to scan all of the families for parameter values.

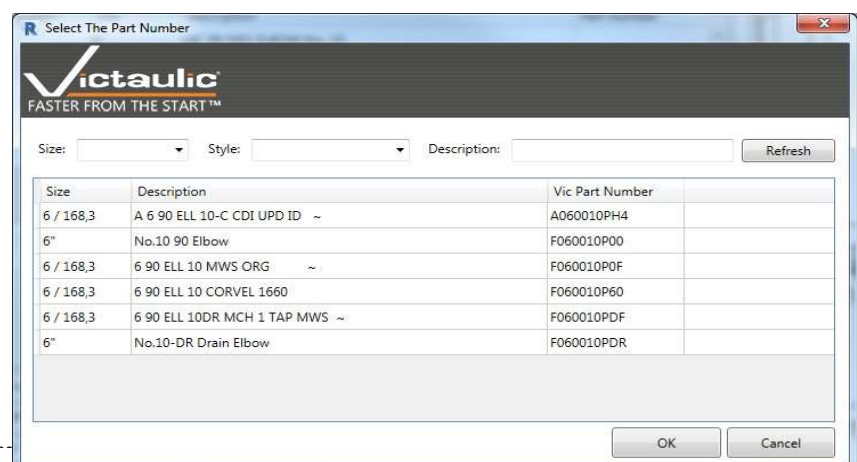
You will notice two tabs: Part Number and Spool.

### Part Number Tab

1. Further filter your selection select the “Categories” button.
2. Exclude AWWA and Plain End products when selecting part numbers.
3. Select a material, finish, and gasket type per Revit system to reduce the number of possible part numbers available.
4. Within the Vendor drop down assign various part number types to the families.
5. A drop down is available to populate System Abbreviation to Vic System\_PT parameter. Using this is the only way you can create Revit schedules based on system for nested families, as nested families do not receive system information for their parent family. The “Autocomplete Part Numbers” populates the Part Number of Victaulic families only if it finds a single match.
6. To export your data select the “Export BOM” button.



If a part number is not automatically generated you can double click on any item in the material list and a part number selection window will appear. In addition to automatic filters you can filter by size, style, and description. See the window to the right.



The second tab in the Procurement Tool is the **“Spool”** tab. This tab is used for creation of fast bills of material on selections of piping within assemblies and 3D views.

1. Set your sorting, categories, and columns using the buttons (see following text).

2. Set your Vic Mark numbering format. All tags will use the Vic Mark parameter under the Construction group.

3. Auto Tag Components and Clear Tags will only modify selected lines above. If you select no lines above then it will run on the entire list of items. This will enable you to renumber specific areas of the material list.

4. When a line is selected you can reorder the material list per your needs. The “Auto Tag Components” batch action will follow the set order of items in the list.

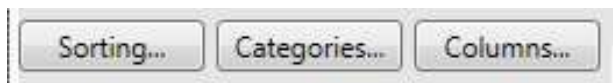
5. Select all lines of the material list and click the “Copy to Clipboard” button. Next, paste as text in a text box within your sheet. The “Copy to Clipboard” button will format the material list in a way that it is readable when pasted in a text box. *To improve results use a fixed width text font for your text boxes.*

6. Select the Text Type, Position and Margin for your Bill of Material. Clicking “Insert Table” will place a Table- like formatted bill of material in your view or sheet.

| Mark | Qty | Size  | Description                               | End Prep | Length      |
|------|-----|-------|-------------------------------------------|----------|-------------|
| 01   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 1'-3 5/16"  |
| 02   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 4'-1 5/16"  |
| 03   | 3   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 5'-10 3/4"  |
| 04   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 6'-3 11/16" |
| 05   | 2   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 1'-7 11/16" |
| 06   | 2   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 1'-8 3/8"   |
| 07   | 2   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 3'-1 3/4"   |
| 08   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 4'-3 3/4"   |
| 09   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 5'-9 5/8"   |
| 10   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 4'-2 5/8"   |
| 11   | 1   | 6"    | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 5'-10 3/16" |
| 12   | 10  | 6"    | VIC 90 DEG ELBOW No. 10                   |          |             |
| 13   | 1   | 6"    | VIC TEE No 20                             |          |             |
| 14   | 1   | 6"x4" | VIC SUCTION DIFFUSER SERIES 731-D         |          |             |
| 15   | 29  | 6"    | VIC QUICKVIC COUPLING STYLE 107N (RIGID)  |          |             |
| 16   | 1   | 3"    | VIC FLANGE ADAPTER STYLE 741              |          |             |

