ACO Qmax300

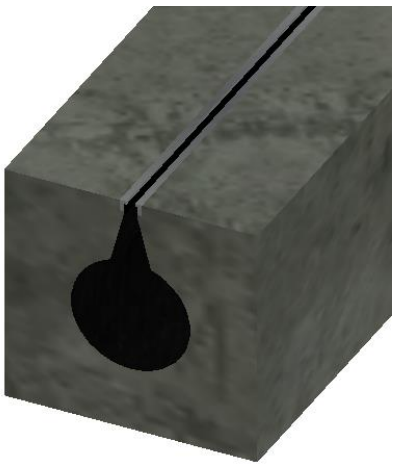
Subassembly Installation and Reference Guide

User Guide for Autodesk AutoCAD Civil 3D files

Contents

1. Introduction

This document describes the installation, configuration and use of the ACO Qmax subassembly component for AutoCAD Civil 3D 2021.



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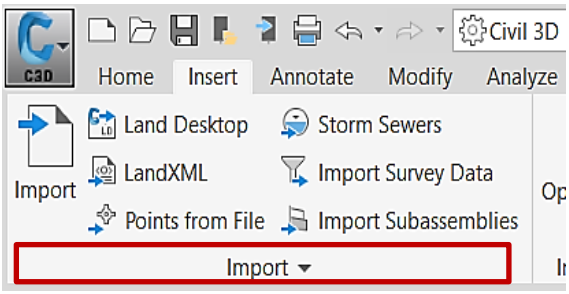
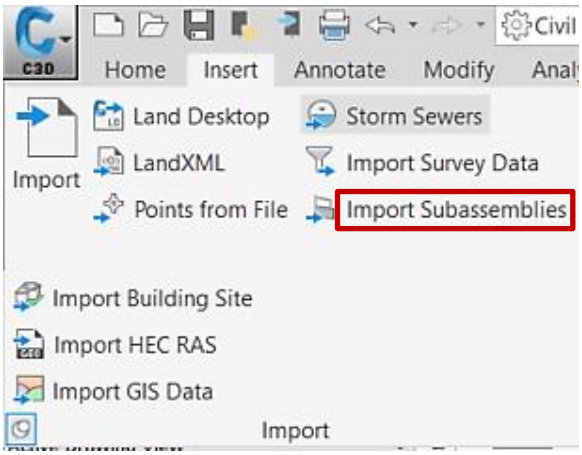
2. Installing the ACO Qmax300 subassembly

The Qmax sub-assembly is available as a .pkt file which contains the subassembly .dll file and associated configuration files for installing the subassembly in Civil 3D.

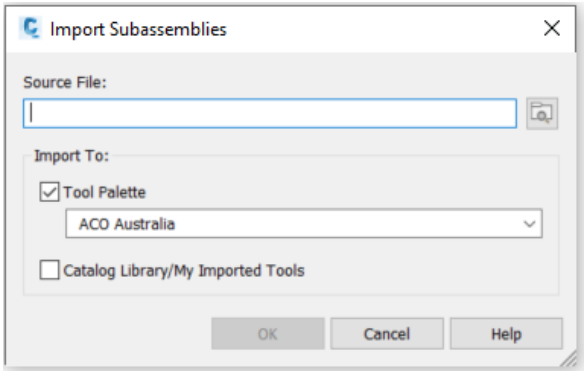


To install the subassembly, click on the Import panel title on the Insert ribbon.

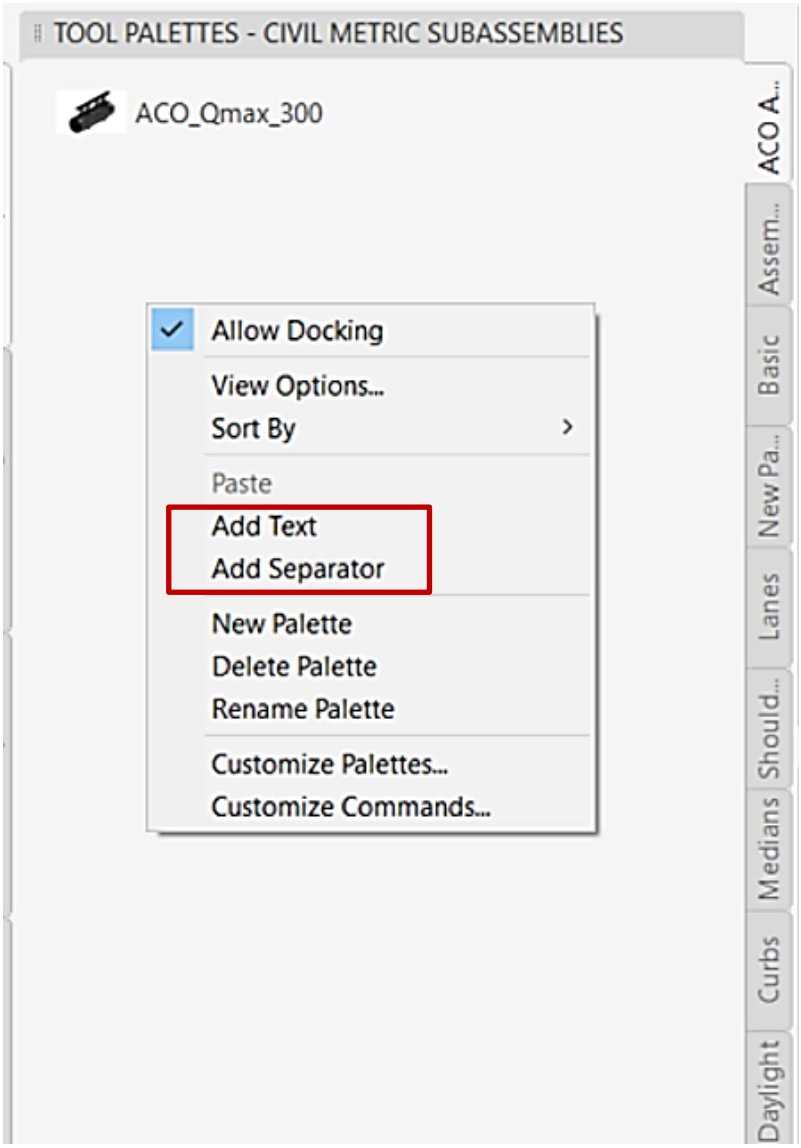
Choose to import subassemblies.



