



# Guidelines for The Roxtec library in Aveva E3D Design

Instructions for Modeling Cable- and Pipe transits  
utilizing the features of the Roxtec Package

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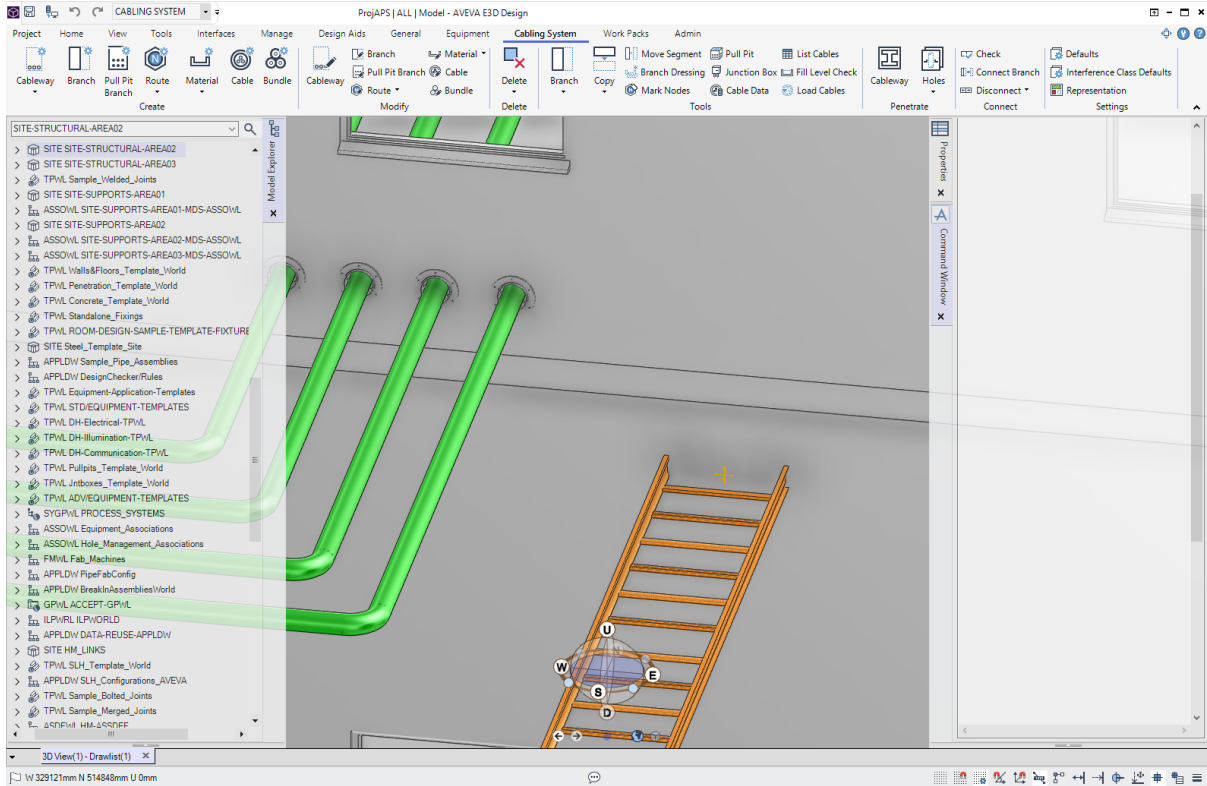
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# Cable penetrations

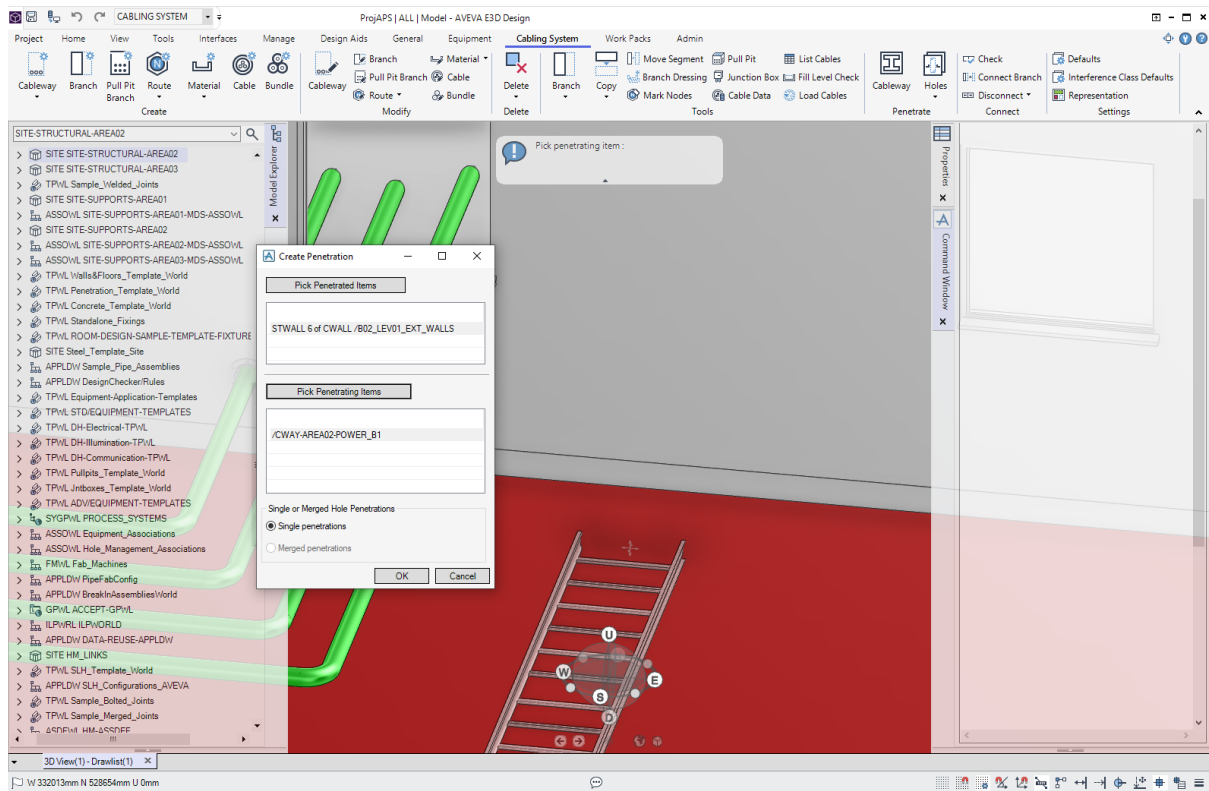
## 1 Preparation

Add the relevant parts of the 3D model to the drawlist.