| Mark | Qty | Size | Description                               | End Prep | Length    |
|------|-----|------|-------------------------------------------|----------|-----------|
| 01   | 1   | 6"   | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 2'-0 1/2" |
| 02   | 1   | 6"   | PIPE: ASTM A-53, ERW, BLACK STEEL, SCH 40 | (VGxVG)  | 2'-0 1/2" |
| 03   | 1   | 6"   | VIC CHECK VALVE SERIES 114                |          |           |
| 04   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 05   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 06   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 07   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 08   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 09   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 10   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 11   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 12   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 13   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 14   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 15   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 16   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 17   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 18   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 19   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 20   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 21   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 22   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 23   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 24   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 25   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 26   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 27   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 28   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 29   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 30   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 31   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 32   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 33   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 34   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 35   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 36   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 37   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 38   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 39   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 40   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 41   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 42   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 43   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 44   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 45   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 46   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 47   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 48   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 49   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 50   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 51   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 52   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 53   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 54   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 55   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 56   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 57   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 58   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 59   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 60   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 61   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 62   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 63   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 64   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 65   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 66   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 67   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 68   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 69   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 70   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 71   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 72   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 73   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 74   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 75   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 76   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 77   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 78   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 79   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 80   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 81   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 82   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 83   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 84   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 85   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 86   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 87   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 88   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 89   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 90   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 91   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 92   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 93   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 94   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 95   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 96   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 97   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 98   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 99   | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |
| 100  | 1   | 6"   | VIC 90 DEG ELBOW No. 10                   |          |           |

## 17 – Procurement Tool

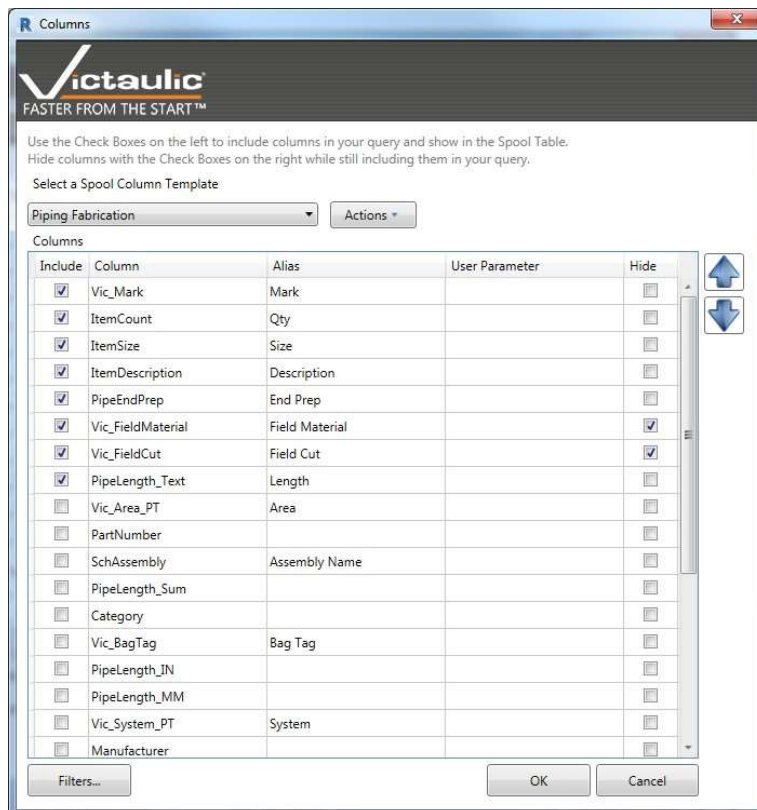
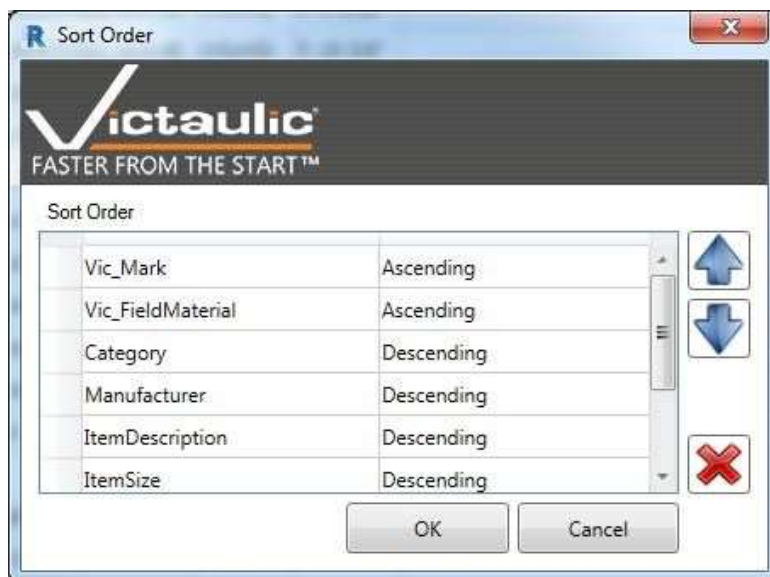


