wavin

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Building Information Modelling

Revit Package Manual

(February 2017)

the easiest way to an 'accurate installation model' in BIM

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A Quick Guide to Wavin Revit content packages

1. Import packages following Wavin's instructions

- Wavin Revit packages contain a lot of additional intelligence, a special Wavin validation view and pipe & fittings schedules.
- Please import files as described by Wavin will give you all the benefits of the Revit packages.

See chapter 1.1 on how to correctly import the Wavin Packages

2. Insert pipes and fittings using the plumbing and piping panel and the properties window

- Select the desired pipe type and diameter and then start drawing a pipework - appropriate default fittings will be inserted automatically.
- By selecting the inserted default fitting, you can change it to another type by using a drop down list from the properties window.
  In some fittings, Wavin offers the possibility to modify their features via the "Graphics" or "Constraints" section of the "Properties" window.
  Via the "Pipe Fitting" or "Pipe Accessory" button in the "Systems" ribbon, you can manually insert desired fittings, which are not included in routing preferences.

Please read next chapters on a more detailed description on how to draw pipes and insert fittings. System-specific fittings are described in dedicated product range chapters.

3. Various pipe types available

- Revit only offers plain-end pipes. Wavin however has made working with socket, and plain-end pipes possible.
- Wavin supports working with DN as well as OD pipe sizes and various colours.

See chapter 2.1 on a full overview of the pipe types you can select for your project.

4. Changing orientation and type of fittings

- Wavin added checkboxes in "Properties" window to easily
  a. switch from an equal to an unequal Tee or from a straight 90° Tee to a swept Tee,
  b. change the orientation of a fitting or rotate an eccentric reducer,
  c. change many other features of the selected fitting.
- Creating non-existent fittings will result in creation of custom fittings or an error message.

5. Implemented solutions for Tee

- Intelligence allows inserting the Tee along with reducers, if needed.
- If applicable, a proper sequence of reducers are inserted automatically. The user does not require full knowledge of catalogues.

See chapters 2.2 and 2.4 for a full overview of selecting the right Tee and reducers for your project.

6. Getting the newest package

Before starting a new project always make sure that you have downloaded the newest version of Wavin Revit Package for optimal functionality, and current product portfolio.

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1. Revit package - General information

1.1. Importing Wavin Revit packages

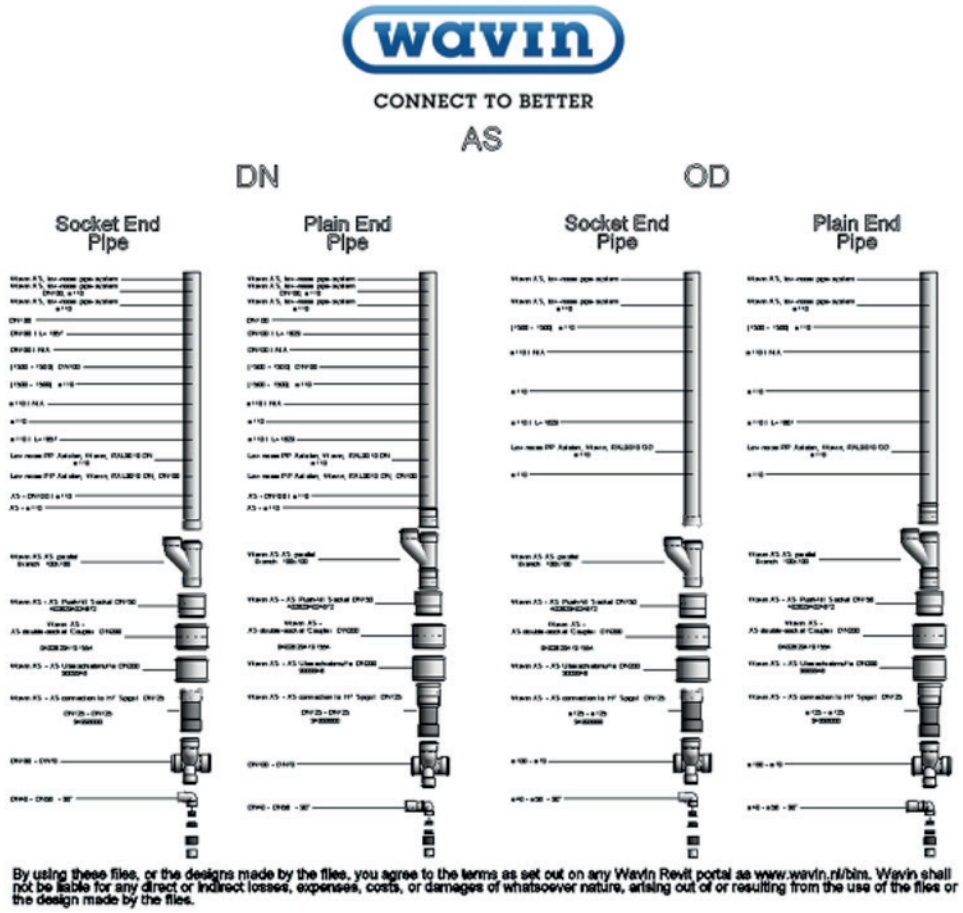
In order to make designing with Revit more user-friendly Wavin decided not only to create Revit families representing the products, but also to add an intelligence. This will help the user to make correct connections and transitions between pipes of different diameters. If correctly used, Wavin's Revit packages will grant user power not only to design the system, but also access to the data, names and catalogue codes of every part used in the system.

This additional functionality only becomes available if the Wavin Revit packages are imported correctly. Below are a few steps required to import the families with tags, Wavin Validation View, and specific Wavin schedules.

Importing families:

1] Open the Revit package to be imported.

- Starting view is opened automatically. Starting view contains various pipe types, tags and possibly some fittings.



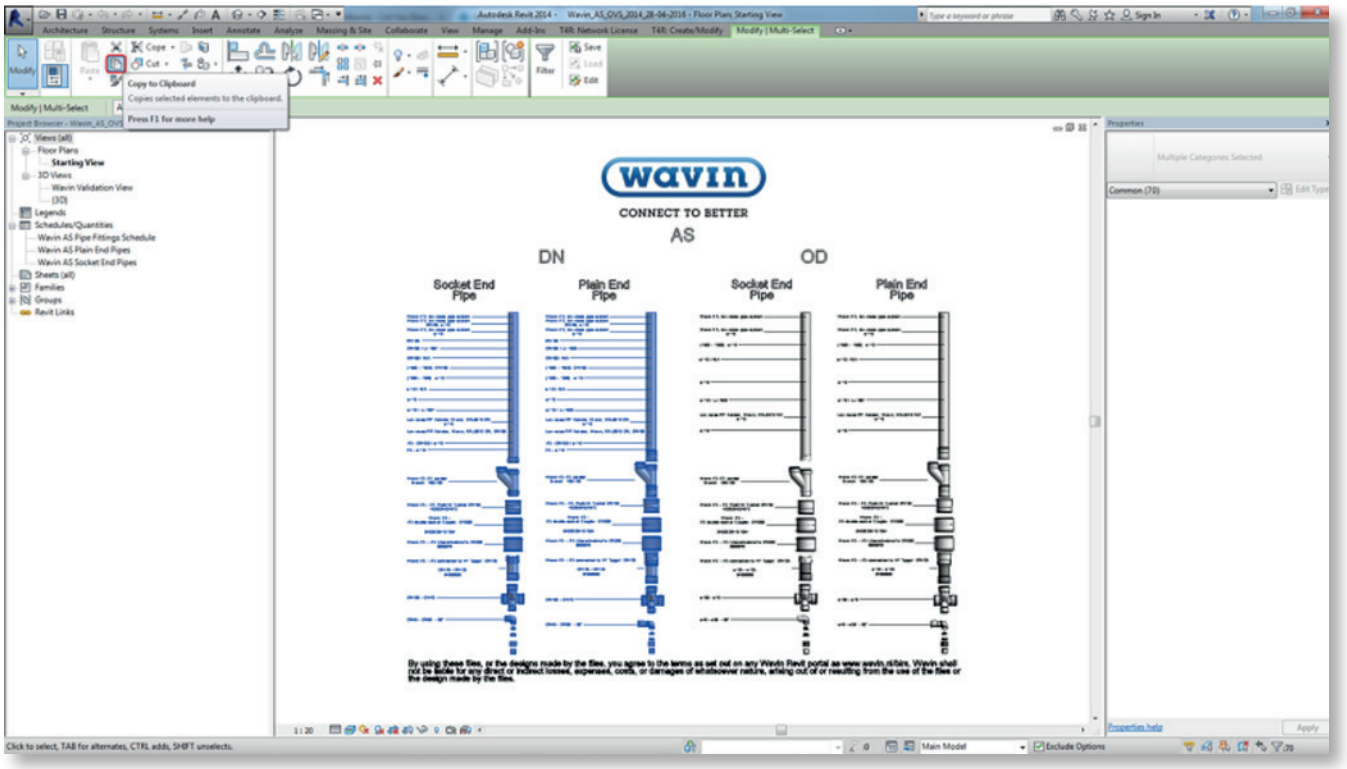
- Wavin has created ready-to-use tags. While annotating the user can choose type of tag and data which is required to be shown in the project.
- Starting view may also include pipe fittings and pipe accessories, which are not included in the routing preferences. They should also be copied in order to include them in the project.

2] Having opened the Starting view, select a pipe type(s) along with fittings and all tags to be used in the project.

- There is no need to copy all the pipe types visible in starting view if the user does not want to work with every pipe type. Only one pipe type required for the project e.g. DN vs. OD or socket vs. plain end or standard vs. insulated, can be used. To learn more about available pipe types go to the section 2.1.
- Do not use DN and OD type of the same pipe in one project.
- Copying only one pipe transfers all the fittings and pipe segments included in its routing preferences

3] Choose the “Copy to clipboard” option.

- This way of copying is required in order to transfer the intelligence correctly.

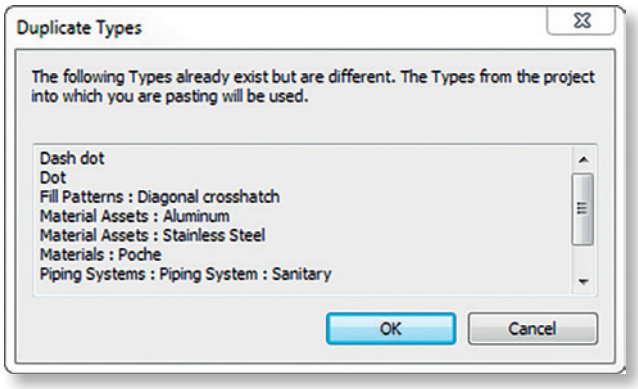


4] Go to the target project.

5] Open any 2D view or a locked 3D view.

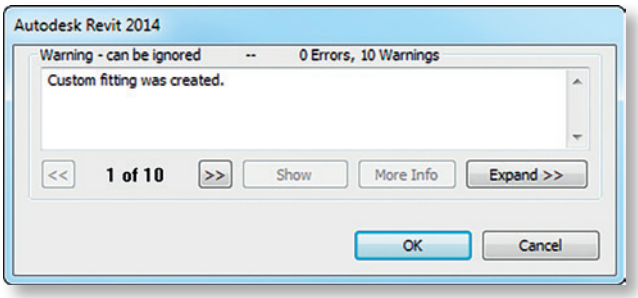
6] Use “Paste from clipboard” function.

- In Revit 2014 and Revit 2015, after clicking “Paste from clipboard” a warning informing that copied types already exist in the project may be displayed. Just click “OK”.



7] Paste the selected elements in an empty, unused space in the project.

In Revit 2014, after pasting family a warning informing that custom fitting was created may be displayed. Just click “OK”.



8] Click the ‘Finish” button in Modify ribbon.

9] Select pasted elements and delete them.

10] The families are now successfully stored in the project and accessible through System ribbon.

Wavin Validation View:

Wavin Revit packages allows the user to check correctness of the items used in the project by highlightingincorrect, or custom fittings using a colour code. Follow the instruction below to import this view.

1] Create a new 3D view in the project or duplicate an existing one.

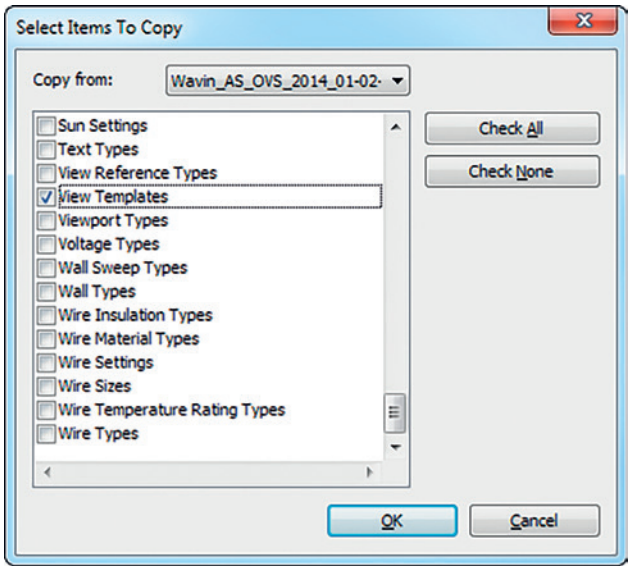
2] Go to the Manage ribbon and click Transfer Project Standards.

3] A list Select Items to Copy appears.

4] Choose the source project name on the top of the list.

If multiple projects are open, make sure to select the Wavin Revit package.

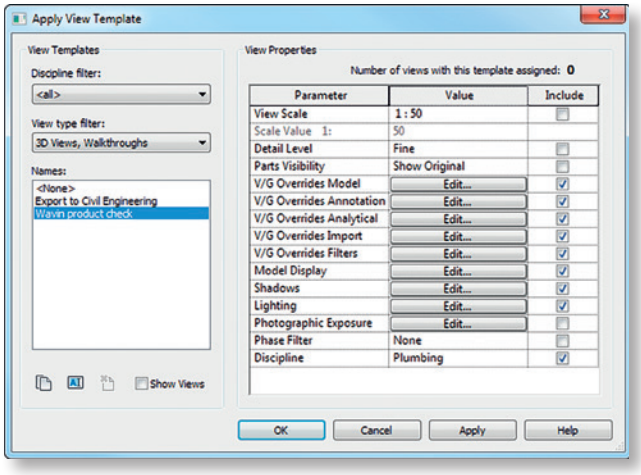
5] Only “View templates” should be selected. Click “OK”.



6] Go to the Properties bar of the view. Find Identity Data and click “View Template”.

7] A window Apply View Template appears.

8] Choose “Wavin Validation View” from the list and click “OK”.



Usage of validation tool is described in section 1.3.

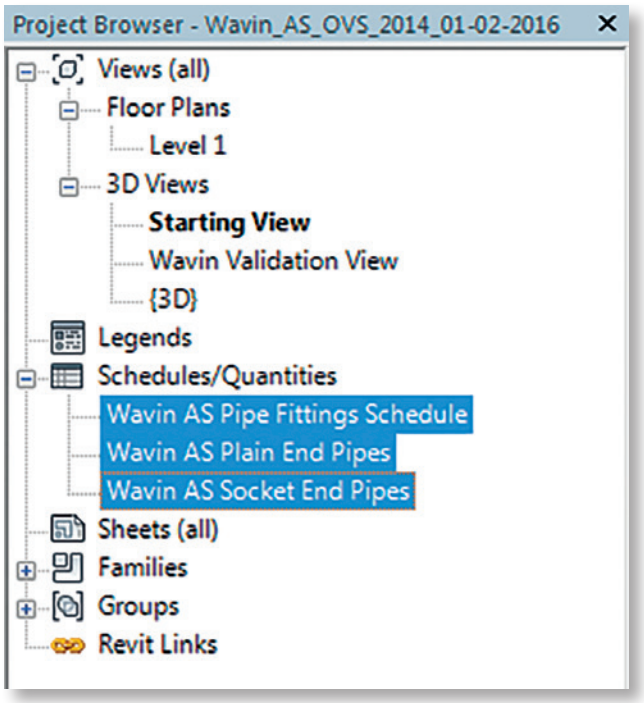
Schedules:

Follow the steps below to import schedules.

1] Go to the Project Browser in Wavin Revit package. Find Schedules/Quantities.

2] Select all Wavin schedules and after right clicking choose "Copy to clipboard".

- Number of schedules may vary between the systems, depending on the product range.



3] Go to the target project.

4] Go to the Modify ribbon and click "Paste from clipboard".

5] Fully functional bills of material are transferred to the project.

1.2. Nested families

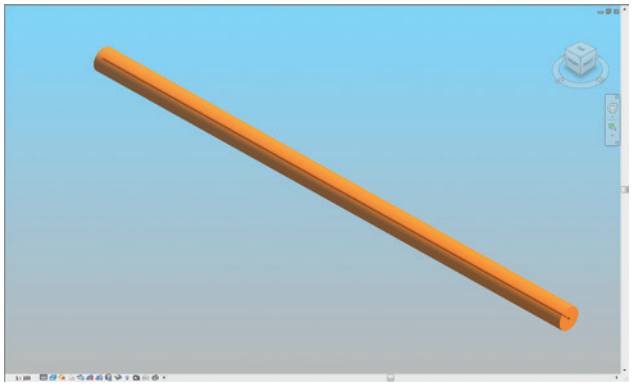
Nested families are components of compound families. Thanks to them, there is no need to insert each item manually.

- Nested components should never be inserted into the project manually.

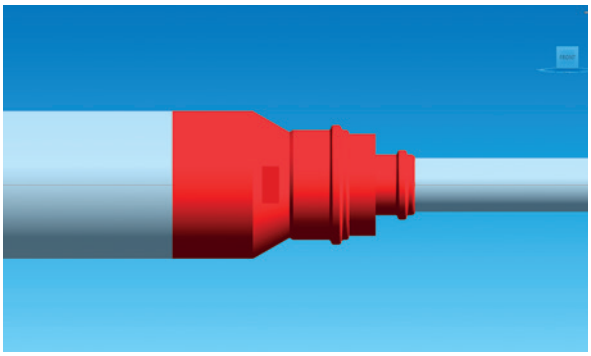
1.3. Product Validation View

The view template in the Wavin package allows the user to check whether or not the dimensions or eccentricity of an individual pipe-fitting are valid.

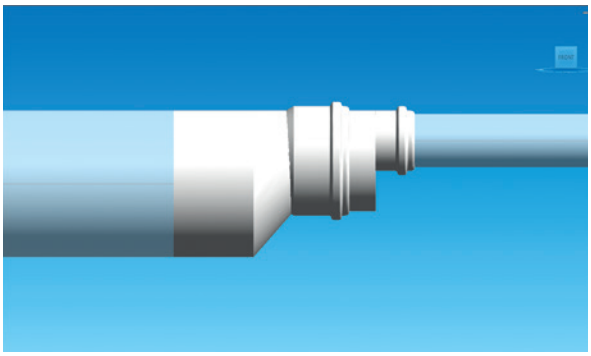
- To check validation of the products, go to the 3D view, which have already been created according to the "Product Validation View" in the section 1.3.
- If a pipe is longer than available, it will be orange.



- If a fitting is not available in the product portfolio or a reducer is NOT set to “eccentric” it will be red with an exclamation mark.