Browse to the location of the ACO Qmax 300 with galvanized.pkt file, and choose a tool palette to import to, or create a new palette. The subassembly can also optionally be added to the user Catalog Library.



The tool palette in civil 3D will now show the ACO Qmax300 subassembly. Note that by right-clicking in the tool palette, the palette can be customized by creating a separate item for the ACO Qmax300, as shown here.



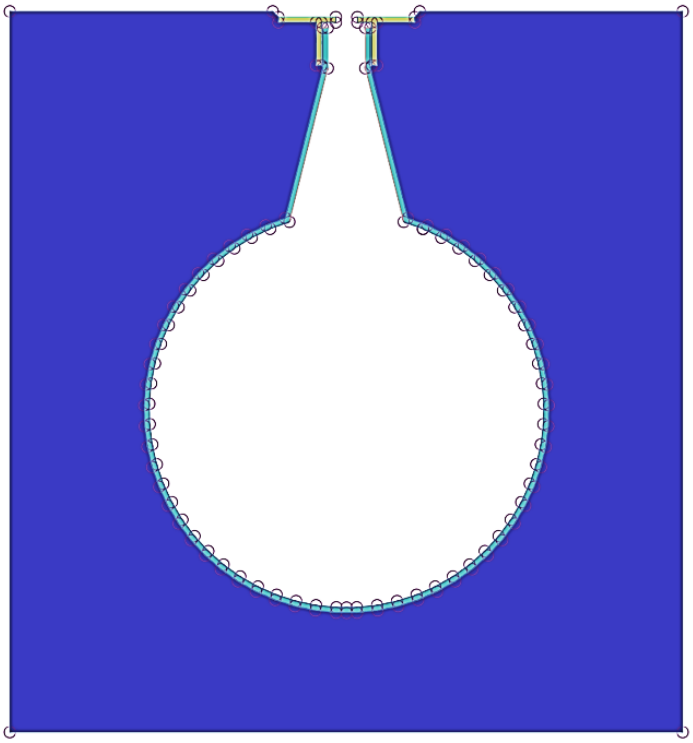
3. Using the ACO Qmax300 subassembly

The ACO Qmax subassembly includes definitions for the following Edge rail type:

Qmax 300 with Q-Flow Galvanised_Edgerail.

Data	
Code Set Style	All Codes
Default Loop In Layout Mode	Last
Default Loop Offset In Layout Mode	10.000
Geometry Generate Mode	.NET
.NET Class Name	Subassembly.ACO_Qmax_300
.NET Assembly Name	C:\ProgramData\Autodesk\C3D 2021\enu'
ADVANCED	
Parameters	
Rail Top Point Code	RailTopPointCode
Rail Top Link Code	RailTopLinkCode
Rail Point Code	RailPointCode
Rail Link Code	RailLinkCode
Rail Shape Code	RailShapeCode
Channel Formation Point Code	ChannelFormationPointCode
Channel Formation Link Code	ChannelFormationLinkCode
Channel Formation Shape Code	ChannelFormationShapeCode
Pipe Code	PipeCode
Haunching	Yes
Haunching Type	Class_D
Pavement Type	Asphalt_pavement
Haunching Top Point Code	HaunchingTopPointCode
Haunching Top Link Code	HaunchingTopLinkCode
Haunching Point Code	HaunchingPointCode
Haunching Link Code	HaunchingLinkCode
Haunching Shape Code	HaunchingShapeCode

The subassembly also optionally includes haunching detail.