Sorting, Categories, and Columns allows you to customize the look of your bills of material.

**Sort Order** - To change the sort order select the left side then use the up down arrows to move. Sorting priority starts with the first record then moves down (Seen to the right).

**Categories** - Categories allows you to filter from the selection specific Revit family categories. You can also set a prefix for Vic\_Mark tagging (Ex. P-, F-, PA-) (Below to the left).

**Columns** - The Columns window gives you a list of predefined columns that can be added or removed from your bill of material. The column order can be changed by using the up and down arrows. Customize or create your own Spool Column Templates to customize your Static Bill of Material (Seen below to the right).



## 18 – Other



There are additional settings to further customize our software to fit your business needs. The following image shows the default settings. The settings on the left affect the Procurement Tools and Static Bill of Materials on spool sheets. The settings on the right determine how you will acquire our content and get content updates.

**Toolbar Settings**

**Victaulic**  
FASTER FROM THE START™

User Toolbar Settings | Delete Pipe Settings | Assembly and Views Settings | **Other Settings** | Victaulic Tools Registration

**Procurement/Spool Settings**

- ☐ Include PipeEndPrep in Item Description
- ☐ Include Pipe Length in Item Description
- ☒ Auto Rotate Views on Assembly Creation

Pipe Length Fraction Rounding - 1 / **16** "

The text below will be displayed when multiple assemblies exist with the same name. Use (x) to represent the number of assemblies.

MATERIAL TYPICAL OF (x) REQUIRED.

- ☒ Exclude Field Material from Static Bill of Material
- ☒ Separate Field Material in Static Bill of Material

Text: **FIELD MATERIAL**

- ☐ Hide Field Cut Pipe Lengths

Additional Length to Field Cut: **6** Inches

Append Text to Length for Field Cut: **(FCS)**

**Content Settings**

- ☐ Notify Me of Content Updates
- ☒ Show Victaulic Welcome Screen
- ☐ Use Custom Content Directory

**Region Settings**

Select your region below. The Victaulic Toolbar will display the selected region's content after clicking 'Save Settings'.

Region: **United States**

Export Settings | Import Settings | OK | Cancel | Apply

## 18.1 – Procurement/Spool Settings

Include PipeEndPrep in Item Description – This will append the Pipe End Prep shared parameter's value to the end of the segment description when viewing pipe in the Procurement Tool.

Include Pipe Length in Item Description – This will append the pipe length value to the end of the segment description when viewing pipe in the Procurement Tool. To change from Imperial to Metric, set the value in the Procurement Tool.

Auto Rotate Views on Assembly Creation – Piping is not often completely drawn aligned with your project north. In assembly views with this option selected the software will rotate the components to appear as level and aligned as possible.

Pipe Length Fraction Rounding – This applies to only Imperial measuring units on Pipe Length. Typically a fabrication shop will not go any more accurate than 1/8" while some will go to a 16<sup>th</sup> of an inch.

Typical Assemblies – Depend on your customer's needs, you may want to create one spool drawing to represent multiple groups of components. While placing the Static Bill of Material, this can be noted. If more than one instance of this assembly exists, this text will be inserted at the bottom of the table.

Field Material – These options will exclude all Field Material from the Static Bill of Material or Separate the Field Material into a different table separating the tables with the Text specified.

Field Cuts – Periodically a pipe must be cut on site and the measurement is unknown back in the modeling stage. Use these settings to either hide the length or add length to Field Cut pipe.