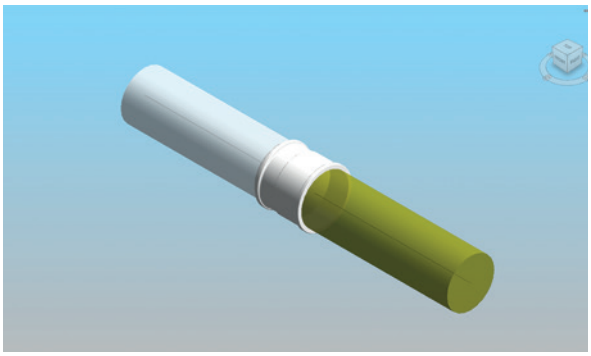
A centric reducer



An eccentric reducer

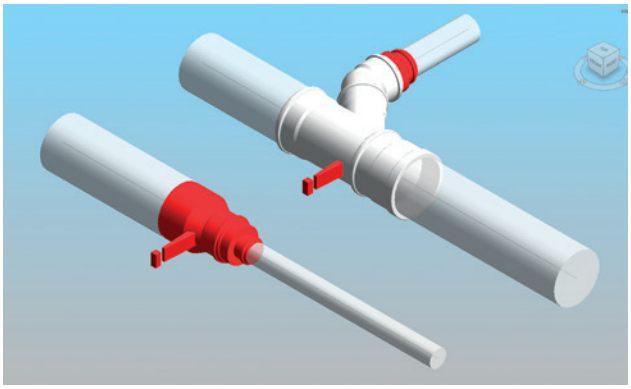
To learn how to work with reducers go to the section 2.2.

- If a created fitting is not a Wavin product, it will be green.



1.4. Custom fittings

From time to time user will obtain a message of creating the custom fitting while inserting a reducer or a branch with reducer (nested component). It means that in order to connect elements Revit had to create a fitting which does not exist in the product range. The file will be workable, and all connections will be valid, however custom fittings will not have catalogue numbers in the bill of materials.



If some parts were left in the project as custom fittings they can be easily found later. If the fitting is custom, it will have an exclamation mark next to the connection. It will be easier to notice in the product Validation View, where custom fittings will be highlighted in red.

If there is an exclamation mark next to the reducer, it means that the connection requires further user action. The warning will disappear if the reducer is changed from centric to eccentric, in that case:

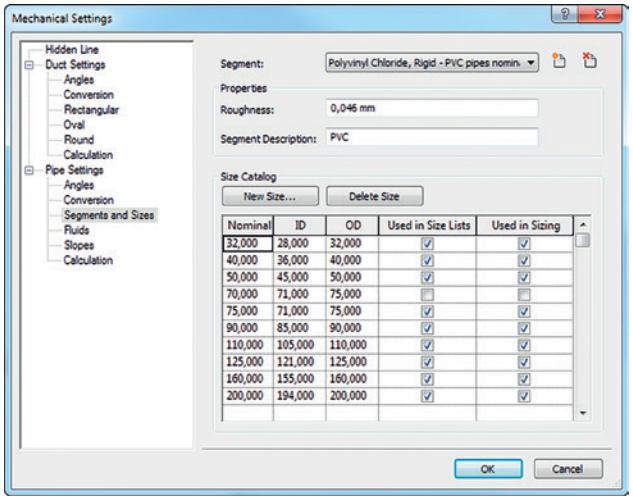
1] Select custom fitting.
2] Switch on checkbox “eccentric”, which can be found in the “Properties” window.
3] Reducer is set to eccentric now.

2. Wavin Revit packages General information

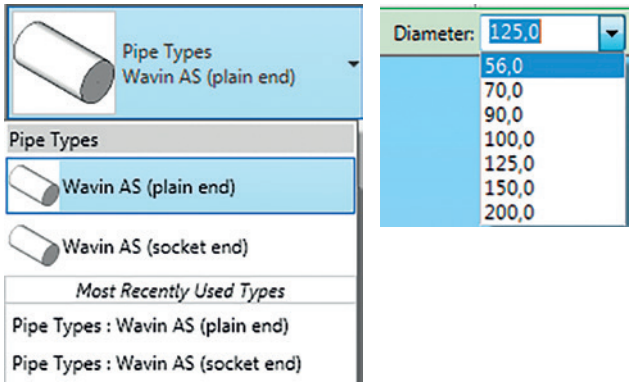
2.1. Working with Pipe Types in Wavin Revit packages

Standard Revit ← versus → Wavin package

Standard Revit utilises US pipe types only. Only plain-end pipes are supported and they can be drawn in any length.



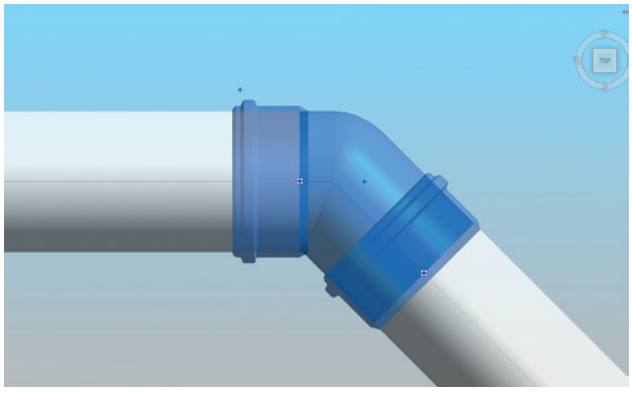
Uses diameters and pipe lengths available in a specific product portfolio. Both plain-end and socket-end pipes are available.



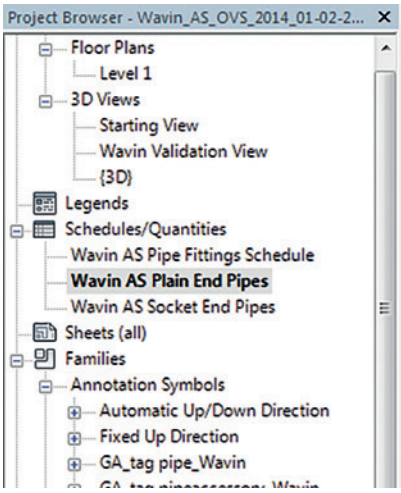
In Wavin's "accurate installation model" package the following challenges were addressed:

1] A product portfolio always contains specific diameters and might contain different colours and socket-end pipes.

- If a product portfolio has multiple colours and/or plain-end pipe and socket-end pipes, Wavin has created a dedicated Pipe Type in the Wavin Revit package.
- Wavin gives the user the option to draw pipes selecting the right OD (Outer Diameter) or DN (Nominal Diameter).
- ⚠ Mixing OD and DN Pipe Types will cause errors in the project. Choose either the DN or OD Pipe Type for the project.
- Standard Revit only provides working with plain-ended pipes. For the product portfolios, which also have socket-end pipes, Wavin has engineered a work around. Wavin added a virtual socket on each spigot of the fittings when connected to a socket-end pipe.



Furthermore Wavin has created a separate Pipe Schedule for socket-end pipes next to one for plain-end pipes.



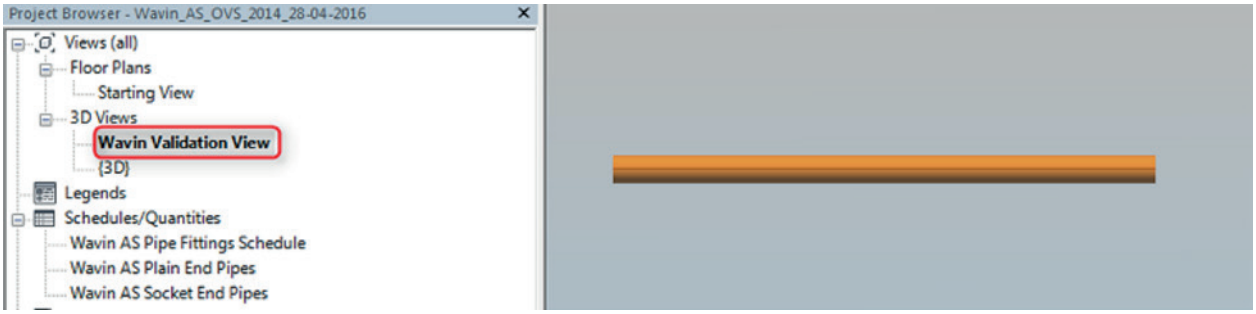
<Wavin AS Plain End Pipes>

A	B	C	D	E	F
Diameter					
DN	Outer	Length (total)	EAN	Article Nr.	Article Descr.
56	58 mm	4,3 m	4026294046179	71595000	AS Pipe DN56 L=3
58	58 mm	3,5 m	4026294046179	71595000	AS Pipe DN56 L=3
70	78 mm	3,0 m	4026294024221	34045000	AS Pipe DN70 L=3
78	78 mm	4,1 m	4026294024221	34045000	AS Pipe DN70 L=3
90	90 mm	2,6 m	4026294318986	03087786	AS Pipe DN90 L=3
90	90 mm	12,1 m	4026294021329	30821000	AS Pipe DN90 L=2
100	110 mm	6,0 m	4026294024238	03106160	AS Pipe DN100 L=2
110	110 mm	6,0 m	4026294024238	03106160	AS Pipe DN100 L=2
125	135 mm	2,9 m	4026294024269	34096000	AS Pipe DN125 L=3
135	135 mm	2,8 m	4026294024269	34096000	AS Pipe DN125 L=3
150	160 mm	3,6 m	4026294024276	34100000	AS Pipe DN150 L=3
160	160 mm	3,8 m	4026294024276	34100000	AS Pipe DN150 L=3
200	200 mm	6,2 m	4026294130410	03014592	AS Pipe DN200 L=3

2] Splitting pipe into available lengths.

- Standard Revit does not have any restrictions on a pipe length. To improve work with Wavin Revit packages, Wavin provides a solution to use pipe lengths, which are available in the product portfolio. .
- To check whether pipes used in the project are available in the product portfolio, open “Wavin Validation View” in the “Project Browser” window.
- If a pipe is orange, it requires further action and its length needs to be split into any dimension available in the product portfolio.
- Changing pipe length:

a. find and select an orange pipe in a “Wavin Validation View”,

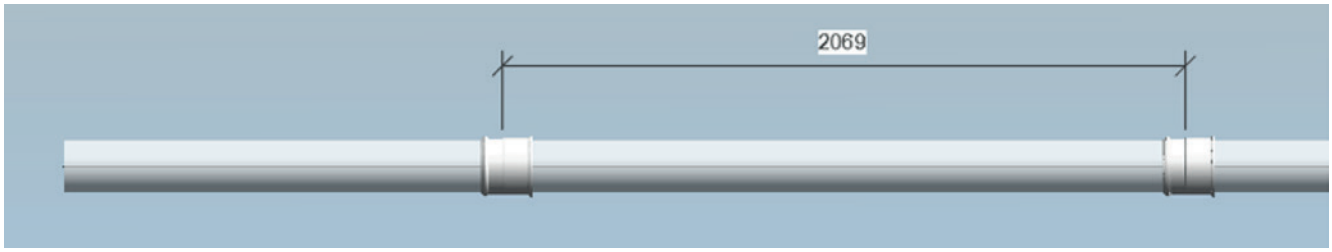


b. locate the pipe in the Floor Plan,

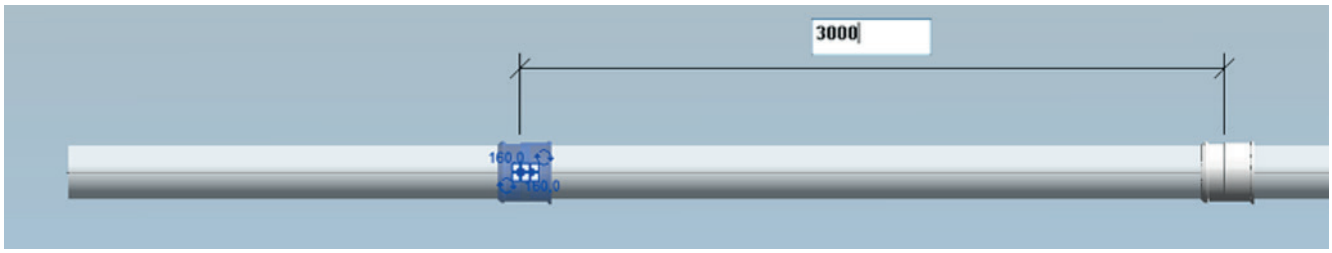
c. split the pipe into sections according to maximum length available,

d) Split the pipe anywhere, and create a dimension (using “Aligned Dimension” function) between the two couplers,

⚠ Make sure to attach the dimension to the coupler. If the dimension gets attached to the end of the pipe, this solution will not work.



e. e) Select the coupler to be moved, and click at the dimension to edit it. Maximum pipe length in Wavin AS is 3000 mm.



f. If the pipe is split properly and its length is available in the product portfolio, the pipe will not be highlighted in the “Wavin Validation View” anymore.

⚠ The same procedure can be used to put in the distance between two couplers, or a coupler, and any other fitting. This is useful to make sure that on long straights the full pipes are used when possible.

Also an incorrect length can easily be found by using a “Pipe Schedule”. Lengths that are not available will be highlighted orange.

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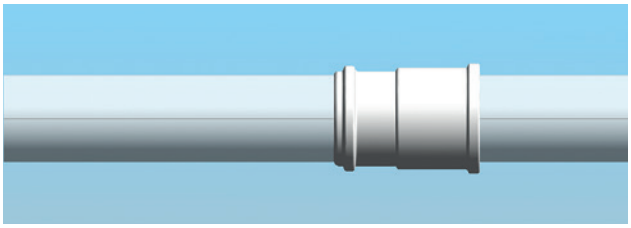
<Wavin AS Plain End Pipes>

A	B	C	D	E	F
Diameter					
DN	Outer	Length (total)	EAN	Article Nr.	Article Descr.
56	58 mm	0,8 m	4026294046179	71595000	AS Pipe DN56 L=3
90	90 mm	0,4 m	4026294021329	30821000	AS Pipe DN90 L=2
125	135 mm	1,3 m	4026294024269	34096000	AS Pipe DN125 L=3
125	135 mm	4,6 m	not applicable	not applicable	not applicable
150	160 mm	0,8 m	4026294024276	34100000	AS Pipe DN150 L=3

3] Working with plain-end and socket-end pipes.

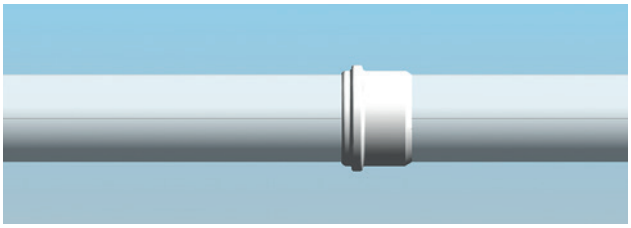
- Standard Revit provides plain-end pipes, but in Wavin Revit packages Wavin improved usage of them by adding a coupler, while connecting a pipe with any pipe fitting. See an example working with plain-end pipe and a coupler below:

  a) Draw a plain-end pipe (choose a proper pipe type in the Properties window).
  b) Split the pipe.
  c) A coupler is inserted.



- As standard Revit does not provide socket-end pipes, Wavin made it possible to visualize them. Follow the procedure below to learn how to work with socket-end pipes:

  a) Draw a socket-end pipe (choose a proper pipe type in the Properties window).
  b) Split the pipe.
  c) A socket is inserted.



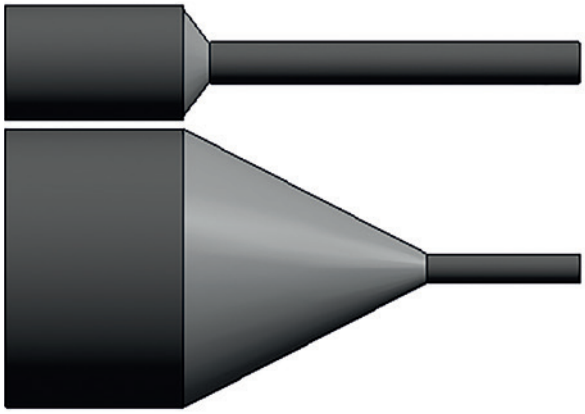
- In Wavin AS it should be correct, whether the elements connecting pipes to fittings are correct for the chosen pipe-type, as both pipe-types are available.

  To learn more about working with plain-end and socket-end pipes go to the chapter 3.

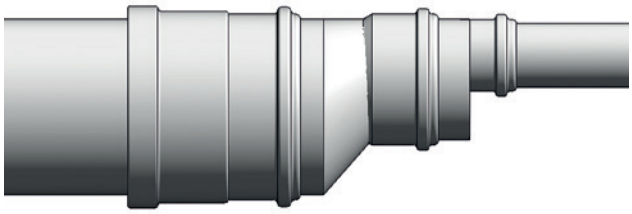
2.2. Working with Reducers in Wavin Revit packages

Standard Revit ← versus → Wavin package

Every reducer connecting any two diameter is possible and is always visualised in the same way.



In soil and waste systems only eccentric reducers should be used keeping the top of the two pipes at the same level.



Often more than one reducer is required.
In Wavin's "accurate installation model" package the following challenges were addressed:

1] **Often more than one fitting is required to connect the two different diameters**

- If more fittings are required, the intelligence of the Wavin Revit package automatically inserts the right combination of reducers.

2] **In soil and waste ranges eccentric reducers should be used. The eccentricity should be positioned keeping the top of the two pipes at the same level. Centric reducers will be treated as custom fittings.**

- By default, Revit places the centre line of the two different diameters at the same level.
- Due to this, a temporary "custom fitting", a centric reducer is placed and the user will be notified by an exclamation mark next to the fitting that this product does not exist in the portfolio.

- In the dedicated Wavin Validation View supplied with the Revit package, all custom fittings will be red.
- If reducers are available in both a short as well as a long version, by default the short version is placed. Changing to a long version by selecting the checkbox "Reducer Long".

3] **Hot and cold Wavin Revit packages provide multireducers, which enable automatic connection with any diameter.**

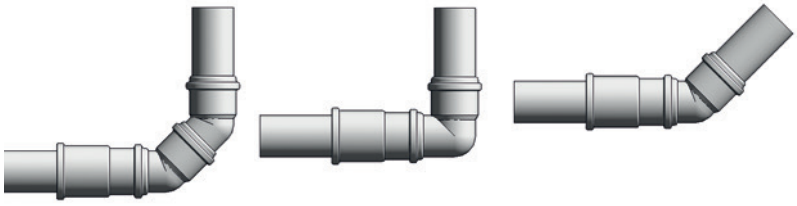
- In hot and cold systems reducers are always centric, therefore do not require changes after insertion.

2.3. Working with Bends in Wavin Revit packages

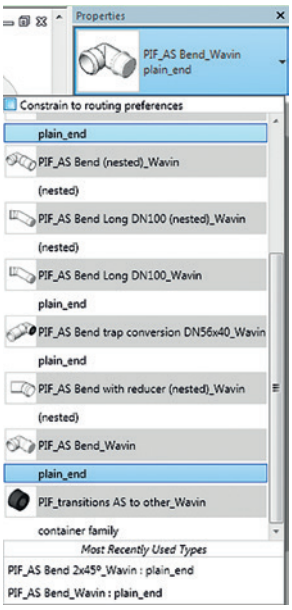
Standard Revit ← versus → Wavin package

It is possible to create a bend with any angle and it is always visualised in the same way. Only symmetric spigot bend with the same working lengths is available.

Only bends that are available in the product portfolio can be designed. A great variety of bends is provided – symmetric and asymmetric, spigoted and socketed.



In Wavin's "accurate installation model " package the following challenges were addressed:



1] Great variety of bend types available in Wavin product portfolio

- Depending on a specific product range, various bend types can be inserted. The default type is a standard bend available in all sizes. It can be changed it into a specific bend type afterwards.

2] Specific diameters and angles of bends available

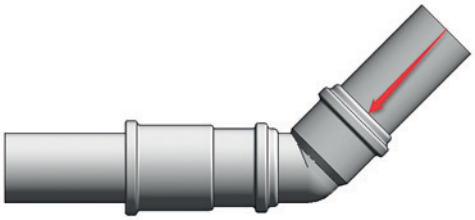
- According to product portfolios, the 15°, 22°, 30°, 45°, 67° and 90° bends can be drawn. Most of them can be inserted automatically by drawing two pipes at a proper angle. Go to the chapter soil and waste and hot and cold issues to learn more about specific bends.

3] In hot and cold systems usually symmetric bends are used. In soil and waste the usage of symmetric and asymmetric bends is possible.

- For symmetric bends the working length of the pipe is the same. For asymmetric bends the working length differs.