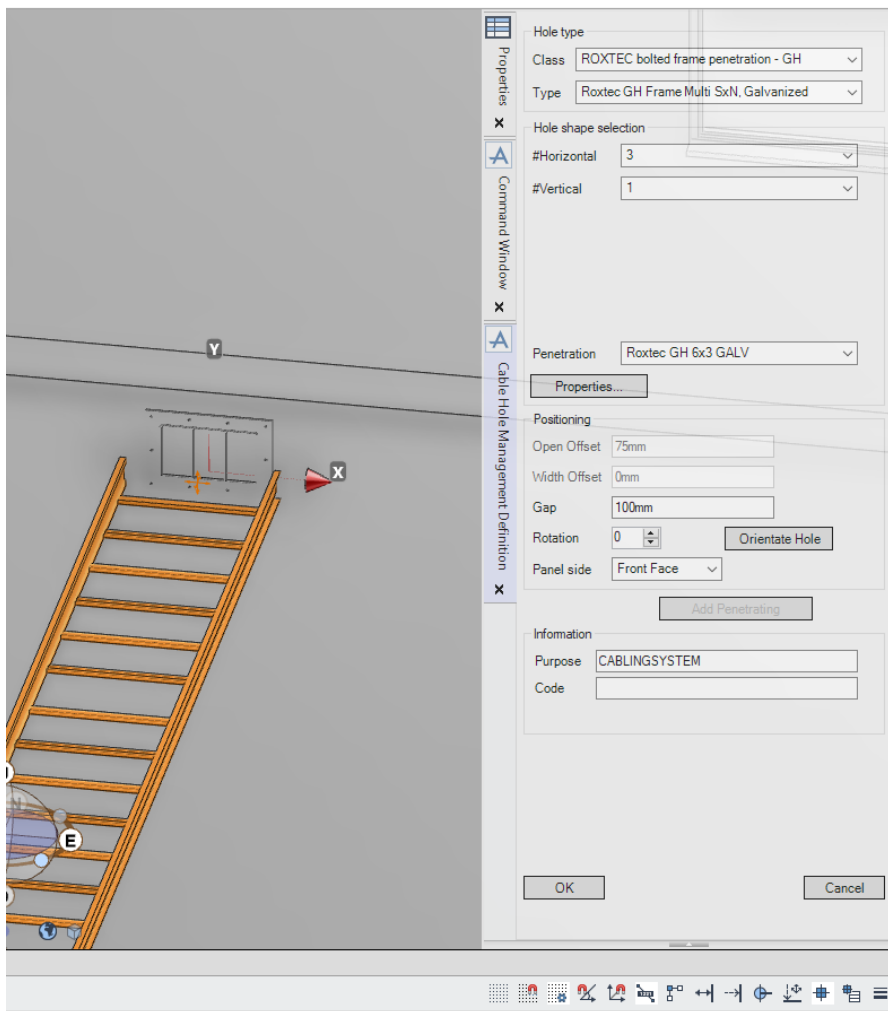
## 2 Creation of penetrations

Open the “Create penetration” form by clicking **Cableway** in the **Penetrate** group in the ribbon bar. Add the wall as penetrated item and the relevant cable tray or trays as penetrating elements. Make sure “Penetrations” is selected in the form. Click OK.



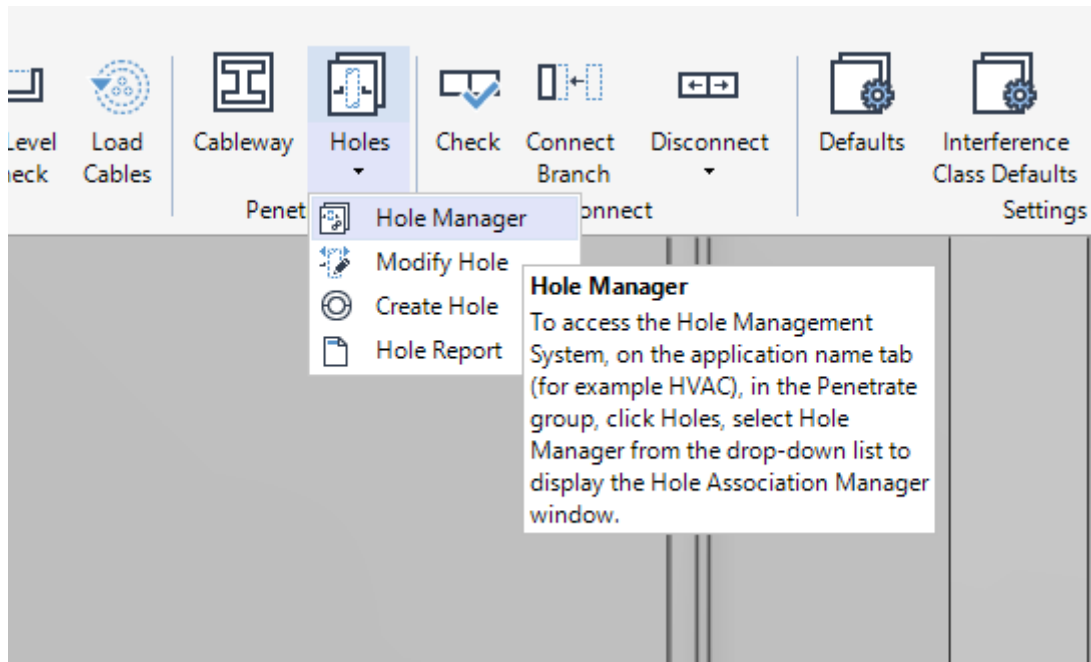
### 3 Class selection

The form “Hole Management – Definition” will open. In the “Class” drop down gadget all defined Roxtec penetrations are available. Select the relevant one.