## 18.2 – Content Settings

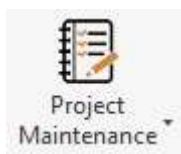
Notify Me of Content Updates – With this option selected, placing a component from our toolbar will always check to see if a new version of the family exists. A screen will appear showing the current version of the family and the latest version along with what has been updated. To see all available updates, use the Content Center.

Show Victaulic Welcome Screen – This splash screen opens when Revit starts and will give you links to useful information such as our Blog, Online Tutorials, and our online store.

Use Custom Content Directory – This option will let an entire office of Revit users share the same content directory. This would allow for a content manager to only manage one folder of content rather than each user having their own.

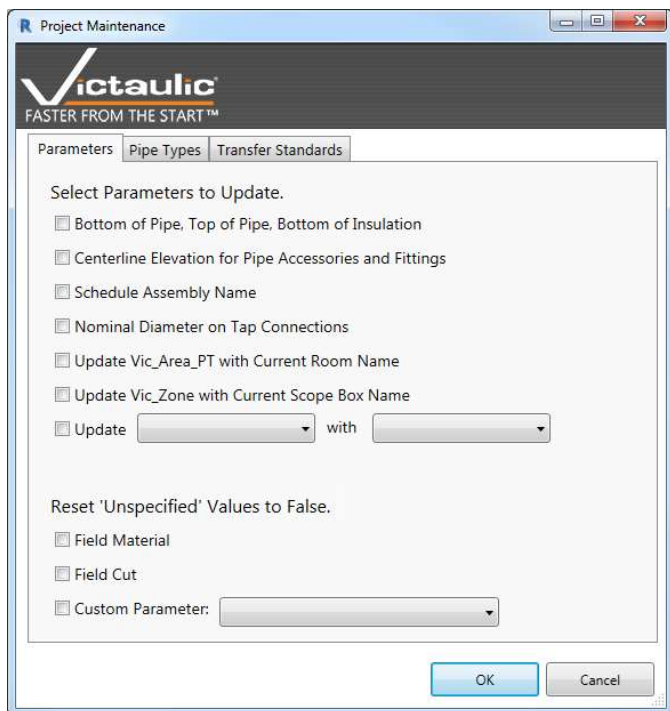
Region Settings – Different areas of the world have different size pipe. Our content is prepared to handle these size and availability differences. Select from United States, Europe, and United Kingdom. The content folders in our toolbar will change and reflect on the region's local sizes and availability.

## 19 – Project Maintenance



This is a tool with multiple functions. There is a series of parameters to update with project data as well as a couple tools for fixing some issues with Yes/No parameters.

The Pipe Types tab offers tools to install our many pipe types but to also backup and restore pipe types.



**Select Parameters to Update** – This section will populate some often used shared parameters in the MEP BIM industry. Native Revit does not account for Bottom of Pipe, Top of Pipe, or Bottom of Insulation.

Centerline Elevation is a shared parameter in Fabrication Pipework that is often needed in annotation tags.

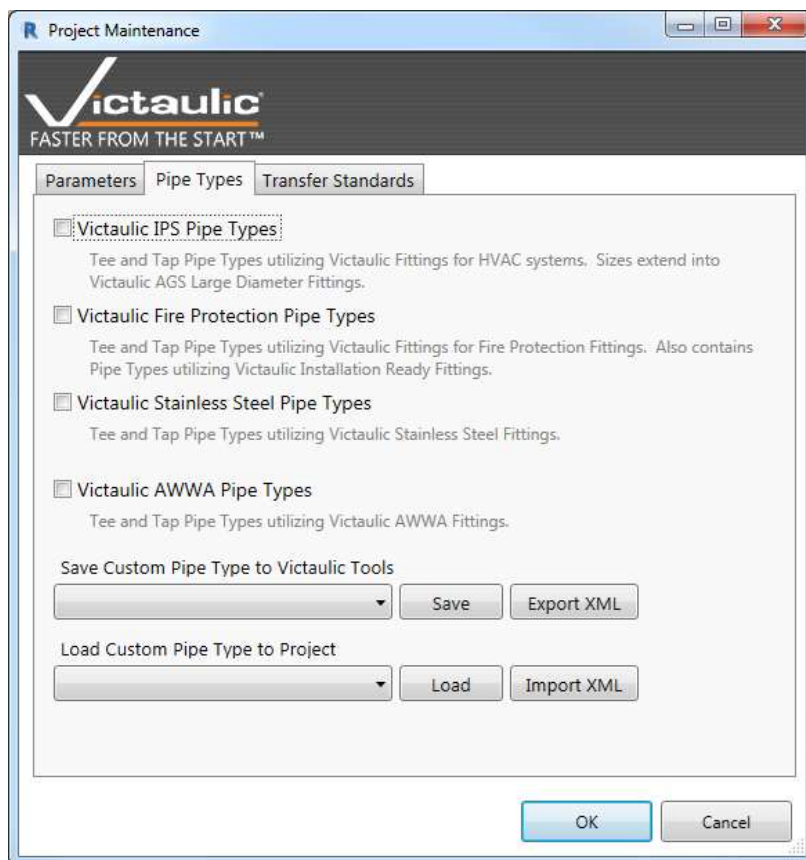
Schedule Assembly Name is a unique name given to each assembly created using our tool. If a user changes the name of the assembly, the shared parameter will need to be updated using this tool.