4] Depending on the water flow direction, bends may need to be reversed in soil and waste systems.

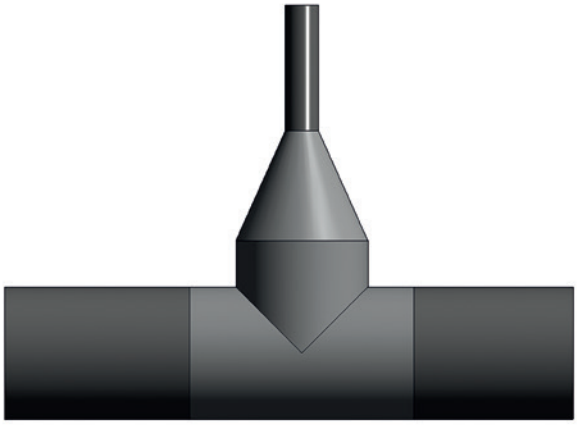
- Depending on the direction of drawing some bends may require changing the flow direction. In such event use the checkbox "Reverse Direction" in the Properties window.



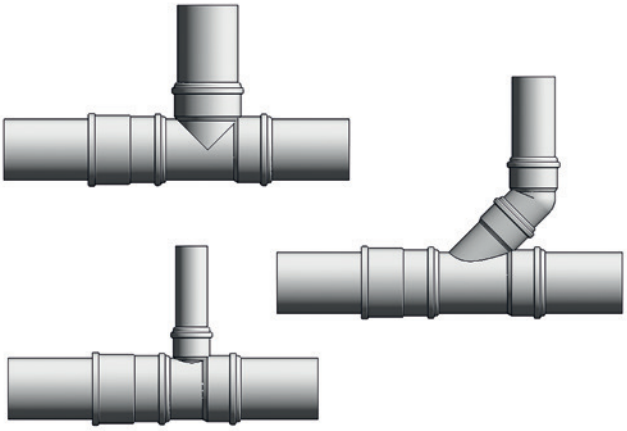
2.4. Working with Branches in Wavin Revit packages

Standard Revit ← versus → Wavin package

Branch connecting any diameter is possible to insert and it is always visualised in the same way. Only equal branches with centric reducers are available.



Only branches available in the product portfolio can be designed. According to product range a great variety of specific types of branches is provided, both equal and unequal ones.



In Wavin's "accurate installation model " package the following challenges were addressed:

1] **Specific diameters and angles of branches available**

⚠ In order to draw a branch upgrade an existing elbow by pressing "+" or connect two pipes together. Some branches need to be inserted manually. Go to the section soil and waste or hot and cold general issues to find more specific information.

2] **Great variety of branch types and their functionalities in Wavin product portfolio.**

- Depending on product range, various branch types can be inserted. Soil and waste Wavin Revit packages provide equal and unequal tees, with centric or eccentric reducers.
- In soil and waste the default type is a horizontal branch connected to a vertical main pipe.
- In hot and cold there is only one available branch type.

3] **By putting intelligence into Wavin Revit packages, there is no need to insert reducers manually.**

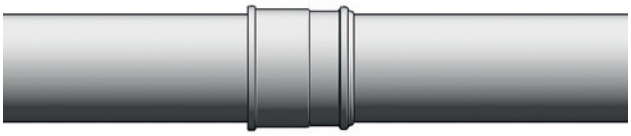
- If applicable, a proper reducer or set of reducers is inserted automatically (as a nested component) so the user do not need to assemble it themselves.

2.5. Working with Unions in Wavin Revit packages

Standard Revit ← versus → Wavin package

Standard Revit provides only visualization of a coupler. The working length of the fitting is not correct.

According to product range a great variety of specific types of unions are provided. The working length of the unions is correct.



In Wavin's "accurate installation model " package the following challenges were addressed:

1] **Correct working lengths enable correct pipe connections**

- While splitting a pipe, the connection points account for the depth of the socket.

2] **A wide variety of union types are available in product ranges.**

- In soil and waste different couplers can be chosen, as: access pipes, pipe sockets, compensator sockets, double sockets, repair couplers, transitions and expansion sockets.
- Hot and cold Wavin Revit packages provide a wide range of standard and threaded couplers and transitions to other systems.
- In soil and waste systems, depending on a pipe-type, a proper type of union should be used. For plain-end pipes a coupler is set as a default union. For socket-end pipes a dummy socket will be used instead of a coupler.

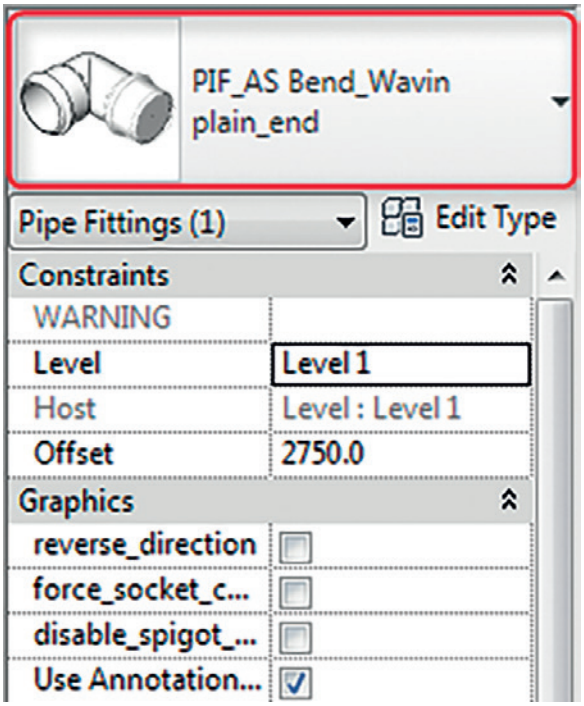
3. Soil and Waste General information

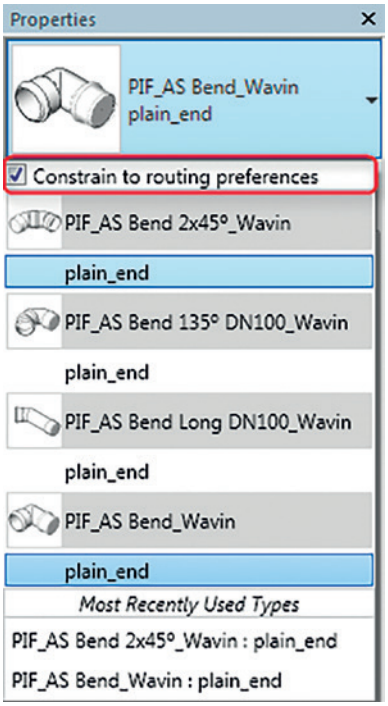
3.1. Bend

Inserting a specific bend type

By drawing two pipes at the correct angle a default bend will be inserted.
To change it into a specific bend type follow steps below:

a. Draw a standard bend connecting two pipes.
b. Select the bend.
c. Go to the “Properties” window and open the list by clicking the bend picture as shown below.





d. Turn on “Constrain to routing preferences” checkbox to limit the list of various bend types.
This additional functionality allows to avoid inserting a nested component.
e. Choose a bend type from the list.
f. Move the mouse to the Main window or click the “Apply” button at the bottom of the “Properties” window to see the changes.

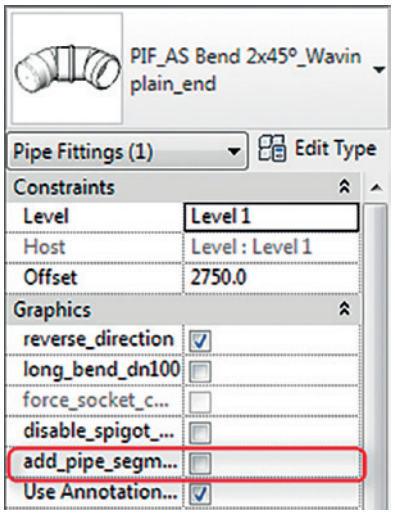
Working with 67° bends

67° bends may require a different way of insertion than other angles.
To insert 67° bend, there is a need to follow the procedure below:

a. Draw two pipes connected at 90° angle.
b. Select a pipe and drag one end of the pipe until it reaches 67° angle.

Replacing 90° bend with two 45° bends

In soil and waste two 45° bends can be used instead of one 90° bend.
They are provided as a nested component, as they cannot be inserted automatically.



To put two 45° bends in a project, follow the procedure below:

a. Draw a 90° bend.
b. Select the bend and choose Bend 2 x 45° from the list in the "Properties" window.
c. To insert a pipe between two bends turn on "Add Pipe" checkbox.
d. To change the default pipe length, type the required length into the box.

Changing features and properties of bends

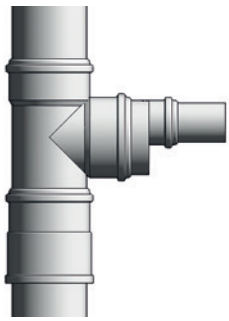
Wavin Revit packages provide additional functionalities, which enable changing properties of bends. Some of them are available only for specific bend types.
To change the properties of the fitting go to the "Properties" window.
By selecting checkboxes the following functions can be turned on/off:

a. Reverse direction – to change a direction of the bend,
b. Bend Long DN100 – to change a 110mm bend into a long one. Possible only in Wavin AS,
c. Add Pipe – to insert a pipe between two 45° bends,
d. Force Socket Connection – to choose socket as a connecting element,
e. Show Spigot End – to remove connecting elements (for example when connecting fitting to another fitting).

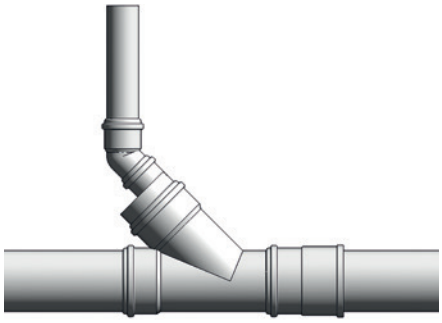
3.2. Branch

Three different options of tee connections provided

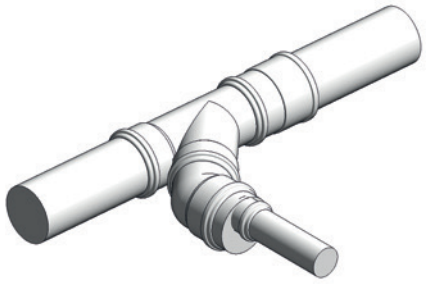
Considering usage of the tee, hydraulics optimization and avoiding negative pressures, the following solutions can be chosen:



Horizontal branch
entering a vertical main pipe
(set as a default option)



Vertical branch
entering a horizontal main pipe

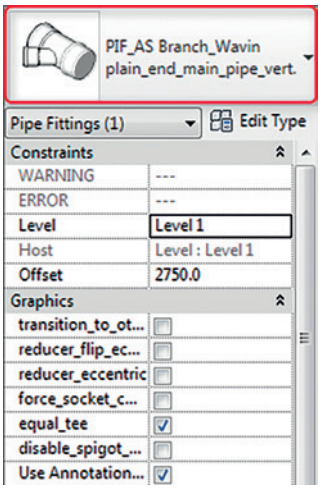


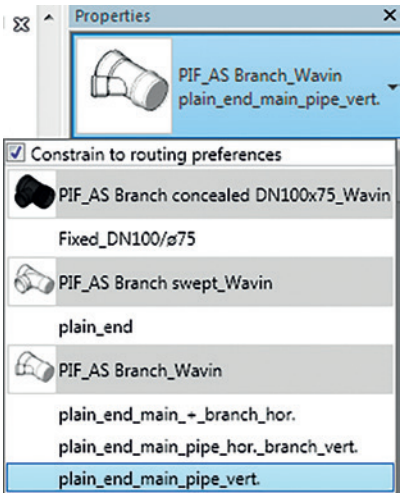
Horizontal branch
entering a horizontal main pipe

- For a horizontal branch connected to a vertical main pipe and for a vertical branch to a horizontal main pipe both an equal and an unequal tee can be used.
- For a horizontal branch connected to a horizontal main pipe it is recommended to use an equal tee, for other cases use an unequal tee if possible.

A horizontal branch entering a vertical main pipe is set as a default. To change it into another option follow the procedure below:

a. Go to the “Properties” window and open the list by clicking the branch picture as shown below.

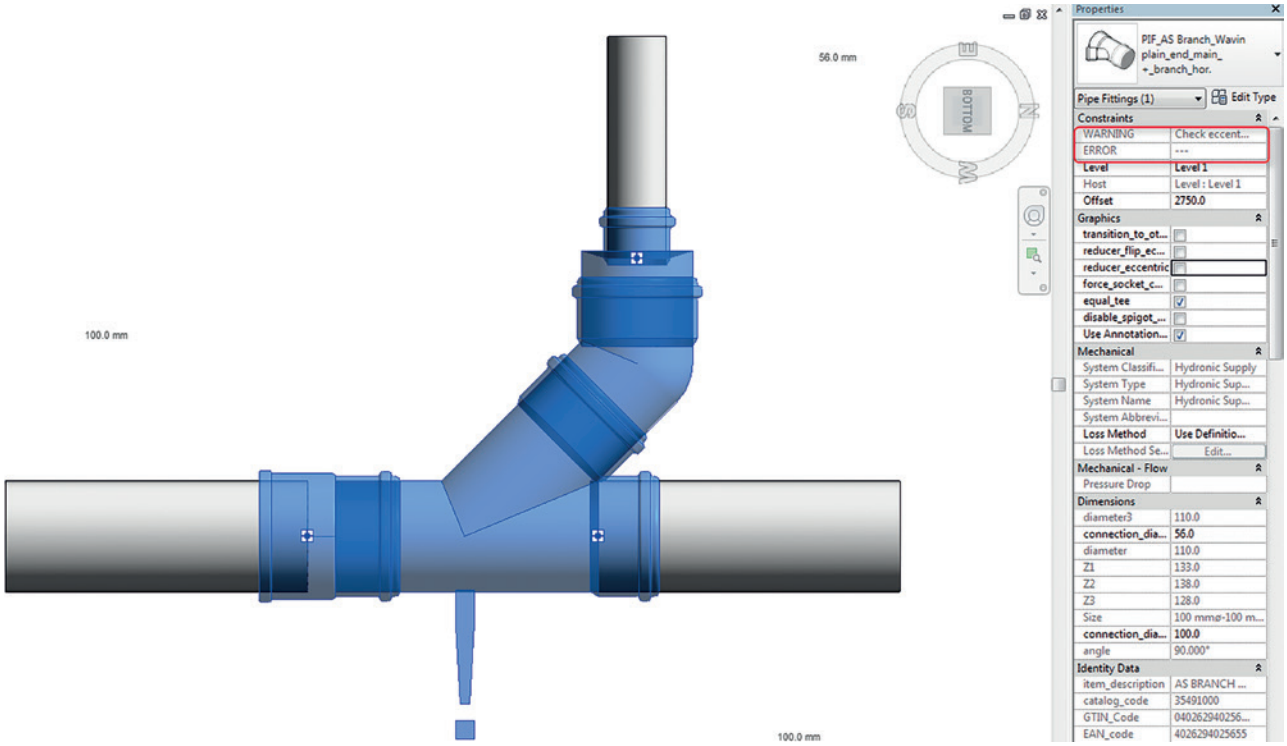




b. Choose a branch type from the list.
c. Click the “Apply”.

Working with reducers

In soil and waste every instance or reducer, or reducer group “eccentricity” needs to be turned on manually since Revit automatically inserts reducers as centric ones, which may not be available in the product range. A red exclamation mark will be displayed along with a warning in the “Constraints” chapter of the “Properties”).



Changing features and properties of branches

Wavin Revit packages provide additional functionalities which enable changing features and properties of the branches. Some of them are available only for specific branch types. To change properties of the fitting go to the “Properties” window. By selecting checkboxes the following functions can be turned on/off:

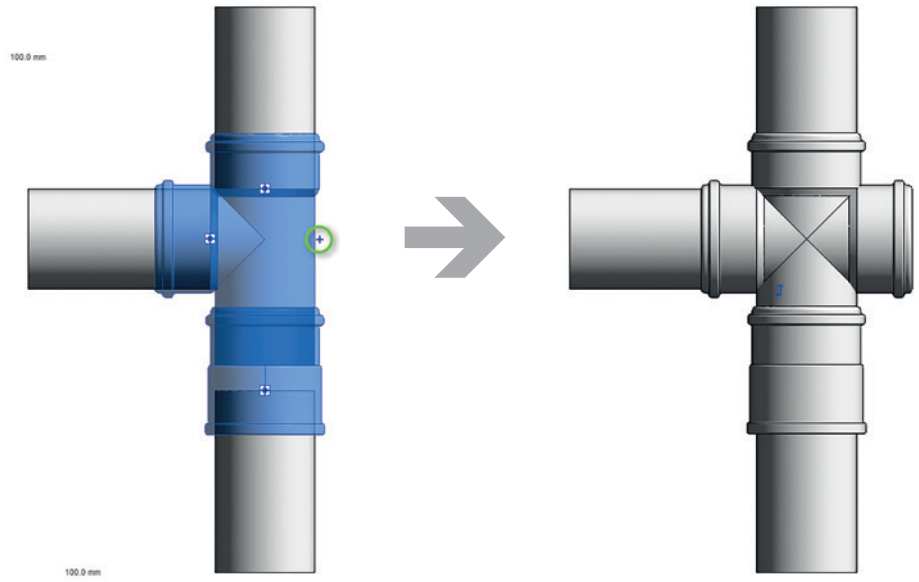
a. Force Socket Connection – to choose the socket as a connecting element,
b. Show Spigot End – to remove connecting elements (for example when connecting fitting to other fitting),
c. Tee Equal – to change a tee between equal and an unequal one,
d. Tee Swept – to change a tee type between swept standard,
e. Tee 67° - to change an angle of the branch from 90° to 67°. In next point a procedure of how to insert a 67° tee will be presented,
f. Tee 45° - to change an angle of the branch from 90° to 45°. In the next point a procedure of how to insert a 45° tee will be presented.

3.3. Double Branch

Inserting a double branch

Soil and waste Revit packages contain also a great variety of double branches with different family types, dimensions and angles. To insert a standard double branch follow the steps below:

a. Draw a standard branch.
b. Select a branch.
c. Click the “+” to create a new connector.
d. This will insert a double branch, start drawing pipe from the new connector.

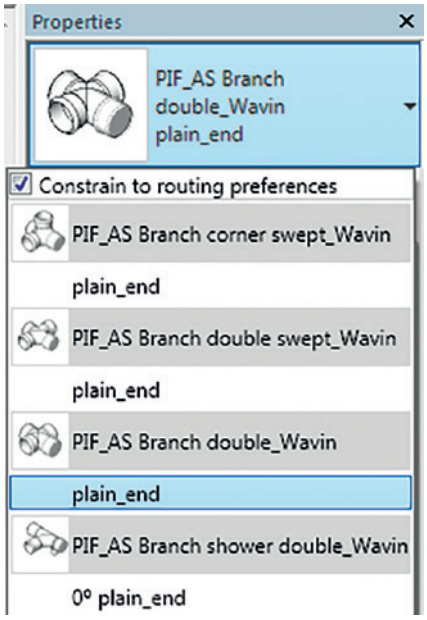


⚠ In PVC-HT and SiTech+ packages it is recommended to insert a double branch manually, using Pipe Fitting function (see the procedure of inserting in the section 4.6). As placing a double branch like described above might cause some disconnection between the fitting and the pipes.

Changing a double branch type

Depending on the system, other double branch family types are available and can be inserted into the project:

a. Having a standard double branch inserted, select it.
b. Go to the Properties window and choose another type of double branch.
c. Click the “Apply”.