#### 4 Hole manager

Open the Hole Manager application by clicking **Holes -> Hole Manager** in the ribbon bar.



## 5 Hole association

The Hole Association Manager form will open. Search for the holes, select them and click “Manage selected holes” near the bottom of the form.

The screenshot shows the software interface with the Hole Association Manager dialog box open. The dialog box has a 'Hole Association Filter' section with radio buttons for 'Current Element', 'List of elements', and 'All Managed Holes'. Below this are dropdown menus for 'Discipline', 'Status', 'Claimed', and 'Valid'. A 'Display' section has an 'Invalid' checkbox and an 'Apply filter' button. The main area is a table of hole associations.

Association	Discipline	Status	Valid	Claimed	Penetrated Item
HM-ASSOC-0008	PIPE	APPR	Not Checked	NO	STWALL 1 of CWALL /B02_LEV02_EXT_WAI
HM-ASSOC-0009	PIPE	APPR	Not Checked	NO	STWALL 1 of CWALL /B02_LEV02_EXT_WAI
HM-ASSOC-0010	PIPE	APPR	Not Checked	NO	STWALL 1 of CWALL /B02_LEV02_EXT_WAI
HM-ASSOC-0011	PIPE	APPR	Not Checked	NO	STWALL 1 of CWALL /B02_LEV02_EXT_WAI
HM-ASSOC-0012	CWAY	Passed	YES	NO	STWALL 6 of CWALL /B02_LEV01_EXT_WAI

Below the table, there is a 'Total Items = 5' label and two checkboxes: 'Show Tags' and 'Translucent Penetrated'. At the bottom right, there is a 'Manage Selected Holes' button and an 'Elements to manage' section with a list containing 'HM-VH-0006' and buttons for 'Add Current Element', 'Reset', and 'Refresh'.

## 6 Approving the holes

In the Hole Management form, select all holes and, as the relevant user, click “Request”. The link label “Approve” is now activated. Click it, to approve the hole.

The screenshot displays the software interface for managing cableway systems. The main window shows a 3D model of a cableway system with several green cables running through a structure. A wooden ladder is visible in the foreground. The interface includes a menu bar, a toolbar, and a Model Explorer on the left. The Hole Management form is open on the right, showing a list of holes and a validation results table.

**Hole Management Form**

Show Tags

List of holes

HOLE NAME	HOLEOWNER	STATUS	VALID	PURPOSE	TYPE	HR
HM-ASSOC-0012	STWALL 6 of CWALL (B02_LEV01_EXT_WALLS	APPR.	TRUE	CWAY		

Total Items = 1

Hole Validation Results | Selected Hole Data | Hole History

Test carried out	Result
Check existence of all associated elements	Passed
Check the Virtual Hole intersects the PANEL	Passed
Check the Cable Vlay data and Hole data are coincident	Passed

Total Items = 3

Hole Comment:  Save

Originator Tasks | Reviewer Tasks

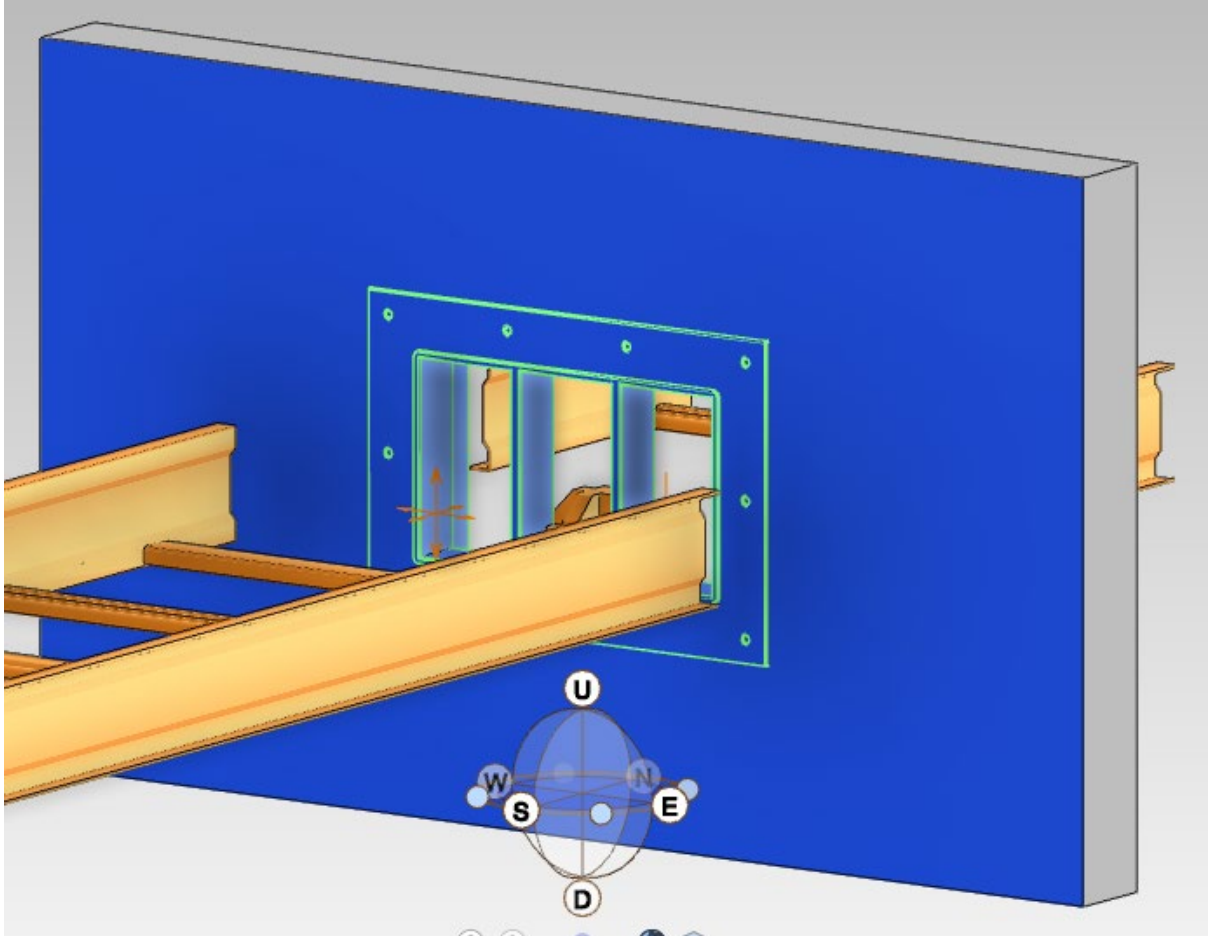
Originator Tasks	Reviewer Tasks
Request	Approve
Redundant	Reject
Cancel Request	Agree Redundant
Delete Entry	