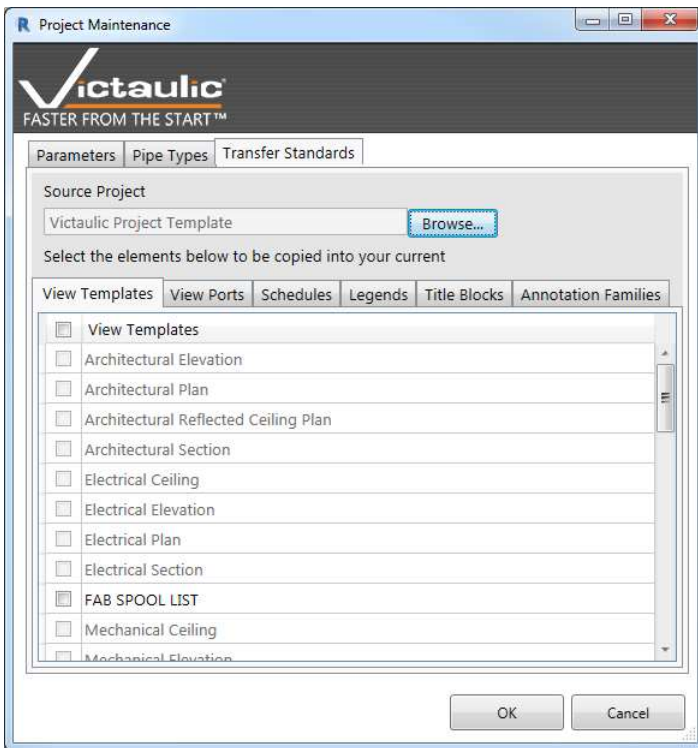
The remainder of the checkboxes will update shared parameters based on the Room and Scope box the components are associated with.

Yes/No parameters default to an unspecified value. This means they can't be used in formulas. This tool will set all unspecified values to False(No) to allow for formulas in schedules (Seen to the left).

**Pipe Types** - The Pipe Types tab offers a quick way to install specific Victaulic Pipe Types without the fear of duplicated families from a copy/paste approach.

There are tools at the bottom for saving Pipe Types to be recalled in a different project. You can also export the XML instruction for each pipe type and import them on another installation of Victaulic Tools for Revit (Seen to the Right).





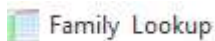
**Transfer Standards** – Transfer Standards is a tool designed to assist in moving specific elements from Project to Project.

The source project always defaults to the Victaulic Project Template but any source project can be used with this tool.

Specific View Templates, View Ports, Schedule Templates, Legends, Title Blocks, and Annotation Families can be directly imported into your working project.

Elements necessary for Tagging and Spooling with Victaulic Tools for Revit will automatically be selected and imported.

## 20 – Family Lookup

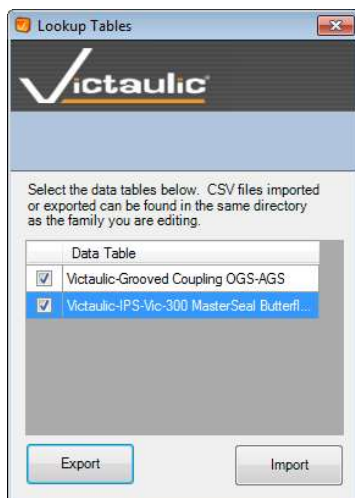


Within the family editor you can export and import all lookup tables being used by the open family. The tool will export and import lookup tables for all nested families (Seen below to the left).