Changing features and properties of double branches

To set other properties of the Double Branch go to the “Properties” window. By selecting checkboxes the following function can be turned on/off:

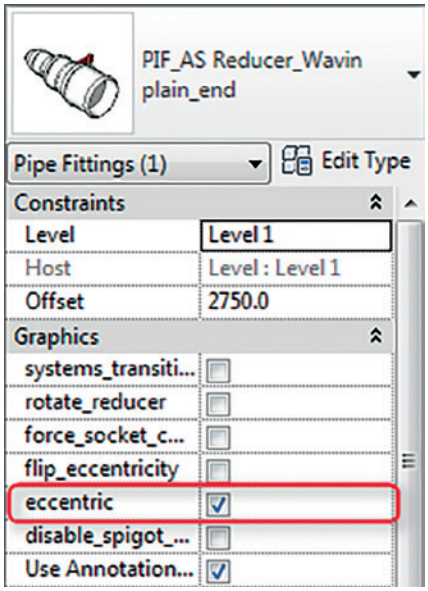
a. Show Spigot End – to remove connecting elements (for example when connecting fitting to other fitting).

3.4. Reducer

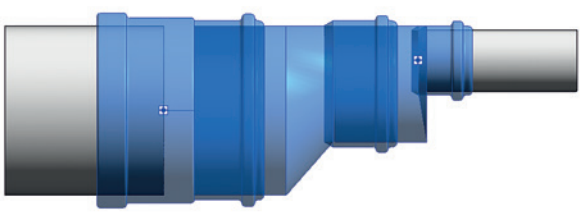
Changing a reducer from centric to eccentric

Only eccentric reducers should be used, in this case follow steps below to replace a centric reducer with an eccentric one:

a. Apply slopes to horizontal pipes before changing centric reducers into eccentric.
b. Select the custom fitting (centric reducer).
c. Select checkbox “Reducer Eccentric”.
d. Click the “Apply”.
e. If required, rotate the reducer by either selecting Reducer Rotate 90° resp. 180° or by using the standard Revit Rotate functionality.



⚠ Keep the top of the two pipes at the same level.

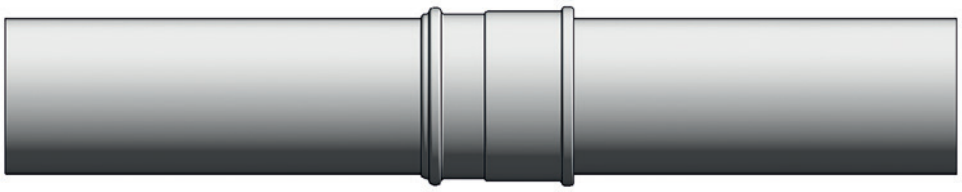


3.5. Union

Inserting a union

A union is inserted when a pipe is split into two elements. For plain-ended pipes a coupler is set as a default union. For socketed pipes a socket is set as a default union. To insert a union follow the steps below:

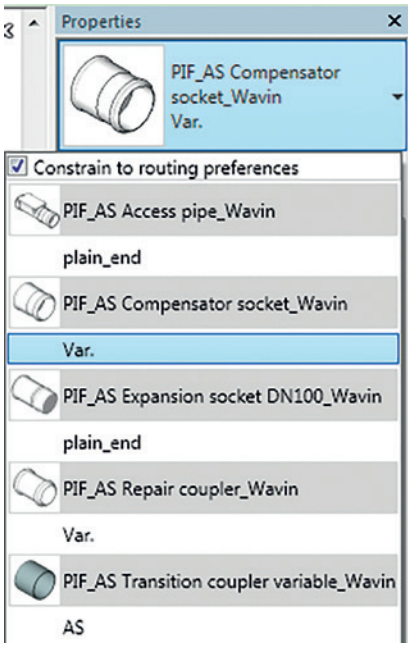
a. Draw a pipe.
b. Select pipe and split it.
c. A default union is inserted.



Changing a union

To replace a default union type into a specific one follow the steps below:

a. Insert a default union as shown above.
b. Select union.
c. Choose another type of union from the “Properties” window to replace it.
d. Click “Apply”.



Changing features and properties of unions

Wavin Revit packages provide additional functionalities which enable changing features and properties of the unions. Some of them are available only for specific union types. To change properties of the fitting go to the “Properties” window. By selecting checkboxes the following functions can be turned on/off:

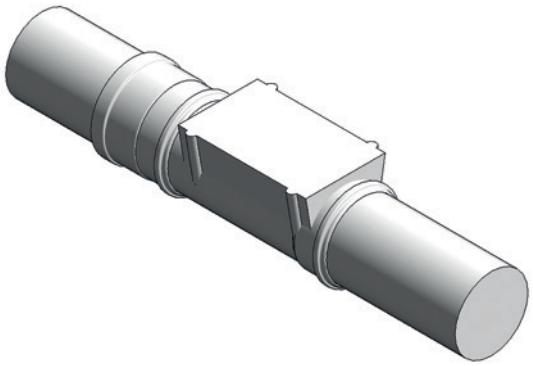
a. Reverse Direction – to change a direction of the union,
b. Force Socket Connection – to choose socket as a connecting element,
c. Show Spigot End – to remove connecting elements (for example when connecting the fitting to another fitting).

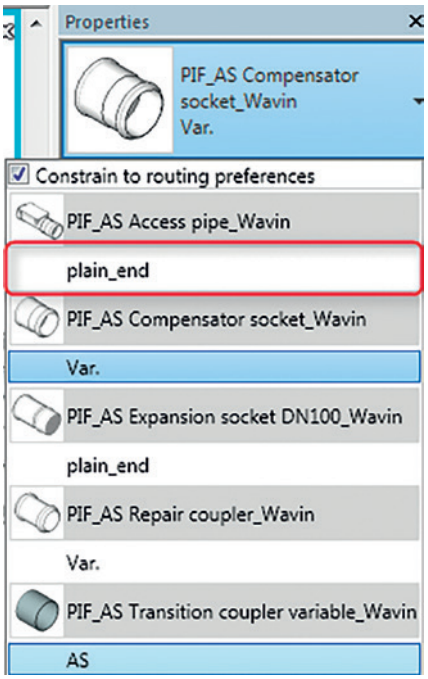
3.6. Access Pipe

Inserting access pipe

Wavin Revit packages for soil and waste systems provide access pipes with different dimensions, depending on the product range.
Please follow the steps below:

a. Draw a coupler (according to procedure in section 3.5).
b. Select the coupler.
c. Go to the Properties window and choose an access pipe from the list.
d. Click the “Apply”. A coupler has been replaced by the access pipe.





Changing features and properties of access pipes

To set other properties of the access pipe go to the “Properties” window. By selecting checkboxes the following functions can be turned on/off:

a. Reverse Direction - to change a direction of access pipe,
b. Show Spigot End – to remove connecting elements (for example when connecting fitting to other fitting),
c. Force Socket Connection – to choose socket as a connecting element,
d. 45_degrees – to change an angle (only in PE),
e. Coupler – to insert a coupler (only in Wadal).

Rotating a fitting

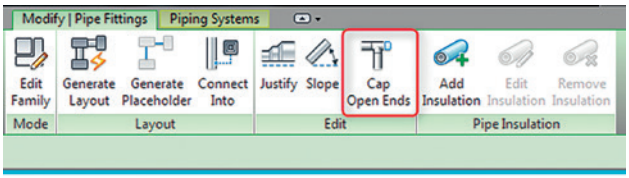
To rotate the access Pipe use the standard Revit function.

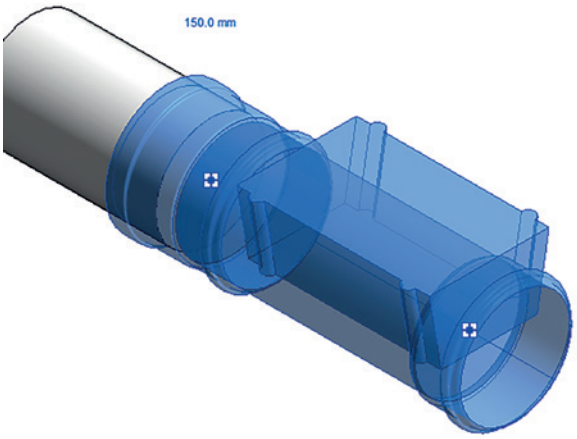
3.7. End cap

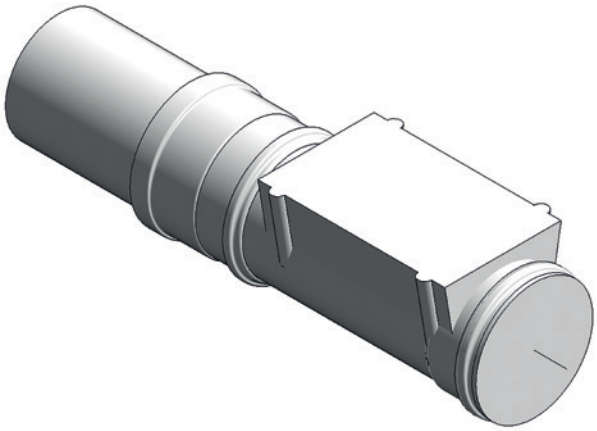
Inserting an end cap

Wavin has supplied packages with end caps to cover the end of a pipe or a pipe fitting. To insert an end cap follow the procedure below:

a. Select a pipe or a pipe fitting, which has at least one connector not in use.
b. Go to the Modify ribbon and click “Cap Open Ends” function.
c. The end cap is inserted automatically.







Changing features and properties of end caps

To set other properties of the End Cap go to the “Properties” window. By selecting checkboxes the following functions can be turned on/off:

a. Show Spigot End – to remove connecting elements (for example when connecting fitting to other fitting),
b. Force Socket Connection – to choose socket as a connecting element,
c. Pipe Cap – it is used because of the difference between the depth of the socket for pipes and pipe fittings,
d. Coupler – to insert a coupler (only in Wadal).

⚠ “Pipe Cap” function is provided only in SiTech+ package. Because of the difference between the depth of the sockets for pipes and pipe fittings, there is a necessity to use function “Pipe Cap”. Turn on checkbox “Pipe Cap” while capping an end of a pipe. While connecting an end cap to a pipe fitting, the checkbox must be turned off

3.8. Transition

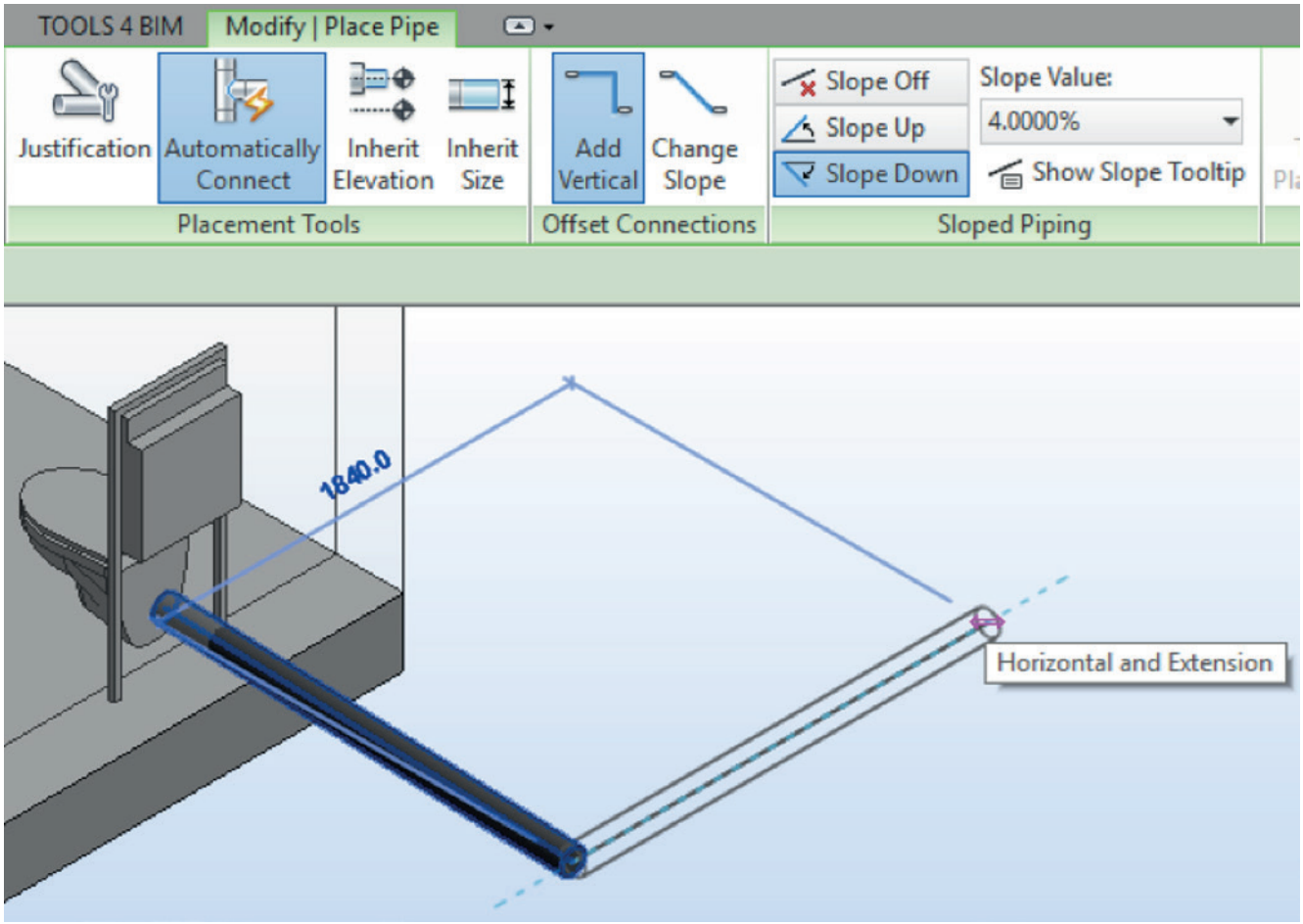
When two pipes of different properties meet, a transition will be created.
This group consist of reducers, couplers and transitions to other systems.

3.9. Working with slopes

There are several ways of creating slopes with S&W piping systems. In this section they are covered starting with the ones easiest to apply, and finishing with the most reliable ways.

Method 1

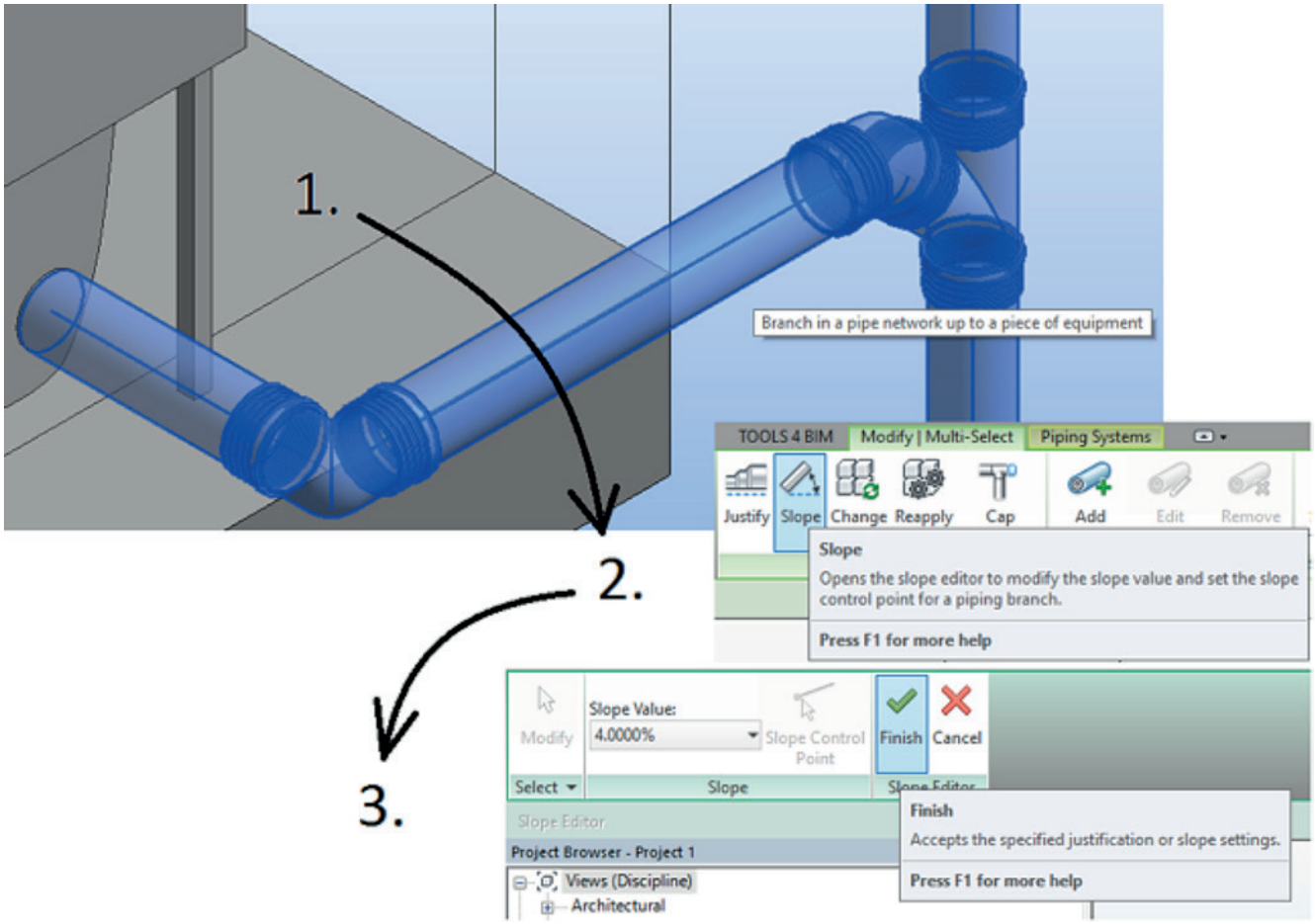
Drawing with “Slope Up” or “Slope Down” option ON – set slope is automatically applied on every pipe drawn.



Method 2

Use of “Slope” option on system that has been created with no slopes.

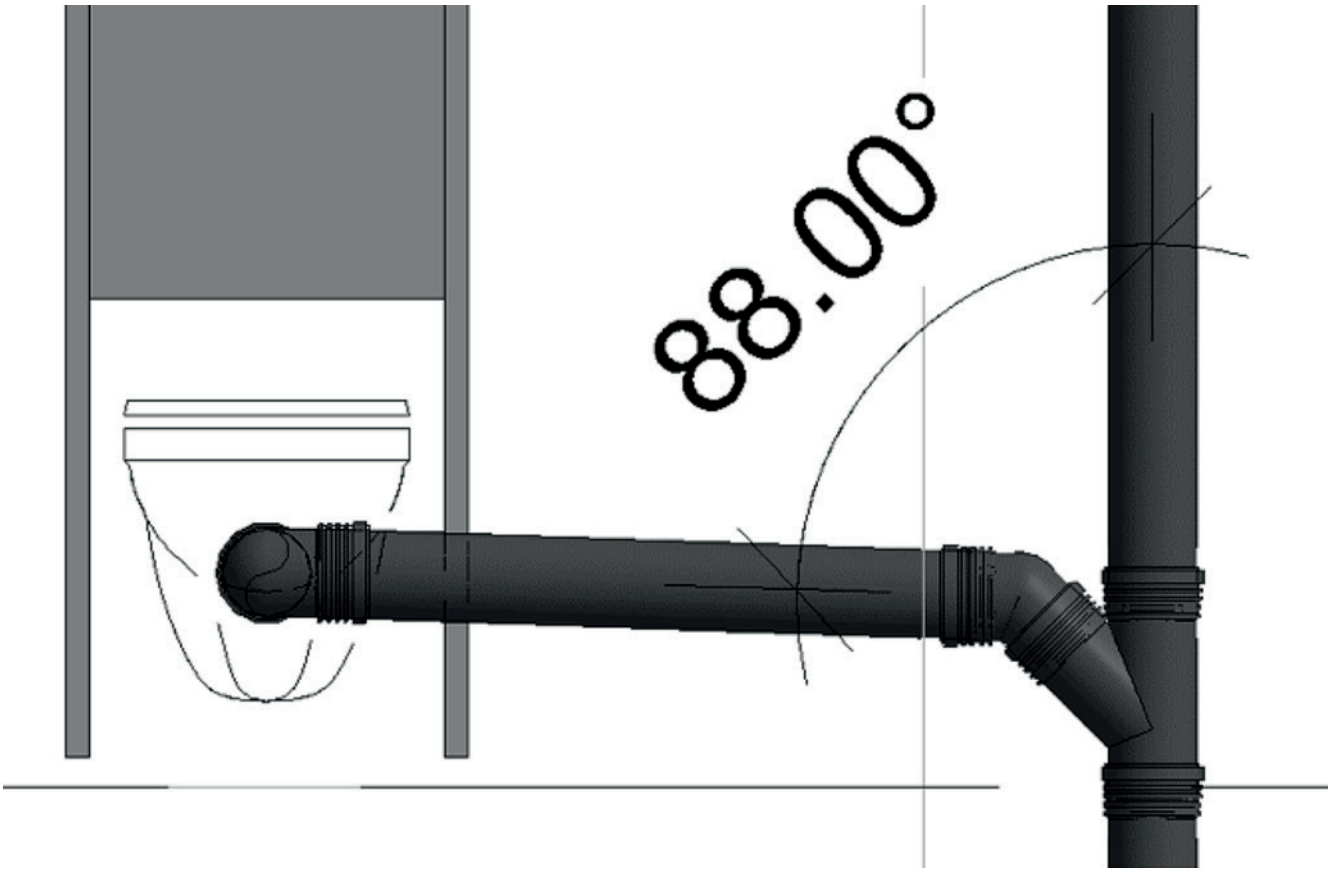
a. Use TAB key to select all system components, and click to confirm the selection (1.).
b. Go to “Modify” ribbon, and activate “Slope” function (2.).
c. Select “Finish” to apply the slope (3.).