[Return to Hole Associations](#)



## 7 Completion

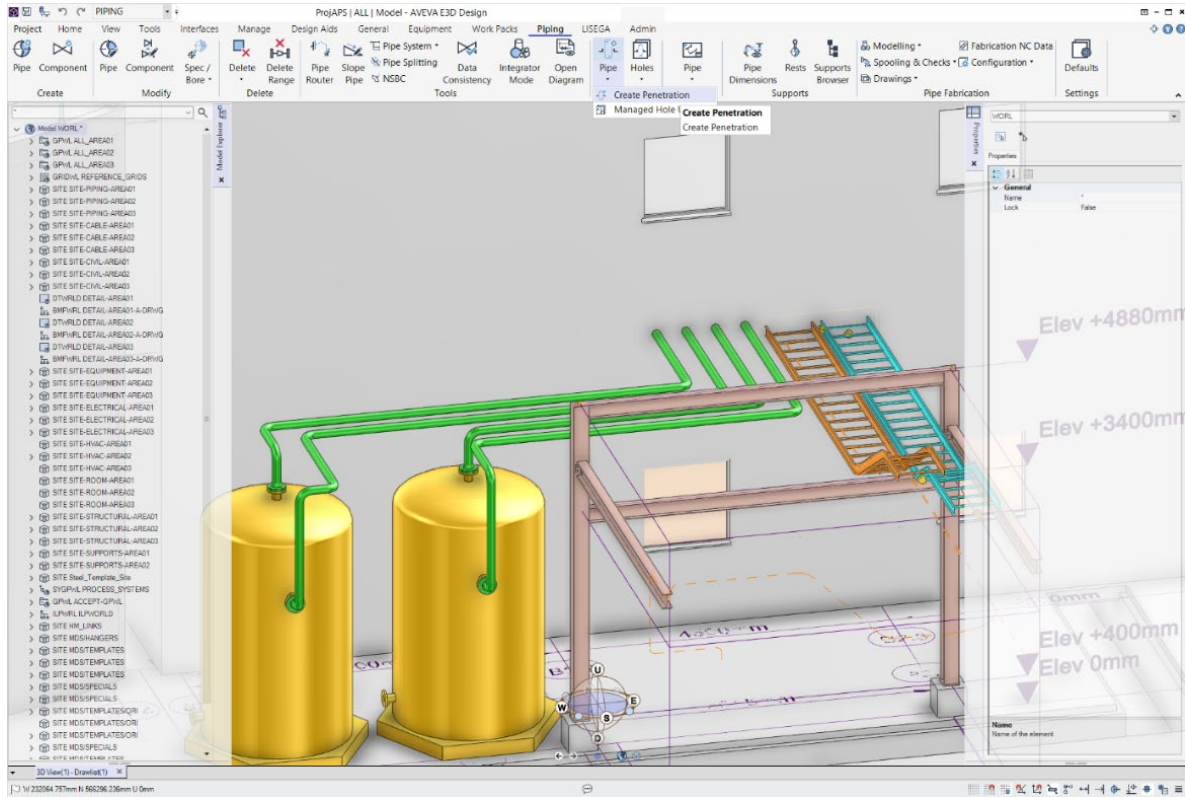
When “Approve” is clicked in the previous step the actual holes are created in the wall. The frame can also be seen graphically in the 3D view. This is also when the actual holes are created in the wall. When penetrations are created and approved within the 3D model the results is as below:



# Pipe penetrations

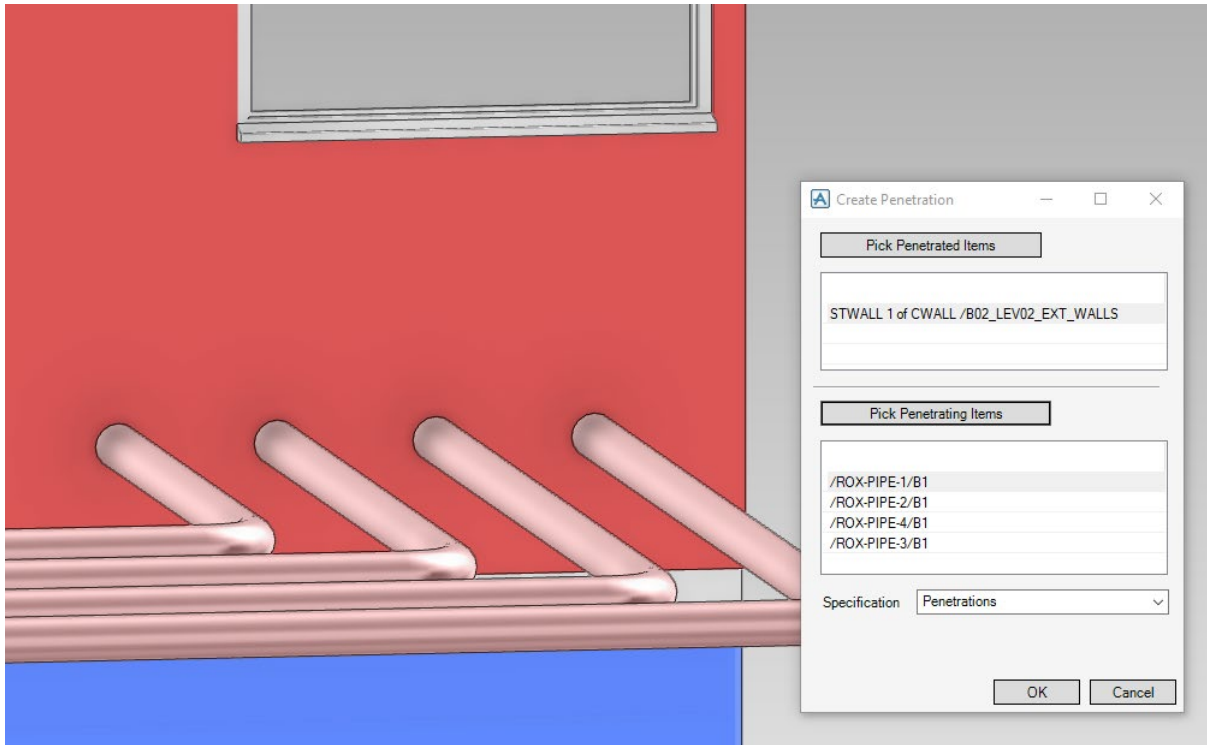
## 1 Preparation

Add the relevant parts of the 3D model to the drawlist.



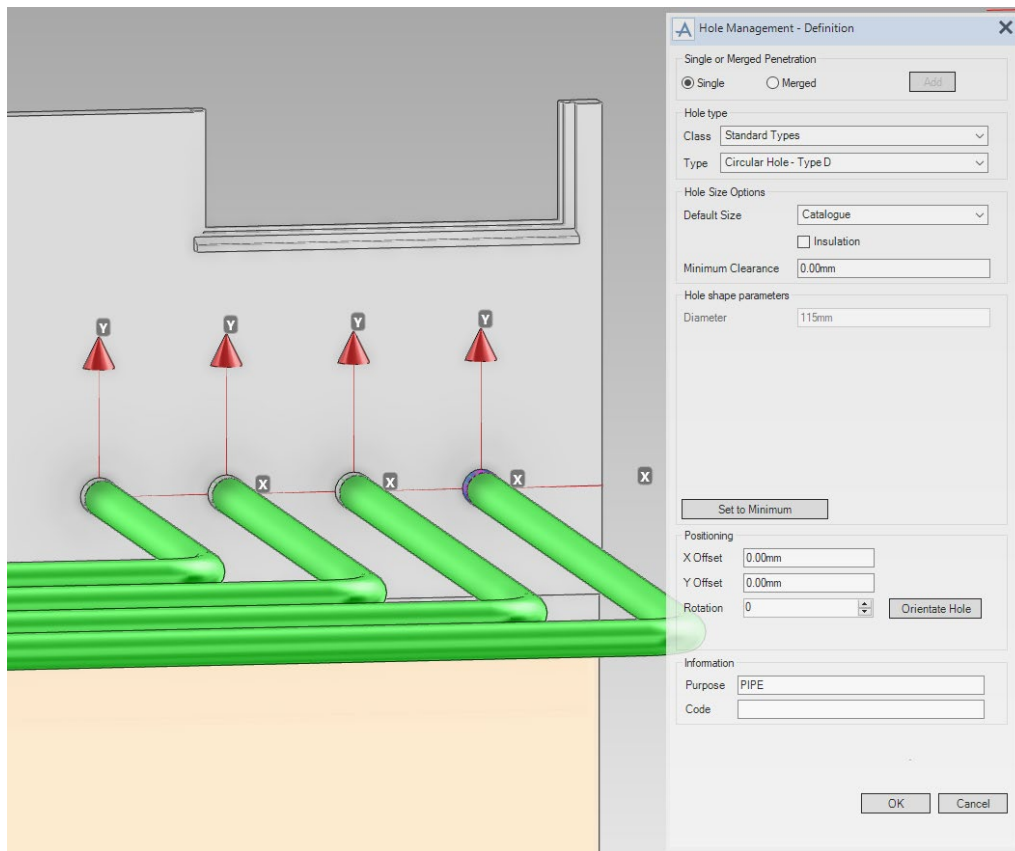
## 2 Grouping Items

Open the “Create penetration” form by clicking **Pipe -> Create Penetration** in the **Penetrate** group in the ribbon bar. Add the wall as penetrated item and the relevant pipe or pipes as penetrating elements. Make sure “Penetrations” is selected in the form. Click OK.