## 21 – Directory Lookup



Scan your directories of families and Import and export all lookup tables within all families. This is a great tool to update your lookup tables that are now imbedded within the family. Update multiple families that share the same lookup table. The tool will also scan each family for nested lookup tables (Seen below to the right).



# 22 – Components Ribbon

|                           |                            |
|---------------------------|----------------------------|
| <b>IPS</b> Victaulic IPS  | <b>CTS</b> Victaulic CTS   |
| <b>AGS</b> Victaulic AGS™ | <b>AWWA</b> Victaulic AWWA |
| <b>SS</b> Victaulic SS    | <b>FP</b> Victaulic FP     |
| Components                |                            |

Select each module to expand and shrink the corresponding product ribbon. By selecting the required fitting or accessory you will automatically load the family if does not already exists in the project.

Existing families will not be overwritten. The family will be ready to be placed in the run of pipe.

You may continue to select products from the ribbon as they are required in your pipe system and eliminate searching your project browser to find the correct family.

|                                                                                            |                                                                                          |                                                                                             |                                                                                           |                                                                                            |                                                                                          |                                                                                             |                                                                                           |                                                                                            |                                                                                           |                                                                                           |                                                                                            |                                                                                           |                                                                                             |                                                                                              |                                                                                            |                                                                                             |                                                                                              |                                                                                            |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|  Fittings |  Valves |  Strainers |  Flanges |  Fittings |  Valves |  Strainers |  Flanges |  Fittings |  Nipples |  Flanges |  Fittings |  Valves |  Flanges |  Fittings |  Valves |  Flanges |  Fittings |  Valves |
| Victaulic IPS                                                                              |                                                                                          |                                                                                             |                                                                                           | Victaulic AGS™                                                                             |                                                                                          |                                                                                             |                                                                                           | Victaulic SS                                                                               |                                                                                           |                                                                                           | Victaulic CTS                                                                              |                                                                                           |                                                                                             | Victaulic AWWA                                                                               |                                                                                            |                                                                                             | Victaulic FP                                                                                 |                                                                                            |

Hidden Feature: If you select a run of piping in the project and then select a family from the component ribbon, the families of the same type will change to the selected family.

# 23 – Important Information

Victaulic Tools for Revit will create five shared parameters within any project that the Procurement Tool is launched. If the parameters already exist they will not be overwritten and data will be pushed to the existing parameters.

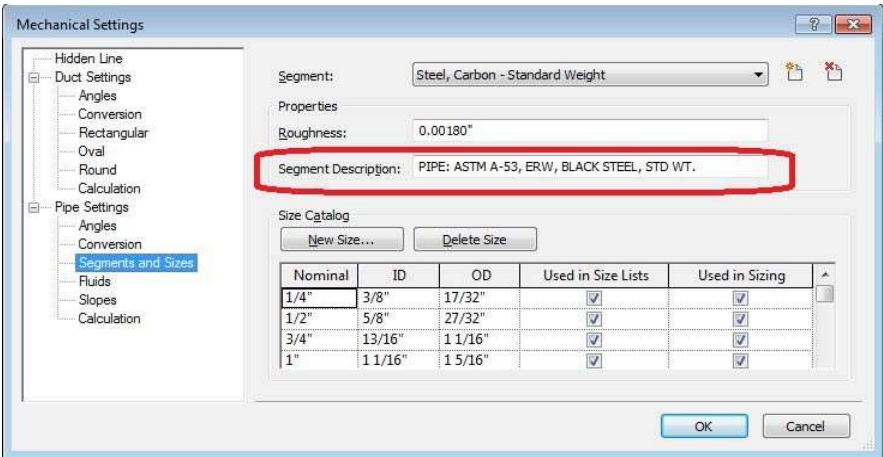
### Under the Construction Group

| Construction  |
|---------------|
| Vic_BagTag    |
| Vic_System_PT |
| Vic_Area_PT   |
| Vic_Mark      |

### Under the Identity Data Group

| Identity Data |
|---------------|
| Part Number   |

Pipe descriptions are found under Mechanical Settings (MS) – Segments and Sizes – Segment Description.



System abbreviations and descriptions are found under Piping Systems in the project browser.