Method 3

Angle Dimension annotation tool.

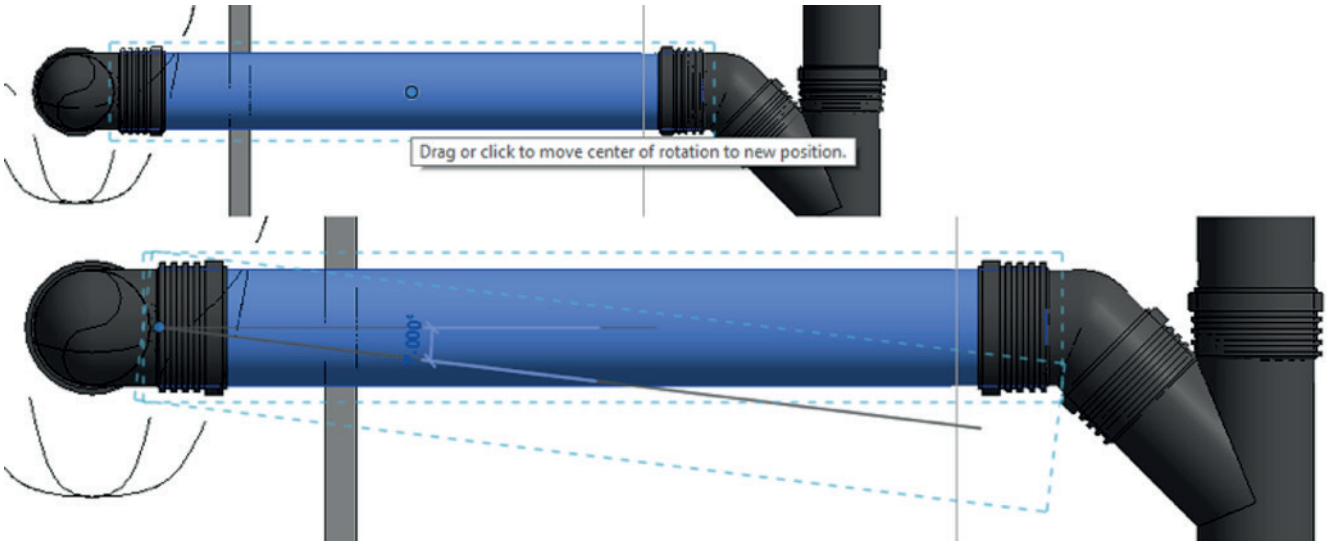
a. Go to an “Elevation” or “Section” view which shows the horizontal pipe.
b. Create an “Angular Dimension” between a vertical pipe, and the target horizontal pipe.
c. Select the horizontal pipe.
d. Click on the “Angular Dimension’s” value, and change it to desired value.



Method 4

Rotate tool in Modify Ribbon.

a. Go to an “Elevation” or “Section” view which shows the horizontal pipe.
b. Selecting the target pipe, and go to the “Rotate” tool in “Modify” ribbon.
c. Move the rotation base point to the pipe’s end, and onto its center axis.
d. Click, and rotate using mouse, or by typing in the desired angle of rotation.



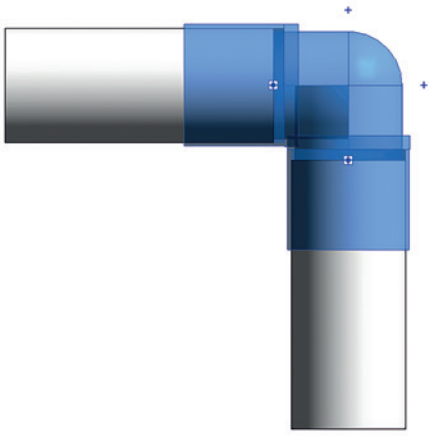
4. Hot & Cold General information

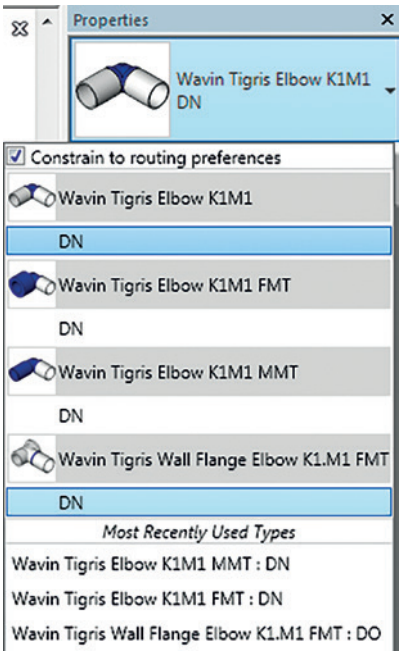
4.1. Bends

Inserting a specific bend type

By drawing two pipes at the correct angle a default bend will be inserted.
To change it into a specific bend type follow steps below:

a. Draw a standard bend connecting two pipes.
b. Select the bend.
c. Go to the “Properties” window and open the list by clicking the bend picture as shown below.





d. Turn on “Constrain to routing preferences” checkbox to limit the list of various bend types.
   This additional functionality avoids inserting a nested component.
e. Choose a bend type from the list.
f. Click “Apply”.

Changing features and properties of bends

Wavin Revit packages provide additional functionalities which enable properties of bends to be changed. To change properties of the fitting go to the “Properties” window. By selecting checkboxes the following functions can be turned on/off:

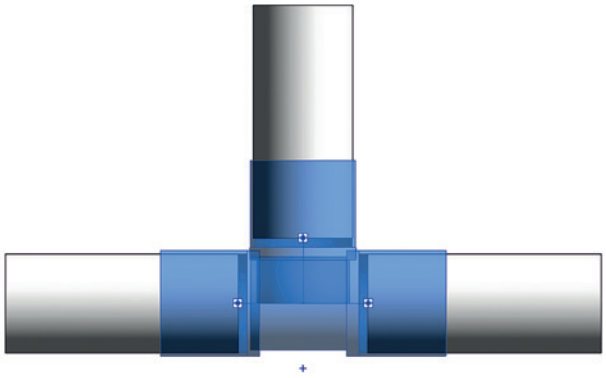
a. M1 - to change between K1 and M1,
b. Reverse Direction – to change direction of the bend,
c. Prefer Spigot – to change between a socket and a spigot end

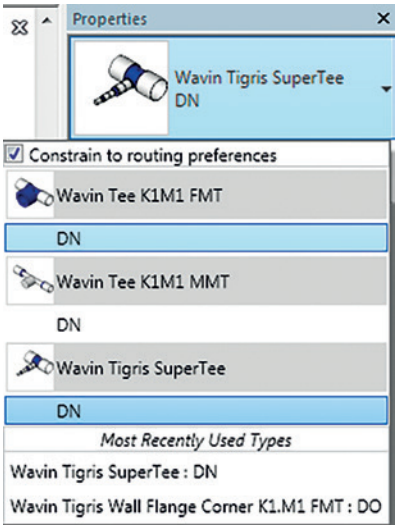
4.2. Branches

Inserting a specific branch type

Each hot and cold system has different default branch type. To change it into another type follow the steps below:

a. Draw a standard branch.
b. Select the branch.
c. Go to the “Properties” window and open the list by clicking the branch picture.





d. Choose a branch type from the list.
e. Click “Apply”.

In Ekoplastik Wavin Revit package pipes might be connected using a tee or a saddle. Tee connections are available for pipes with equal diameter, while a saddle is possible for pipes with unequal diameters greater than 50 mm.

Changing features and properties of branches

To change properties of the fitting go to the “Properties” window.
By selecting checkboxes the following function can be turned on/off:

a. M1 - to change between K1 and M1.

4.3. Multi-Reducers

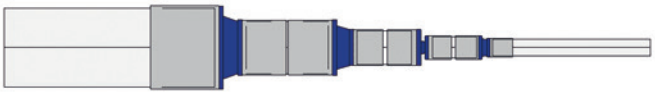
In hot and cold systems only centric reducers are available.

Centric reducers are set as a default. They enable automatic connection with any diameter.

Inserting multi-reducers

To insert a multi-reducer connecting any diameters, follow steps below:

a. Draw a pipe.
b. Insert a coupler by splitting pipe.
c. Select one pipe and change the diameter.
d. Coupler will be replaced by a multi-reducer automatically.



Changing features and properties of multi-reducers

To change properties of the fitting go to the “Properties” window.
By selecting checkboxes the following functions can be turned on/off:

a. M1 - to change between K1 and M1,
b. Additional coupler – to insert a coupler (only in Ekoplastik).

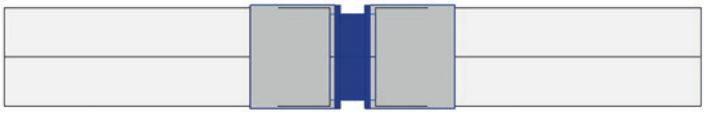
⚠ In the Ekoplastik Revit package the “Coupler at beginning” checkbox must be enabled.

4.4. Unions

Inserting a union

An union is inserted when a pipe is split into two elements. To insert a union follow steps below:

a. Draw a pipe.
b. Select pipe and split it.
c. A default union is inserted.



Changing features and properties of unions

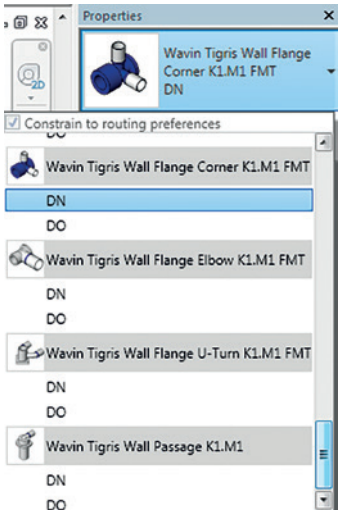
To change properties of the fitting go to the “Properties” window.
By selecting checkboxes the following function can be turn on/off:

a. M1 - to change between K1 and M1

4.5. Wall flanges

Wavin Revit packages provide various types of wall flanges. Most of them can be put into projects by changing standard elbows or junctions. Others need to be placed manually.

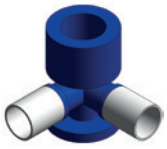
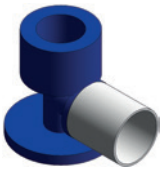
Inserting wall flanges manually



To insert any wall flange type, follow the procedure below:

a. Go to the Systems ribbon and choose Pipe Fitting function.
b. Select desired wall flange type from the list in the Properties window.
c. Hover a fitting over the pipe to be connected, and click the mouse button to place it.
d. The fitting is inserted.

Various types of wall flanges

					
Hep$_2$O Wall Screw Elbow	**Hep$_2$O Wall Flange PF-FMT**	**Tigris Wall Flange Corner K1.M1 FMT**	**Tigris Wall Flange Elbow K1.M1 FMT**	**Tigris Wall Flange U-Turn K1.M1 FMT**	**Tigris Wall Passage K1.M1**
Change from elbow	Change from elbow	Insert manually	Change from elbow	Insert manually	Change from elbow

Working with wall flanges

To rotate a wall flange use standard Revit Rotate functionality. To reverse the direction of the fitting, use “Flip Fitting” function.

Changing features and properties of wall flanges

To change properties of the fitting go to the “Properties” window. By selecting checkboxes the following functions can be turned on/off:

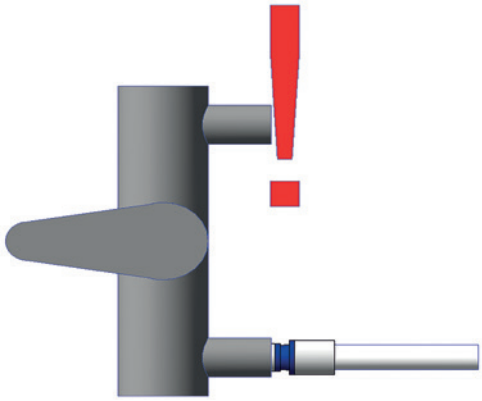
a. Long – to change between long and short version of the fitting (only available for Tigris Wall Passage K1.M1)
b. M1 – to change between K1 and M1

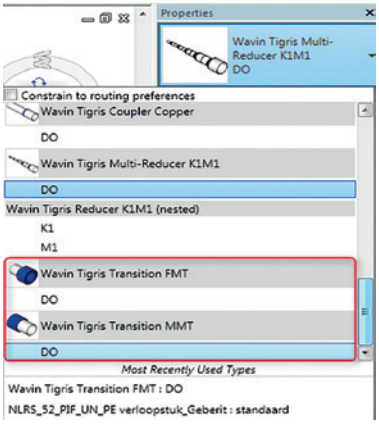
4.6. Working with Threaded connections

Wavin product ranges are equipped with many transitions working as threaded connections. This allows the connection of Wavin systems to metal pipes or multiple accessories such as taps faucets, valves, pumps, etc.

Inserting straight transitions

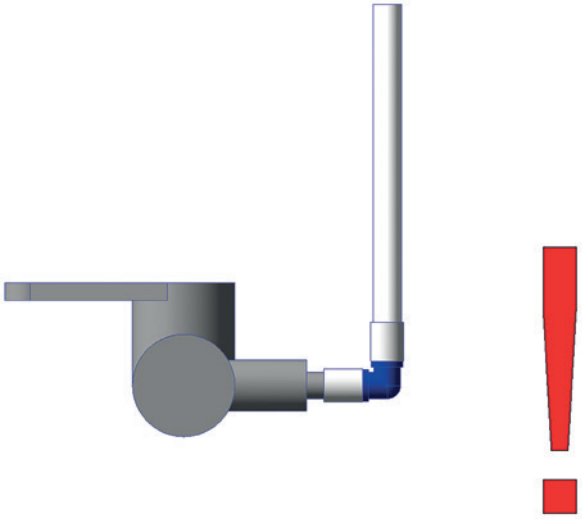
a. To insert a straight transition just connect a pipe directly to the threaded element.
b. This will create a custom fitting.
c. Select the fitting, and change it into a transition to threaded connection.

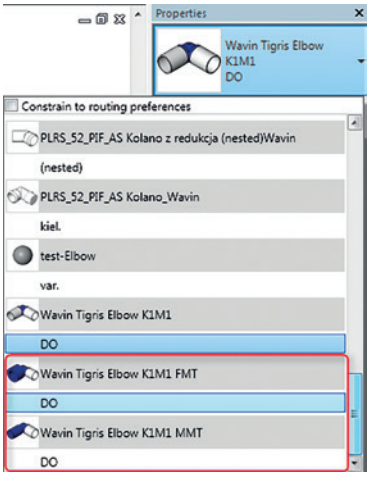




Inserting elbow transitions

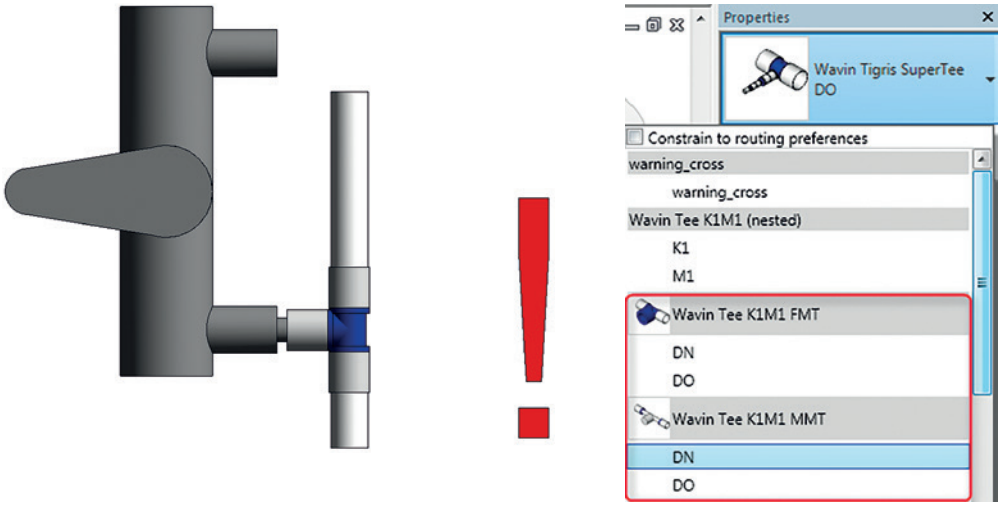
a. Elbow transitions include elbows with threaded ends, and wall flange elbows.
b. To create an elbow transition, connect a pipe to the item's connector at a right angle
c. This will create a custom fitting.
d. Select the bend and change it into a transition bend.





Inserting junction transition

a. Junction transitions include tees with threaded ends and wall flanged tees.
b. To create a junction transition, create an elbow transition using steps described above.
c. Add a new connector using standard Revit functionality.
d. Select the junction and change it into a transition junction.



⚠ Revit cannot automatically tell the difference between internal (female) and external (male) thread. The user has to choose the correct family from the list. Choose between FMT (Female thread) and MMT (Male thread) Revit families depending on the connected item.

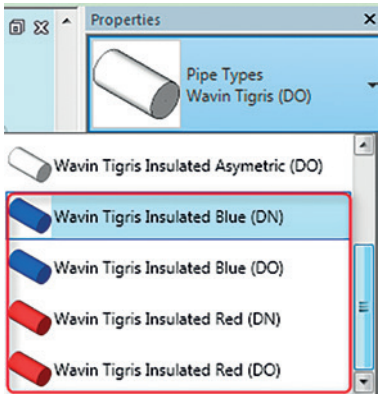
⚠ In some cases Revit will create a short piece op pipe between the threaded fitting and accessory. The user should account for this and if required delete it and reconnect the fitting to the accessory.

Wavin Revit packages are compatible with threaded connections as long as their diameter is expressed in inches, or metric DN. For example a ½" inch can be described as ½", 12,7mm, or DN15.