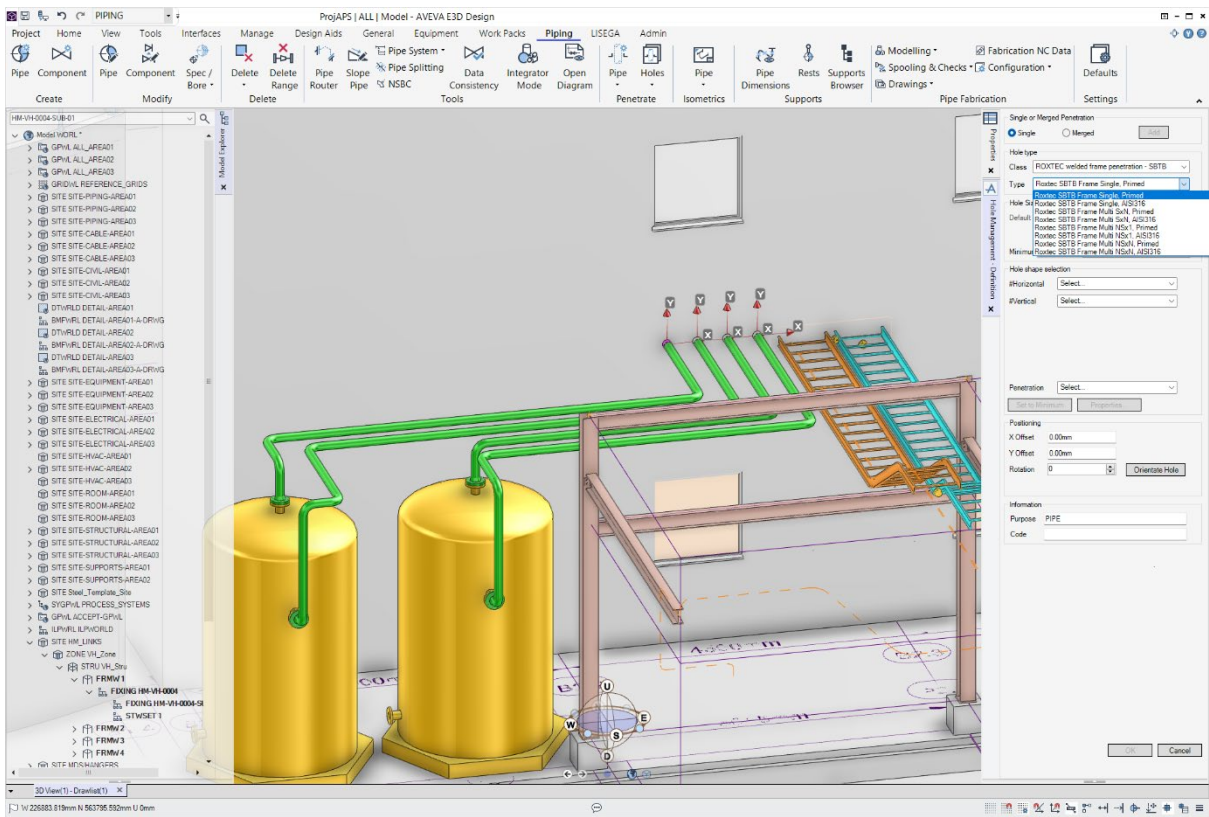
### 3 Class Selection

The form “Hole Management – Definition” will open. In the “Class” drop down gadget all defined Roxtec penetrations are available. Select the relevant one.



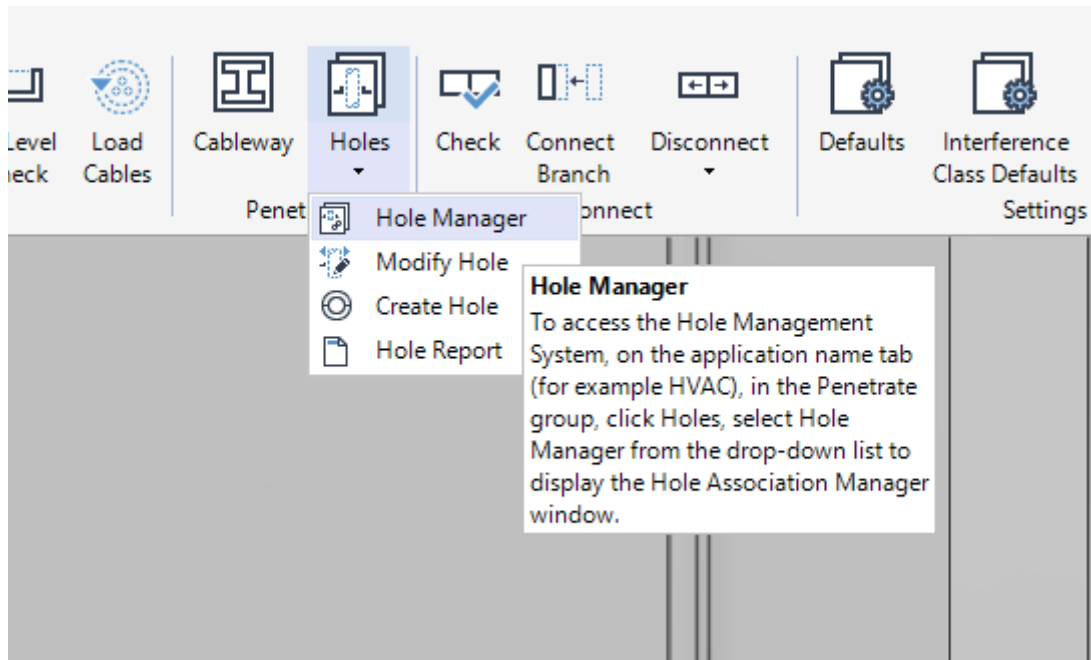
## 4 Type Selection

When a Roxtec class of penetrations is selected the “Type” drop down gadget will be populated with relevant types.



## 5 Hole Manager

Open the Hole Manager application by clicking **Holes -> Hole Manager** in the ribbon bar.



## 6 Hole Association

The Hole Association Manager form will open. Search for the holes, select them and click “Manage selected holes” near the bottom of the form.

The screenshot displays the software interface for managing cable systems. The main window shows a 3D model of a cable tray system with several green cables. The Hole Association Manager dialog box is open, showing a table of associations and a list of elements to manage.

