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.
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.

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 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.

![Resize Selection Image]

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.

![Leveler Image]
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 Tool

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 Presences 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.

*This tool is useful when creating assembly drawings and fabrication maps. You must tab to select fittings in an assembly.
12 – Create Assembly / Continuous Spooling

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 (Continued)

*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.
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 Manager

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.
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.
15 – Victaulic Dock / Component Bank

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.
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).

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.
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 accidently 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 Vender 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.
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.
17 – Procurement Tool (continued)

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 Settings

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.
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 1/16th 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).

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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

<table>
<thead>
<tr>
<th>IPS</th>
<th>Victaulic IPS</th>
<th>CTS</th>
<th>Victaulic CTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGS</td>
<td>Victaulic AGS™</td>
<td>AWWA</td>
<td>Victaulic AWWA</td>
</tr>
<tr>
<td>SS</td>
<td>Victaulic SS</td>
<td>FP</td>
<td>Victaulic FP</td>
</tr>
</tbody>
</table>

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.

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

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.