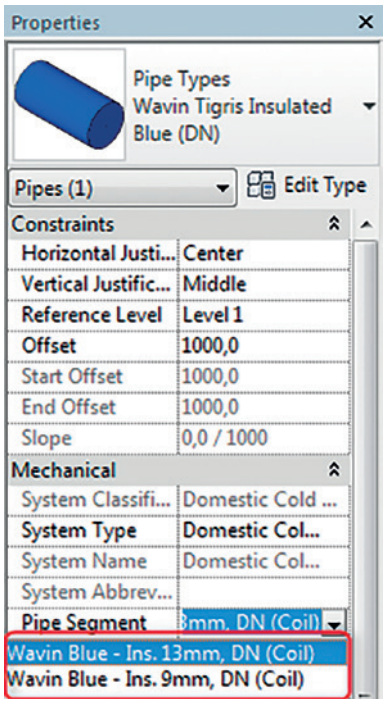
4.7. Working with insulated pipes

Some hot and cold ranges contain pre-insulated pipes. They come in different colors and insulation thicknesses. Both those qualities have to be set independently.

- To choose color select a desired pipe type from the list.



- To choose a desired insulation thickness the user needs to select the pipe lengths and change pipe segment in the properties window.

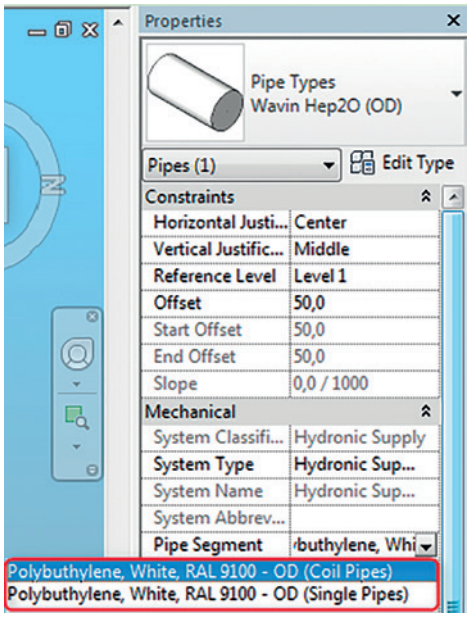


4.8. Working with single/coiled pipes

In hot and cold systems the user can choose between single (straight) and coiled pipes. To make the choice, go to the pipe's properties and select the required pipe segment.

In the Hep$_2$O system the user can choose the best coil length that suits his needs. This must be done via the bill of materials for pipes. The user can choose between default 50m coil, and optional 25, and 100m coils. Every time a new pipe is created, its coil length has to be defined by the user. To do this go to bill of materials for pipes.

⚠ By default Revit engages both available checkboxes, this causes the pipe parameters to be invalid. To rectify this the user has to make sure that only one, or neither of the checkboxes are engaged. If neither box is toggled on, the default will be used. Please note that even grayed-out checkboxes are editable.



<Wavin Hep2O Pipes>

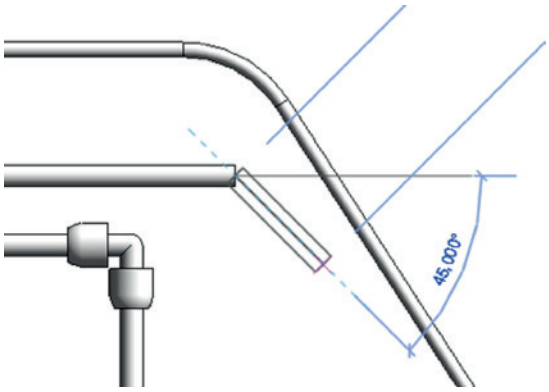
A	B	C	D	E	F	G	H	I	J	K	L	M
Nr	Diameters DN	Diameters Outer	Length (total)	Art. Number	Product Description	Coil Usage	Coil 25m	Coil 100m	Coil Length	EAN	Pipe Clips (pcs)	Smart Sleeve (pcs)
Coil Pipes												
2	15	22 mm	1,7 m			0,03	☑	☑			3	4
1	20	28 mm	1,5 m	HXP50/28W	Hep2O Standard Pipe WT 28 L=50	0,03	☐	☐	Coil 50m (default)	5027888271037	2	2

4.9. Working with flexible pipes

Pipes in Hep$_2$O and Tigris H&C product ranges can be bent. Revit standard tool for flexible pipes is not suitable for use in plumbing. Therefore Wavin's H&C ranges have their own solution for bending the pipes.

To bend a small diameter pipe draw a bend of any angle using Wavin Revit packages. If the pipe's diameter is too big for bending, the package will only allow creation of the elbow fitting. It is possible to force a pipe-bend by changing an elbow to a pipe in family "Properties".

⚠ Even though forcing the bent pipe is possible, the automatic solution is recommended due to system's technical guidelines.



The user can manually change the bending radius in “Properties” tab, under “Constraints”. The bending radius is calculated as the Outside Diameter of the pipe times “Bending Radius Multiplier” For Hep2O, accepted multiplier is 8 or higher. For Tigris the recommended minimum is 5, but in some cases it can be lowered to 4. The “Bending Radius Applied” parameter shows an actual radius value in millimeters.

Constraints	
Used Coil Type	Coil 50m
Coil<Detail Items>	Coil 200m
Bending Radius Multiplier (Mi...	8,0
Bending Radius Applied	80,0

In the Hep$_2$O package, the user can set a preferred coil length.

⚠ When the user selects a nonexistent coil length, the “Used Coil Type” parameter will show a default coil length which will be used in schedules.

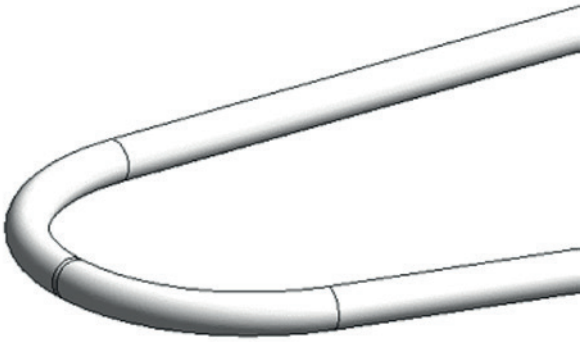
⚠ When a single pipe is bent, “Used Coil Type” parameter will show “Single Pipe” message.

Every H&C package containing flexible pipes, has an additional pipe schedule. The given lengths must be manually calculated into the bill of materials for the pipes, as current generations of Revit cannot do this automatically.

<Wavin Tigris Flexible Pipe Schedule (GBR)>

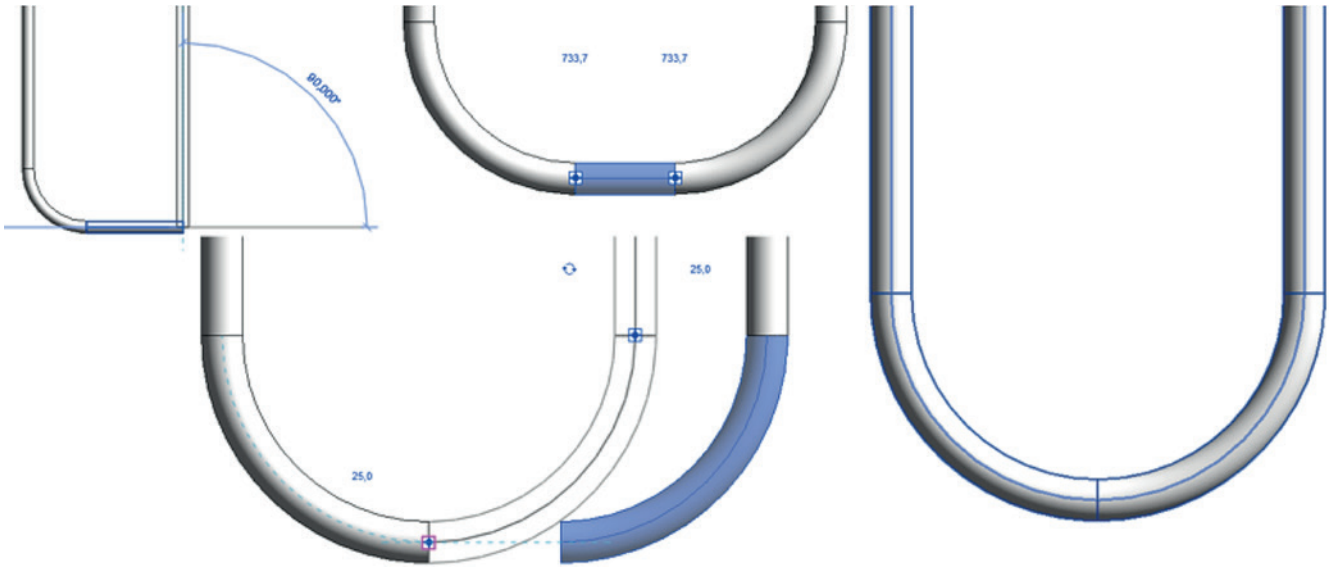
A	B	C	D	E
Times Bent	Article Nr	Product Description	EAN	Length [mm]
Flexible Pipe				
13	4044599100020	Tigris PE-X/AL Pipe WT 16x2 L=100	4044599100020	2429
5	4044599100051	Tigris PE-X/AL Pipe WT 20x2.25 L=100	4044599100051	976
4	5900360968420	Tigris Pipe 20x2.25 13mm insu. L=50 Coil	5900360968420	1186
				4591

The functionality works slightly different depending on user’s Revit version. If the bending angle exceeds 90 degrees in Revit 2014, Revit will create a solution that consists of two bends and a straight pipe in between.



However, in Revit 2015 or newer, at an angle of 180 degrees, the user has to apply the steps below:

a. Create a first bend of exactly 90 degrees.
b. Create a short, straight piece of pipe.
c. Create a second bend to achieve a desired total angle.
d. Delete the straight pipe between the bends.
e. Drag the second bend by the snap point to connect it to the first one



⚠ The coil length is valid only if the pipe article number and description are visible.

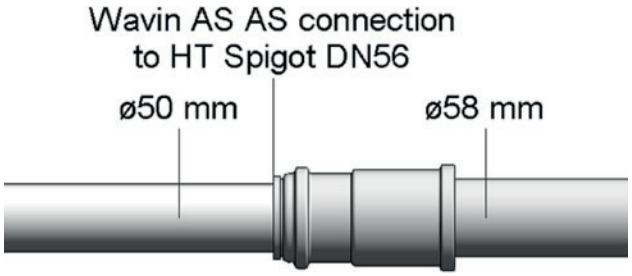
5. Product range specific issues – Soil & Waste

5.1. Wavin AS

Transition insert 58/50 mm

Transition reducer insert is a plastic fitting used for transition between Wavin AS and other systems that use standard outside diameter of 50mm. To make a valid connection follow the steps below.

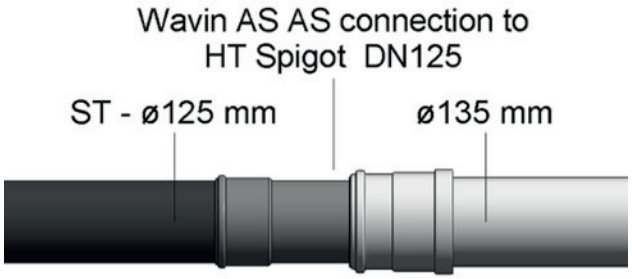
a. Place a coupler at the end of the AS pipe
b. Use the pipe family list to find and place the PIF_AS Transition reducer insert in the project next to the target connection
c. Select the reducer and drag it by the larger connector to place it inside the coupler
d. Or select the transition reducer, and start drawing the 50 mm pipe from the empty connector



Transition 135/125 mm

This transition reducer insert is a plastic fitting used for transition between Wavin AS and other systems that use standard outside diameter of 125mm. To make a valid connection follow the steps below.

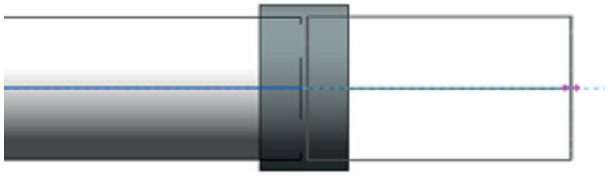
a. Use the pipe family list to find and place the PIF_AS Transition 135 mm to 125 mm, insert in the project next to the target pipe
b. Select the transition and drag it by the 135 mm connector onto the AS pipe
c. Select the transition and drag it by the 125 mm connector onto the 125 mm pipe
d. Or select the transition and start drawing 125 mm pipe from the empty connector



Transition rubber insert 50/40 mm and 50/32

This transition reducer is used together with reducer 58/50mm. It is used to connect 40 or 32 mm pipes into Wavin AS system.

Transition SML



Use transition SML to connect Wavin AS pipe with any pipe type.

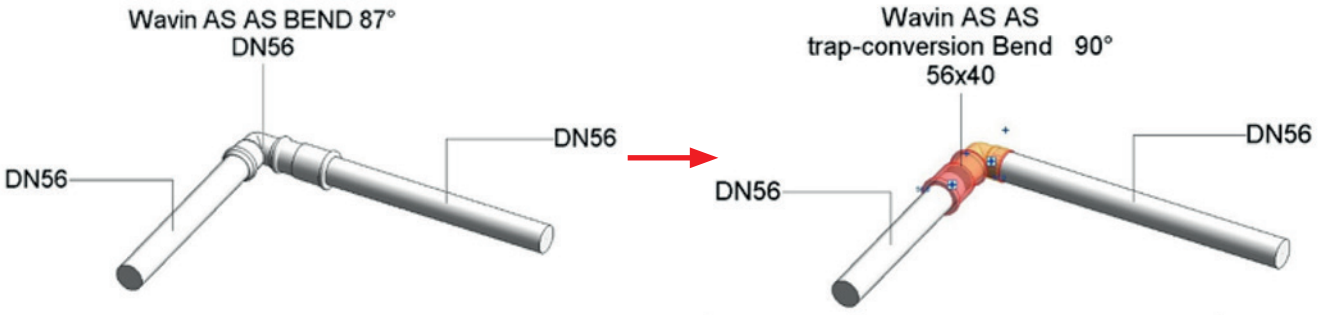
a. Draw AS pipe.
b. Go to the Systems ribbon and choose Pipe Fitting function.
c. Select Transition SML from the list in the Properties window.
d. Hover a fitting over the desired pipe-end and click the left mouse button to place it.
e. Continue drawing by choosing another pipe type.

Trap conversion bend (AS)

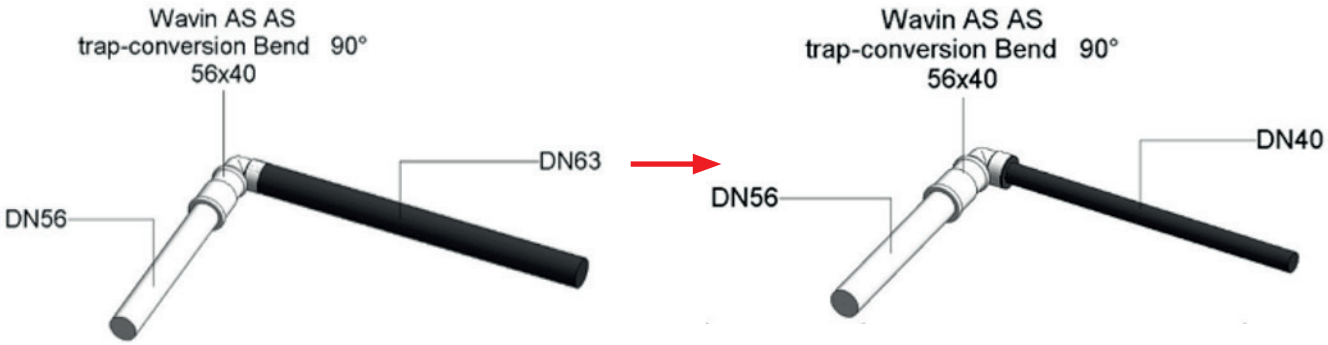
Connecting a 40 mm PE pipe to a Wavin AS pipe does require the use of a “trap-conversion” family. To create a correct connection follow the steps below:

a. Draw a Wavin AS Bend 58 mm.
b. Replace Wavin AS Bend by a trap conversion family.

⚠ A “Custom fitting was created” warning will pop up.



ii. Replace one of Wavin AS pipes with a PE pipe.

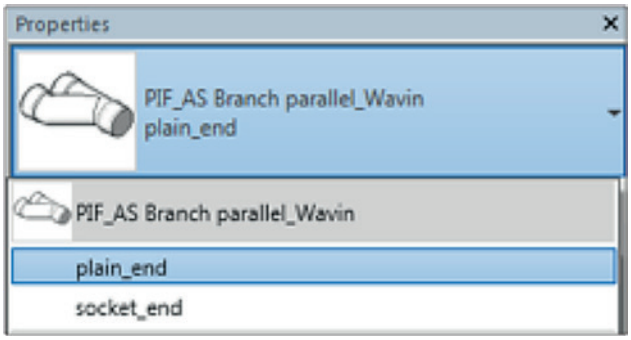


⚠ Make sure to change PE pipe diameter to 40 mm, as trap conversion bend 56x40 is the only one available.

Branch parallel

It is recommended to insert the Branch parallel manually, following steps below:

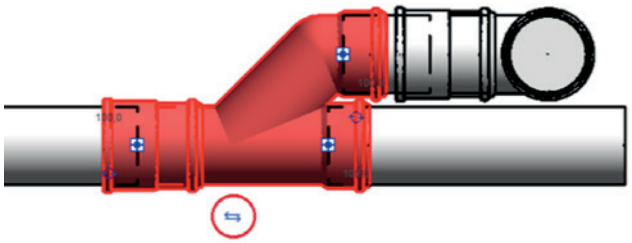
a. Go to the Systems ribbon and choose Pipe Fitting function.
b. Select required type of Branch parallel from the list in the Properties window.
c. Place fitting clicking at the desired location.



To reverse the direction of the fitting, use “Flip Fitting” function (arrows shown below):

a. Select a branch.
b. Click the arrows below the fitting.

⚠ If a branch pipe is connected to the fitting it will be disconnected after flipping.



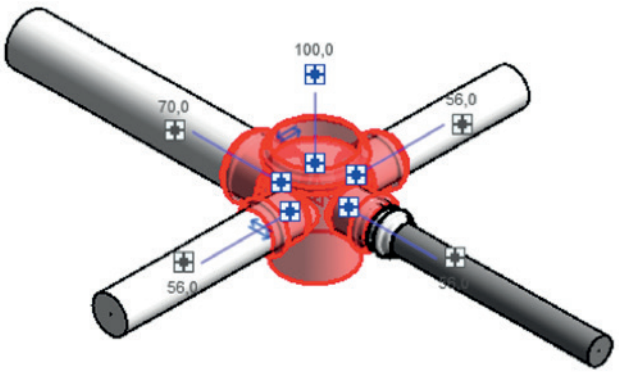
To set other properties of the fitting go to the “Properties” window. By selecting a checkbox the following function can be turned on/off:

a. Show Spigot End – to remove connecting elements (for example when connecting fitting to other fitting).

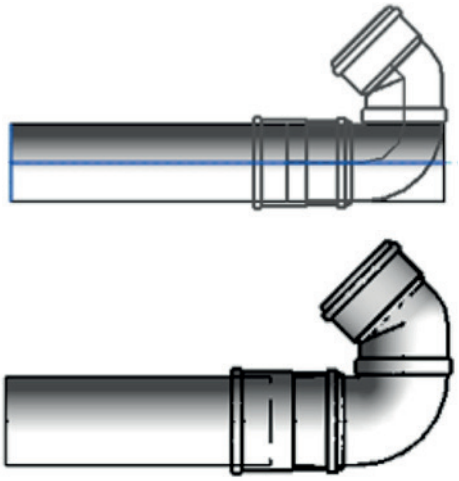
Floor trap

Insert a floor trap manually, following the steps below:

a. Go to the Systems ribbon and choose Pipe Fitting function.
b. Select a Floor trap from the list in the Properties window.
c. Place fitting at the desired location without selecting a pipe-end, the insertion-point is located at the bottom of the floor trap.
d. Connect pipes or start creating new ones from the open connectors.