**Hole Association Filter**

Current Element  List of elements  All Managed Holes

Discipline: All Status: All Claimed: All Valid: Not Checked

Display:  Invalid  Valid  Penetrated  Translucent Penetrated  Show Tags  Translucent Penetrated

**Hole Associations**

Drag a column header here to group by that column.

Association	Discipline	Status	Valid	Claimed	Penetrated Item
/HM-ASSOC-0008	PIPE	REJE	Passed	YES	STWALL 1 of CWall 802_Level02_Ext_VW
/HM-ASSOC-0009	PIPE	REJE	Passed	YES	STWALL 1 of CWall 802_Level02_Ext_VW
/HM-ASSOC-0010	PIPE	REJE	Passed	YES	STWALL 1 of CWall 802_Level02_Ext_VW
/HM-ASSOC-0011	PIPE	REJE	Passed	YES	STWALL 1 of CWall 802_Level02_Ext_VW

Total Items = 4

**Manage Selected Holes**

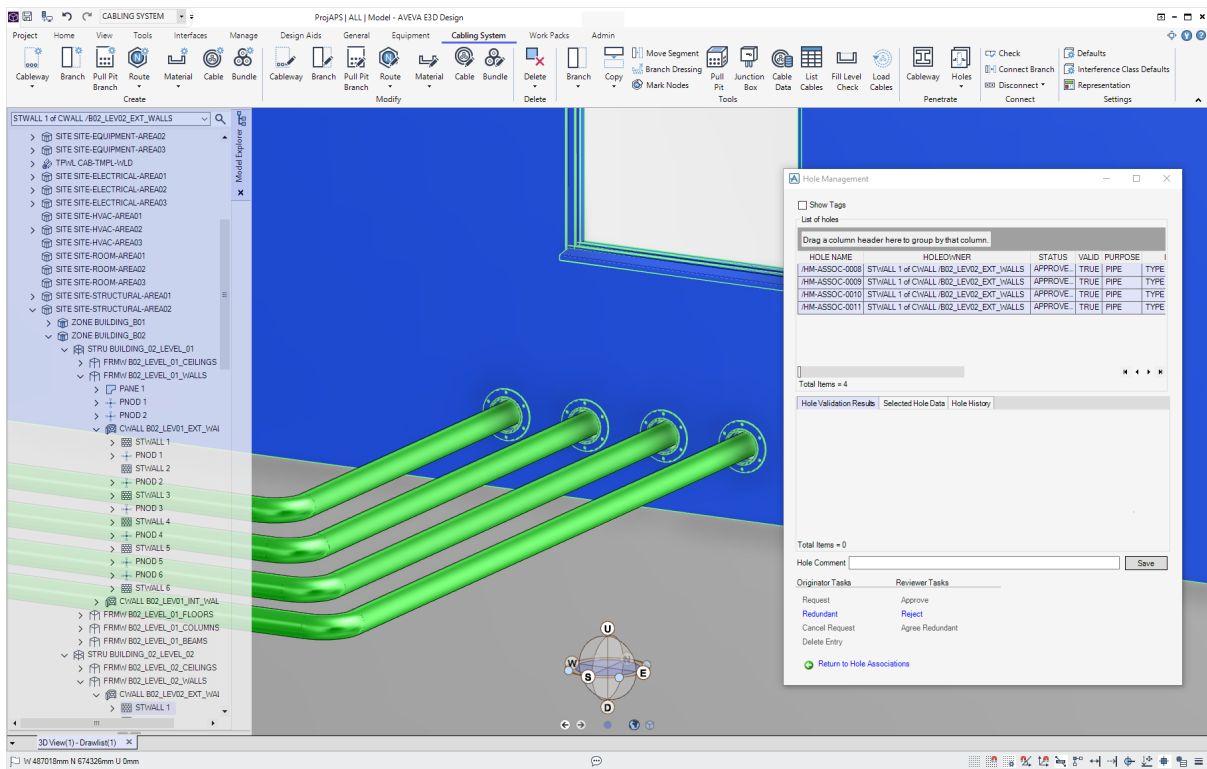
Add Current Element: -201326654/1075

Reset

Refresh

## 7 Improving the Holes

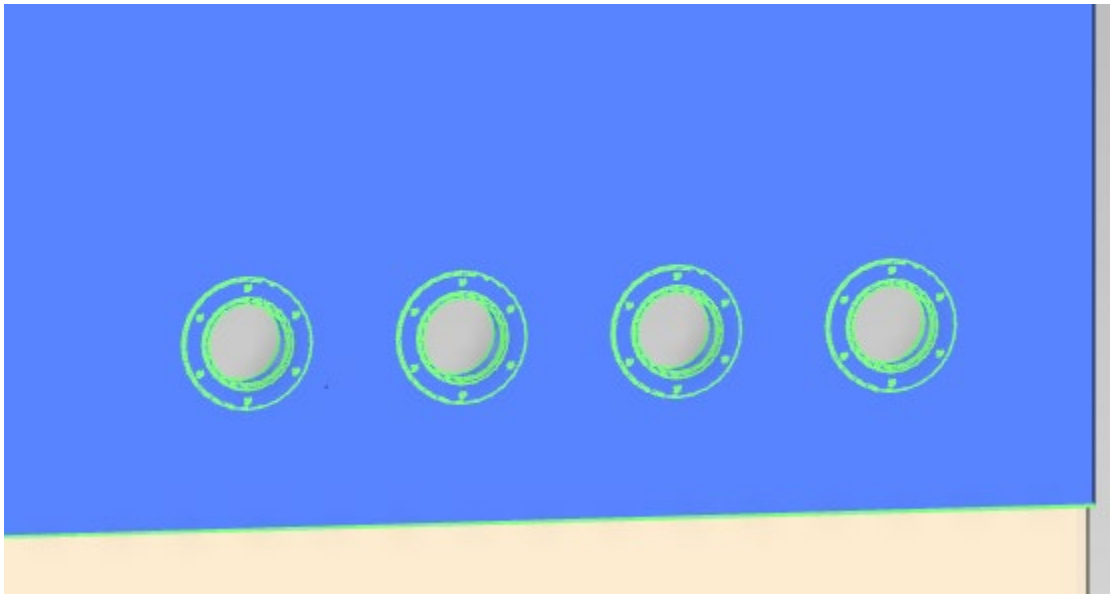
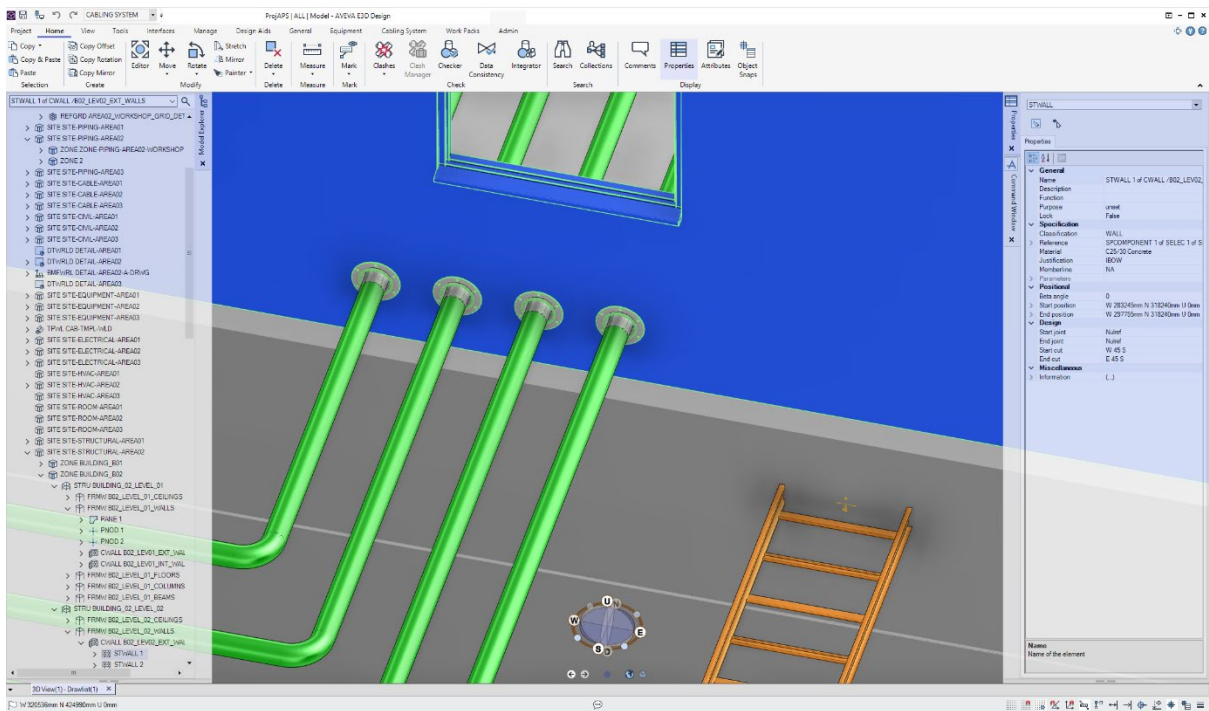
In the Hole Management form, select all holes and, as the relevant user, click “Request”. The link label “Approve” is now activated. Click it to approve the hole.





## 8 Completion

When “Approve” is clicked in the previous step the actual holes are created in the wall. The sleeves can also be seen graphically in the 3D view.



# Roxtec Transit Designer export

Roxtec have developed a PML form that allows Aveva E3D Design users to export piping or cable penetrations to a .xlsx file that is compatible with Roxtec Transit Designer.

Location	SubLocation1	SubLocation2	SubLocation3	TransitName*
<input checked="" type="checkbox"/>				

Total Items = 0

Project:

File name:

Hierarchy:

The form is minimalistic by design and working with it is straight forward; add the penetrations to the grid and click “Export”, and the fixings in the grid will be exported to an .xlsx file.

## 1 Usage

Add relevant element to the form by clicking the “Search” button. Data for the elements can be changed in the grid, but these changes will not be persisted to the database which means they will have to be done again the next time the form is used.