Air Circulation Bend



Wavin Revit package provides two types of air circulation bends – plain-end and socket-end branch, both available in 110 mm and 135°. It is required to insert them manually, following procedure below:

a. Go to the Systems ribbon and choose Pipe Fitting function.
b. Select Air Circulation Bend from the list in the Properties window.
c. Hover a fitting over the desired pipe-end.

d. Click the left mouse button to place it.

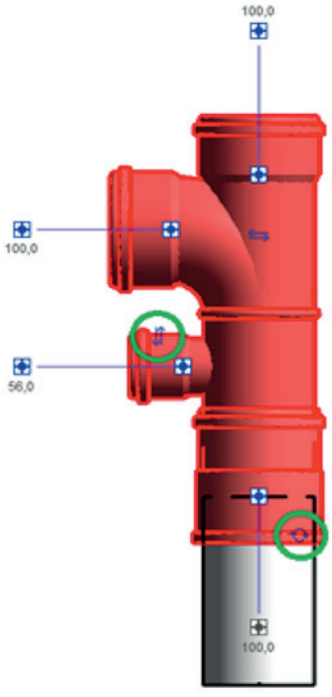
To set other properties of the fitting go to the “Properties” window. By selecting a checkbox the following function can be turned on/off:

a. Show Spigot End – to remove connecting elements (for example when connecting fitting to other fitting).

P-trap

P-trap requires the same procedure of insertion as Air Circulation Bend. Go to the Air Circulation Bend to see how to insert a P-trap.

Branch Shower Double



To insert Branch Shower Double, follow steps below:

a. Go to the Systems ribbon and choose Pipe Fitting function.
b. Select required fitting from the list in the Properties window.
c. Place it on a desired downpipe.

To reverse direction of the fitting –use “Flip Fitting” function (double arrow).

Rotate Branch Shower Double with the standard Revit function.

To set other properties of the fitting go to the “Properties” window. By selecting a checkbox the following function can be turned on/off:

a. Show Spigot End – to remove connecting elements (for example when connecting fitting to other fitting).

5.2. Wavin PVC-HT

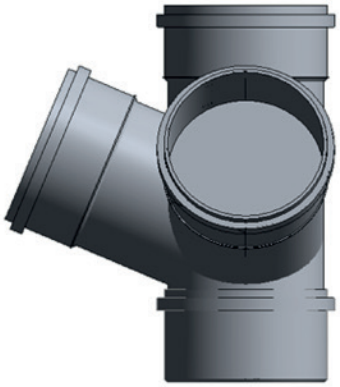
Pipe Types

There are two pipe types in PVC-HT package – grey above ground, and orange below ground. Grey system is the default that should be used for installations inside buildings, however if for any reason a diameter of above 110 is required, the user should use the orange system.

Branch Corner

Branch Corner has to be inserted manually:

a. Go to the Systems ribbon and choose Pipe Fitting function.
b. Select Branch Corner from the list in the Properties window.
c. Place fitting by clicking at the desired location.



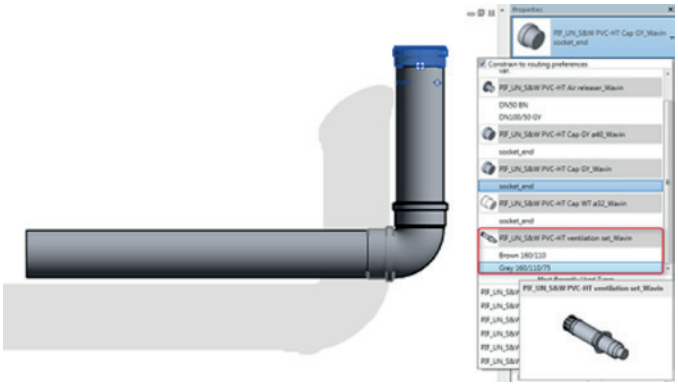
To change properties of the fitting go to the “Properties” window.
By selecting checkboxes the following functions can be turned on/off:

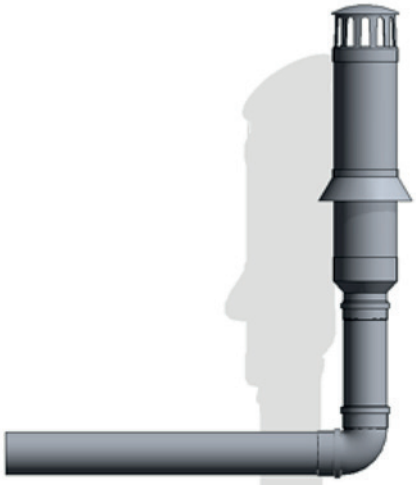
a. Cornerbranch_lefthanded – to change branch orientation to left-handed (right-handed orientation is default),
b. Show Spigot End – to remove connecting elements (for example when connecting fitting to other fitting).

Ventilation set

Ventilation Set family provides a variety of different colours and dimensions of the fitting.
The ventilation sets are treated as end caps. To insert them into the project:

a. Cap an open end of 75, 110, or 160 mm pipe.
b. Select the end cap and change it to ventilation set via Properties window.
c. User can choose between brown and grey variant. A reducer required for 75 mm connection is available only in grey.

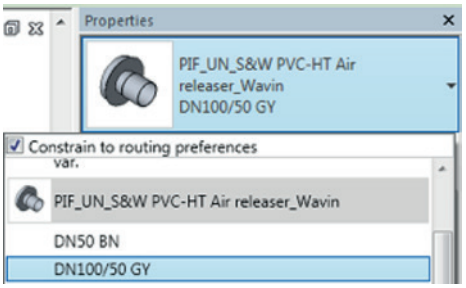


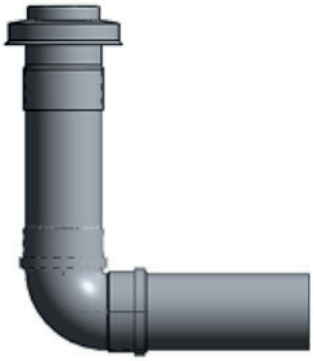


Air releaser

Air releaser family provides various colours and dimensions of the fitting. The family may be attached to 50, 75, and 110 mm pipes.

Air releaser requires the same procedure of insertion as Ventilation set. **Go to the Ventilation set to see how to place fitting properly.**

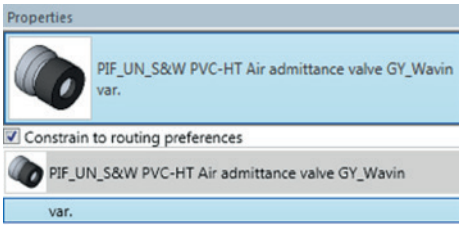




Air admittance valve

Air admittance valve family provides a great variety of dimensions of the fitting. The family may be attached to 32, 40, 50, 75, and 110 mm pipes.

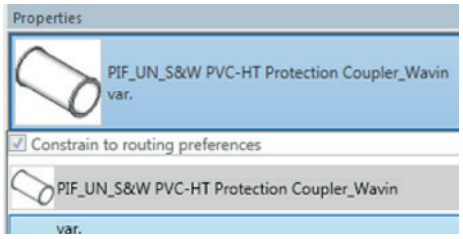
Air admittance valve requires the same procedure of insertion as Ventilation set. **Go to the Ventilation set to see how to place fitting properly.**

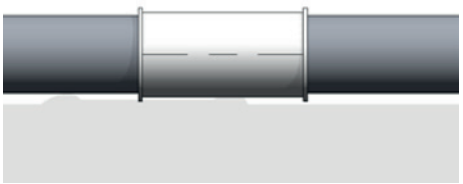


Protection coupler

Protection coupler is a family with no connectors. It should be placed over the PVC pipes where they pass through walls. To place it in the project make sure that family's offset is the same as the pipe's. If that is achieved, then the family will easily snap onto the pipe.

Although the fitting is visible on the pipe, it is not connected, therefore if the pipe is moved, the protection coupler will not follow, and has to be relocated manually.





5.3. Wavin SiTech+

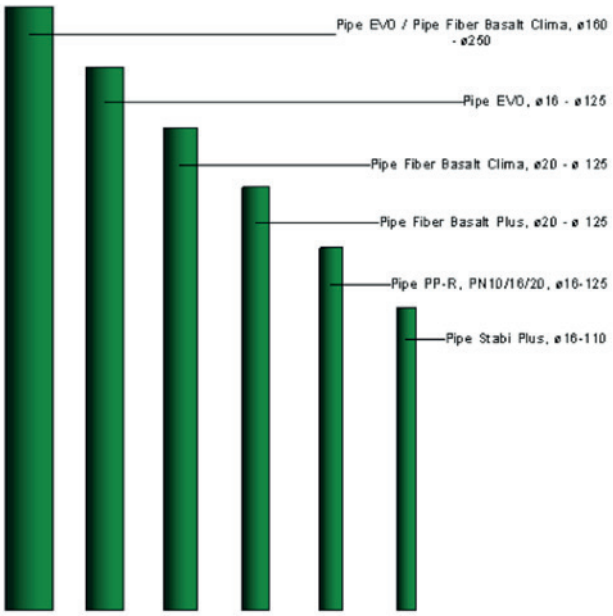
All fittings provided in SiTech+ Revit package are included in "S&W general issues" section.

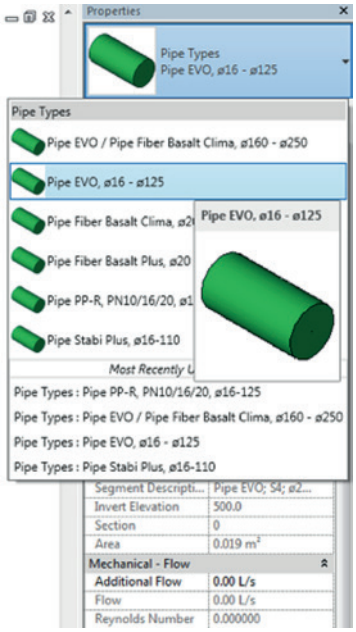
6. Product range specific issues – Hot & Cold

6.1. PPR Ekoplastik

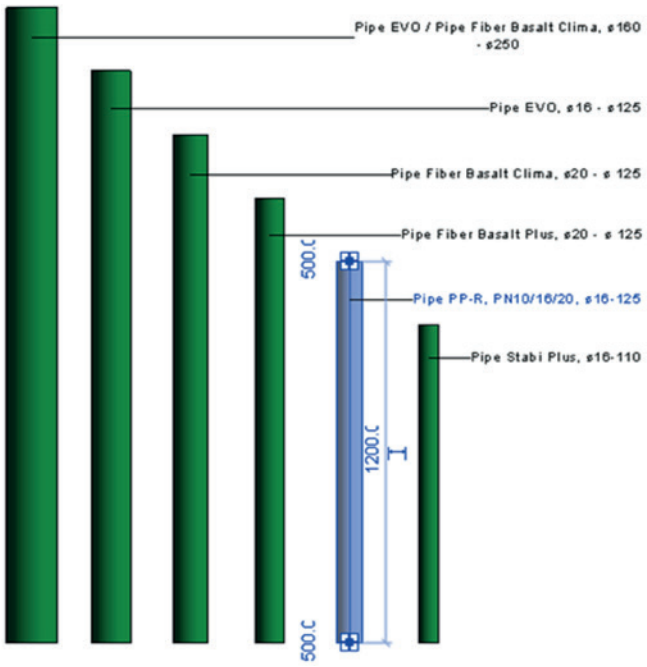
Pipe Types and segments

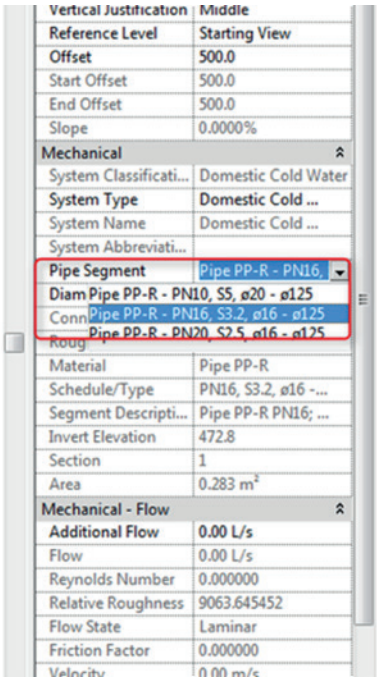
Wavin PPR Ekoplastik packages are equipped with multiple pipe types. Choose the required pipe type using pipe “Properties”.



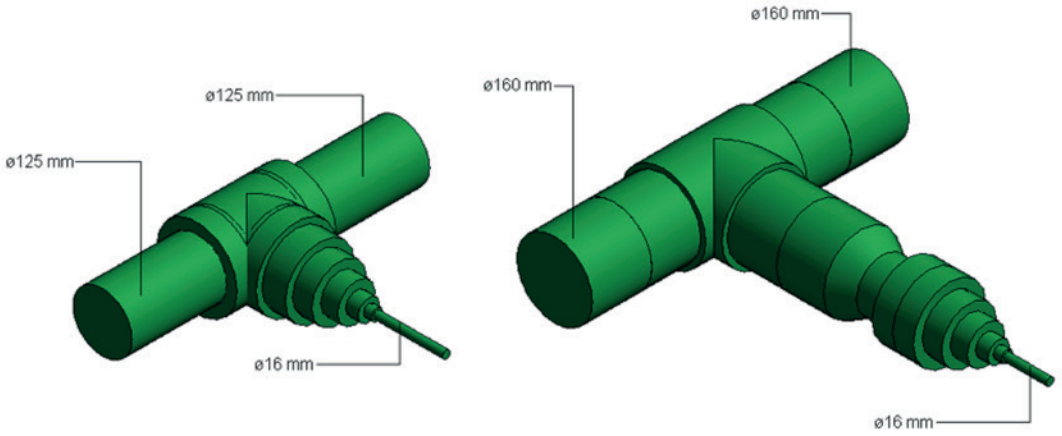


Some pipe types consist of several pipe segments, which allow the choice between pressure classes and some product types like EVO and Fiber Basalt pipes. After you drawing a pipe select it and change pipe segment according to user’s preference. After drawing a pipe type with a desired segment “CS” shortcut can be used to continue drawing the pipe using selected segment.





SuperTee and multireducer



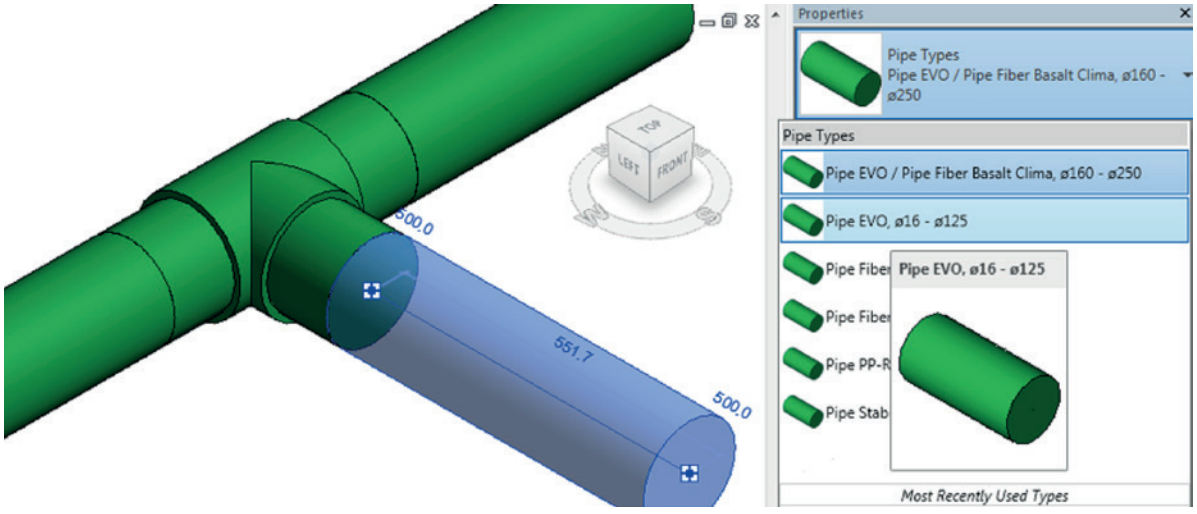
Diameter range 16 mm – 125 mm

In this diameter range tee and reducers will be created automatically.

Large diameter range 160 mm – 250 mm

To create a correct junction of a 160 diameter or above, follow the steps below:

a. Create an equal tee.
b. Create a small piece of pipe.
c. Create a reducer by changing pipe's diameter or/and its type.



Threaded connections in PP-R Ekoplastik

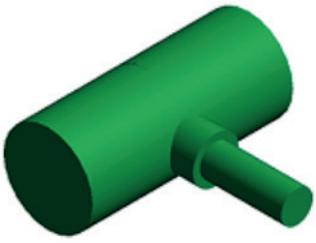
Pipe fittings with threaded connections are described in inches converted to millimetres. Threaded connector is compatible either with inches, inches converted to millimetres, or thread's DN equivalents. All three options listed are applicable, as shown in the table below.

Inches, millimetre conversions, DN equivalents:

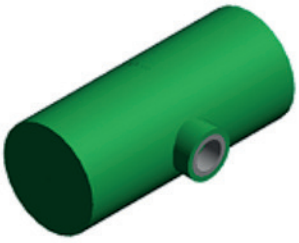
Inch	DN
½" = 12,7mm	15
¾" = 19,1mm	20
1" = 25,4mm	25
1 ¼" = 31,8mm	32
1 ½" = 38,1mm	40
2" = 50,8mm	50
2 ½" = 63,5mm	65
3" = 76,2mm	80

Saddles

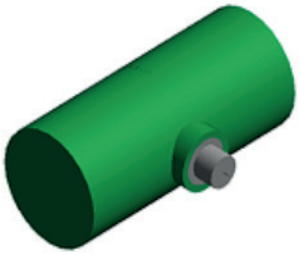
There are three saddle types in Ekoplastik. All plastic connection, and two threaded connections – male and female.