When the relevant elements are added to the form and any manual changes are made to the grid.

## 2 Gadgets

The gadgets on the form are described in this chapter.

### **Grid**

The grid shows a list of all relevant penetrations found in the project. The data shown in this grid is also the same data as is exported to Roxtec Transit Designer, so if manual changes are required, they can be done in the grid. Changes made in the grid, however, will not be persisted to the database.

### **Project text field**

The “Project” text field shows the description of the current project. This can be changed.

### **File name text field**

The “File name” text field shows the name of the file where the data will be output. This can be changed.

### **Cancel button**

Clicking the “Cancel” button closes the form without creating an export file.

### **Clear button**

The “Clear” button clears the grid.

### **Search button**

The “Search” button searched the current project for relevant elements. Any found element will be added to the grid. If the current element is of type WORLD then the entire project will be searched, which takes time in a large project. If current element is not a database world then the search will be run for the current element.

### **Export button**

The “Export” button exports the data shown in the grid into a file with the name given in the “File name” text field.

### 3 Installing the form

To install the form, simply copy the file roxexport.pmlfrm to your pmllib. It can be installed locally or centrally, as long as E3D Design can read the file. After copying the file to the relevant folder, the command "**pml rehash all**" must be issued. The user that runs this command must have write access to any folder in the PMLLIB path, or the command will fail silently.

### 4 Opening the form

The name of the form is !!roxexport, and it can be opened by typing the following command on the command line:

**Show !!roxexport**