All plastic saddle



Female thread saddle



Male thread saddle

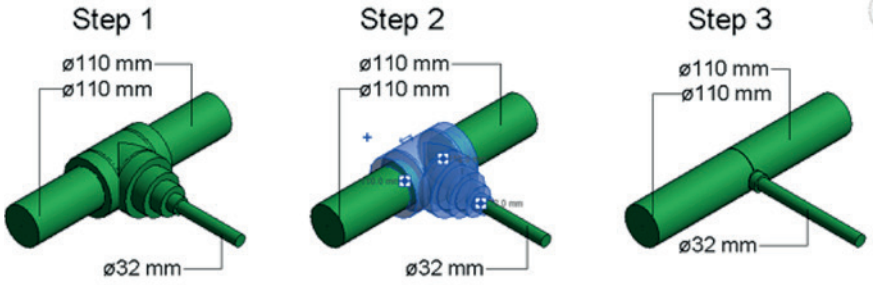
Weld in saddles (full assortment):

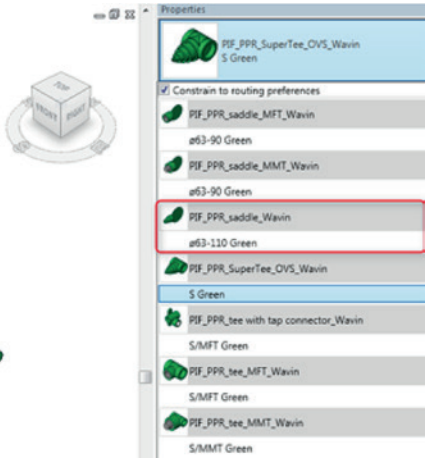
All plastic	Female thread	Male thread
63x32	63x3/4"	63x3/4"
75x32	75x3/4"	75x3/4"
90x32	90x3/4"	90x3/4"
110x32	-	-
110x40	-	-

Saddle all plastic

To create a weld in plastic saddle follow the steps below.

a. Create corresponding branch connection
b. Select the branch
c. Change branch family to PIF_PPR_saddle_Wavin

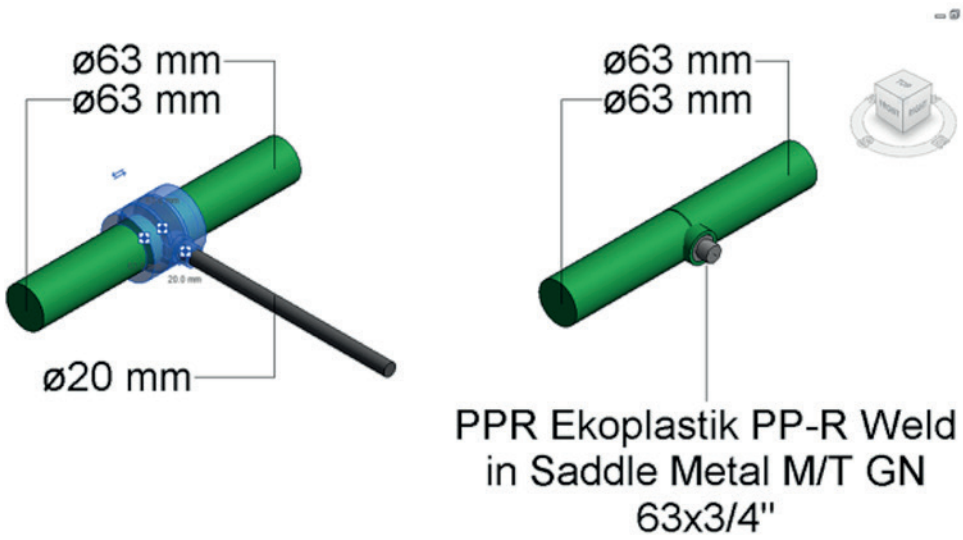


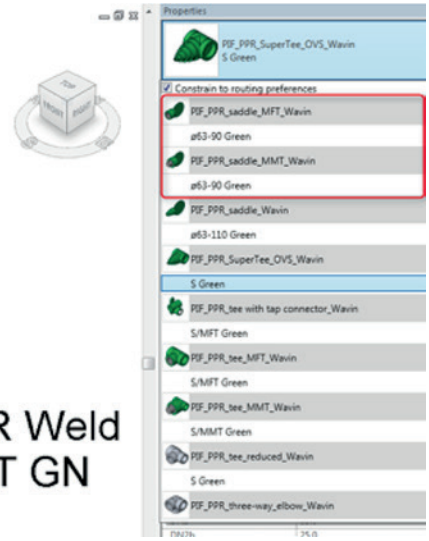


Saddle with female/male thread

Option A – working with DNs

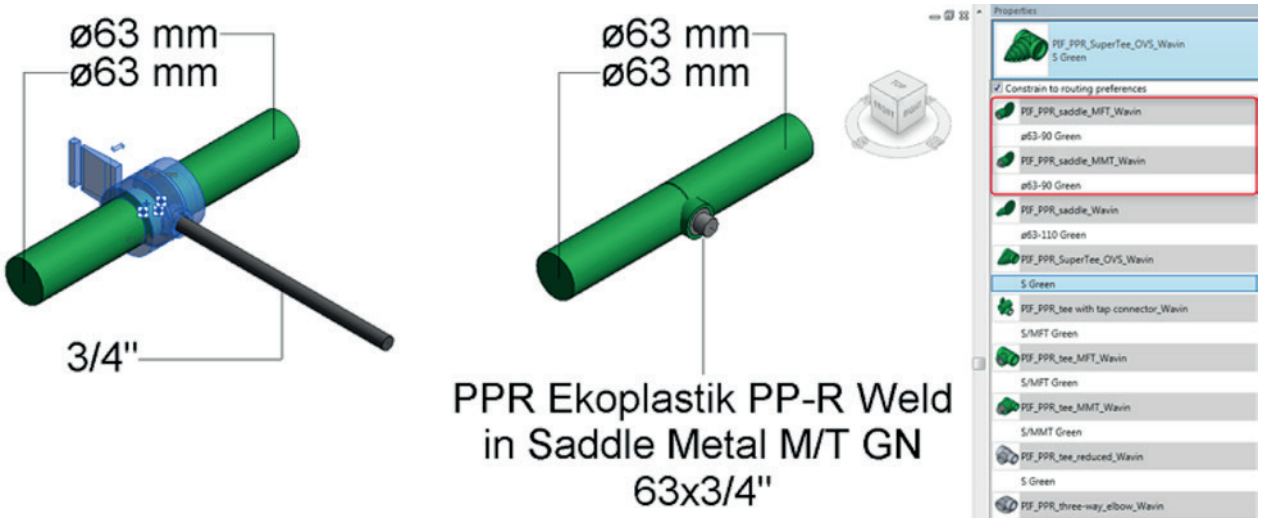
a. Create corresponding branch connection
b. Select the branch
c. Change family to PIF_PPR_saddle_MFT/MMT_Wavin in properties tab





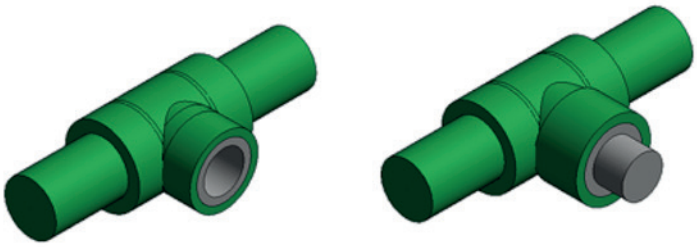
Option B – working with inches

a. Create a tee connection using ¾” pipe
b) Custom fitting will be created with red exclamation mark
⚠ When you select the fitting you will notice a WARNING that suggest changing fitting family to threaded one
d) Change family to PIF_PPR_saddle_MFT/MMT_Wavin in properties tab



Tee with female/male thread

Creation process is almost identical as in case of saddles. Follow the steps listed below.



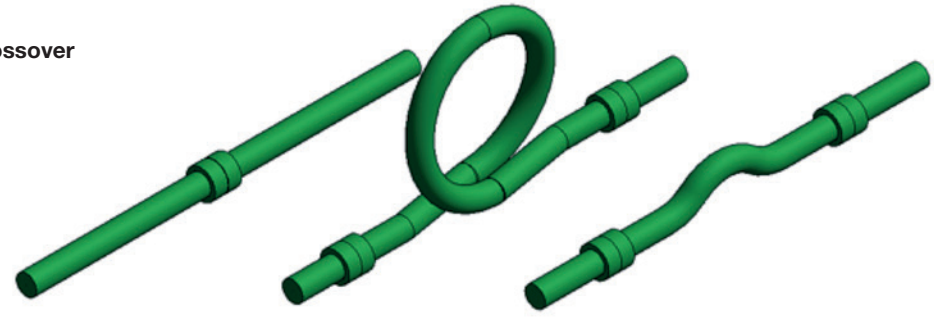
Option A – working with DN’s

a. Create corresponding branch connection
b. Select the branch
c. Change family to PIF_PPR_tee_MFT/MMT_Wavin in properties tab

Option B – working with inches

a. Create a tee connection using ¾” pipe
b. Custom fitting will be created with red exclamation mark
⚠ When you select the fitting you will notice a WARNING that suggest changing fitting family to threaded one
c. Change family to PIF_PPR_tee_MFT/MMT_Wavin in properties tab.

Coupler, Compensation Pipe, Crossover



Compensation Pipe, Crossover

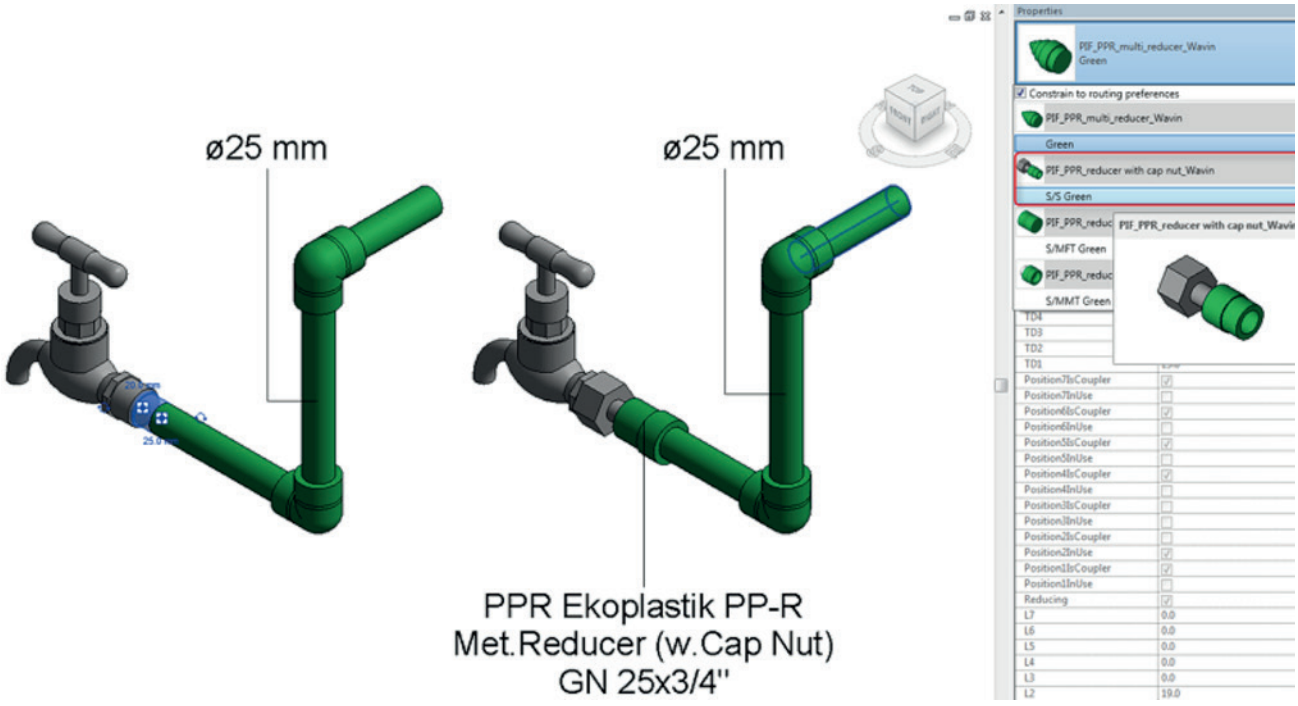
To obtain a compensation pipe follow the steps below:

a. Create a coupler
b. Select existing coupler and change family to PIF_PPR_compensation pipe_Wavin or PIF_PPR_crossover_Wavin

Metal Reducer Cap Nut, Reducer Sleeve MMT/MFT

Option A – working with DN's

a. Connect PPR pipe with tap connector
b. Standard reducer family will be created
c. Change reducer family to desired threaded connection
d. Check Reverse direction box if needed



Option B– working with inches

a. Connect PPR pipe with tap connector
b. Custom fittings will be created with a warning: “try threaded fitting”
c. Change custom fitting into desired transition
d. Check Reverse direction box if needed

⚠ In case of DN15 only option B allows to create the fitting.

⚠ If a fixture connector size equals pipe diameter, Revit will not create any reducer or transition.

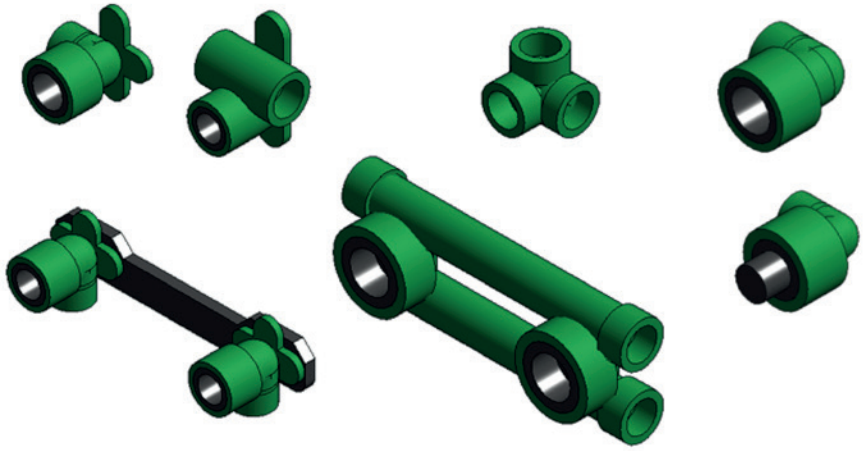
If tap connector size equals DN20 and you need to connect 20 mm PPR pipe, the transition needs to be inserted manually. There are 3 additional families defined as union that should be used in this situation:

a. PIF_PPR_reducer_sleeve 20x¾_MFT_Wavin
b. PIF_PPR_reducer_sleeve 20x¾_MMT_Wavin
c. PIF_PPR_transition with cap nut_Wavin

Please also note that in order to connect pipes from other systems you need to define routing preferences for these pipe types.

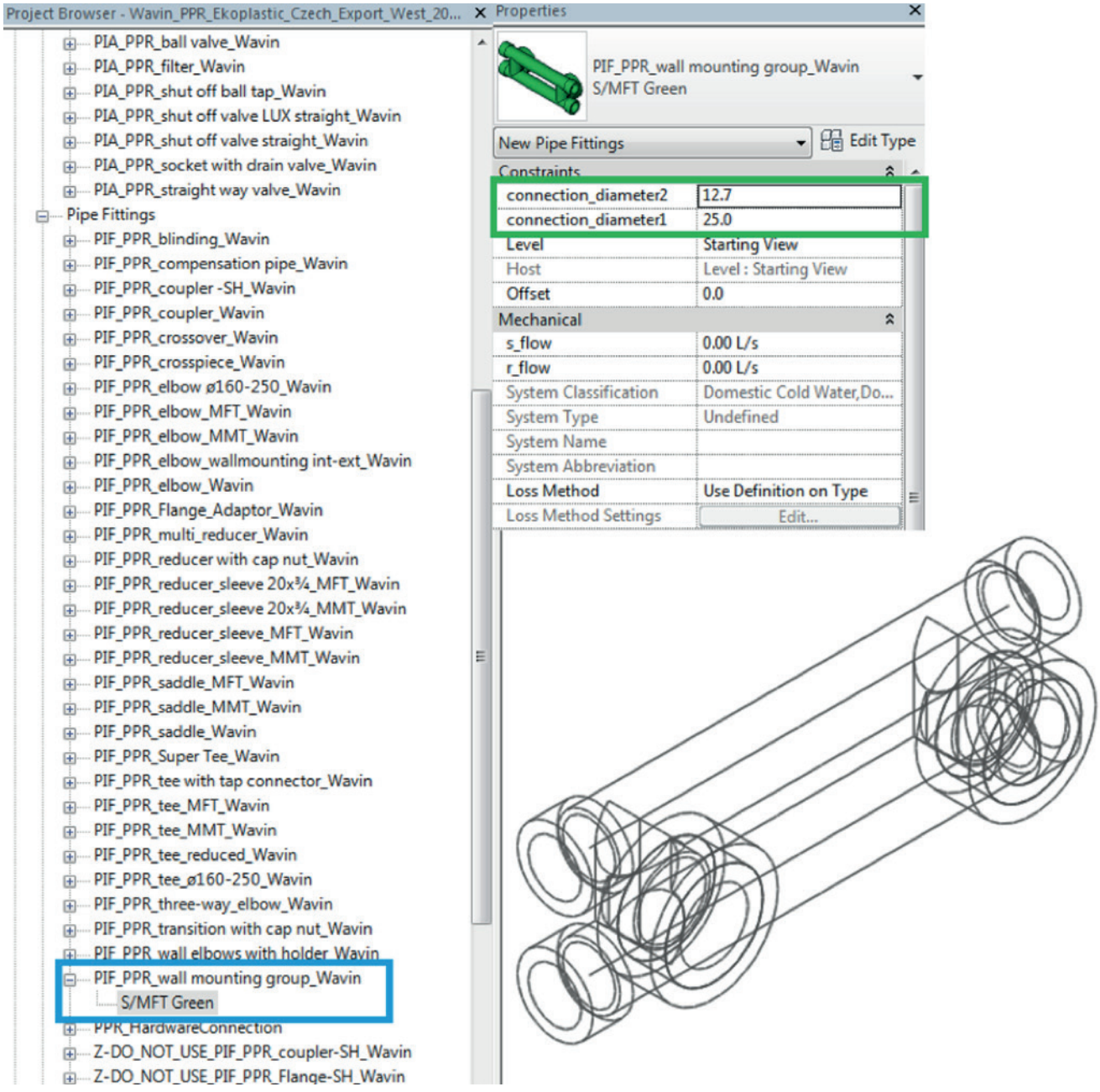
Manually inserted fittings

- Elbow for wall-mounting
- Tee with tap connector
- Three way elbow
- Wall elbows with holder
- Wall mounting group
- Elbow female/male thread
- Radiator turn



To manually insert the fittings follow the steps below:

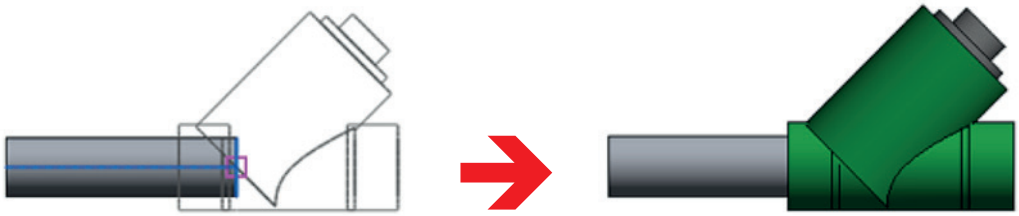
a. Select pipe fitting family type in Project Browser
b. Move it to the project
c. Type in desired connection diameters



Valves

Ekoplastik Wavin Revit package provides various types of valves. The procedure of inserting is the same for all of them. See the steps below using the example of PPR Back Flow Valve for any valve type.

a. Go to the Systems ribbon and choose Pipe Accessory function, or use shortcut “PA”.
b. Select PPR Back Flow Valve from the list in the Properties window.
c. Hover a fitting over the desired pipe.
d. Click the left mouse button to place it.

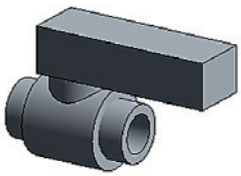


e. Rotate valves using standard Revit functionality.

Available valve types:

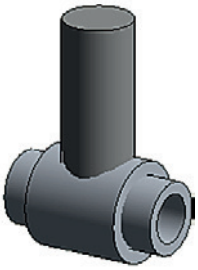
PPR Back Flow Valve

PPR Ball Valve

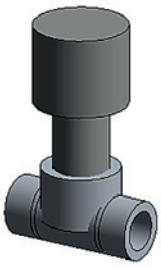


PPR Filter

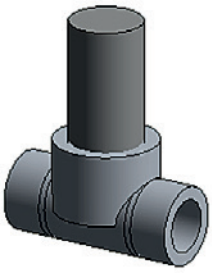
PPR Shut Off Ball Tap



PPR Shut Off Valve LUX straight

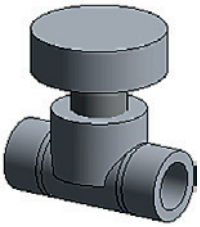


PPR Shut Off Valve straight



PPR Socket with Drain Valve

PPR Straight Way Valve

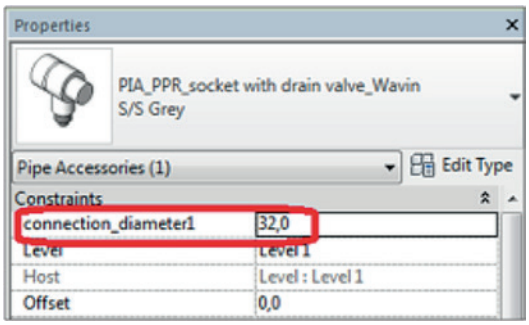


Changing diameter of valves:

If necessary, the diameter of the valve may be changed. In that case, follow steps below:

a. Select a valve.
b. Go to the Properties window and change the value of “connection_diameter1”.
c. Click the “Apply”.

⚠ There is no need to use any transitions nor threaded fittings to connect a valve.



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