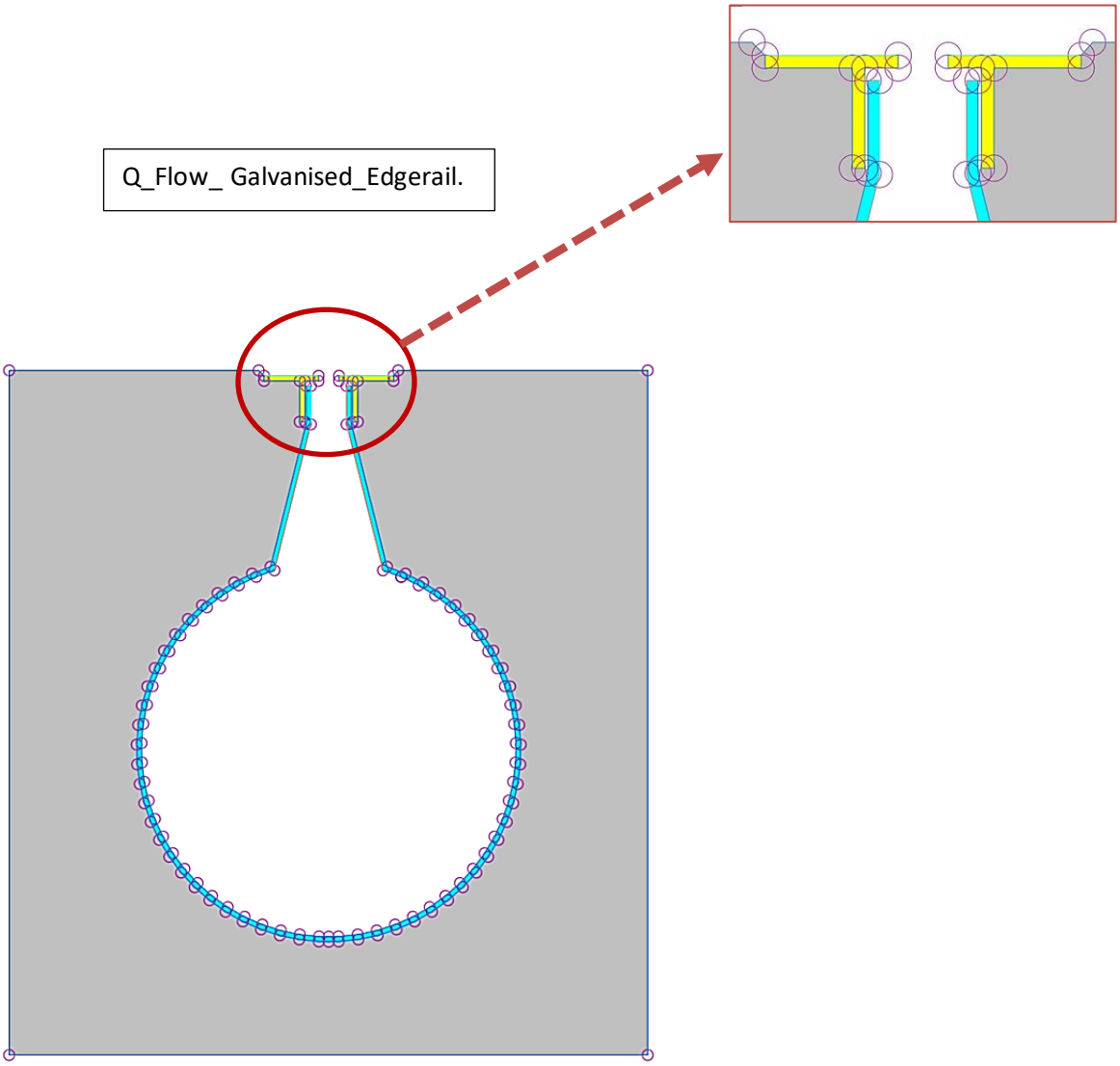
3.1 User Defined Parameters

Parameter	Default Value	Definition
RailTopPointCode	RailTopPointCode	Display Rail Top Point Code
RailTopLinkCode	RailTopLinkCode	Display Rail Top Link Code
RailPointCode	RailPointCode	Display Rail Point Code
RailLinkCode	RailLinkCode	Display Rail Link Code
RailShapeCode	RailShapeCode	Dispaly Rail Shape Code
ChannelFormationPointCode	ChannelFormationPointCode	Dispaly Channel Formation Point Code
ChannelFormationLinkCode	ChannelFormationLinkCode	Dispaly Channel Formation Link Code
ChannelFormationShapeCode	ChannelFormationShapeCode	Display Channel Formation Shape Code
PipeCode	PipeCode	Display Pipe Code
Haunching	Yes	Include haunch for the subassembly
HaunchingType	Class_D	Type of Haunching used for Qmax
PavementType	Asphalt_pavement	Type of Pavement used for Qmax
HaunchingTopPointCode	HaunchingTopPointCode	Display Haunching Top Point Code
HaunchingTopLinkCode	HaunchingTopLinkCode	Display Haunching Top Link Code
HaunchingPointCode	HaunchingPointCode	Display Haunching Point Code
HaunchingLinkCode	HaunchingLinkCode	Display Haunching Link Code
HaunchingShapeCode	HaunchingShapeCode	Display Haunching Shape Code

Parameters	
Rail Top Point Code	RailTopPointCode
Rail Top Link Code	RailTopLinkCode
Rail Point Code	RailPointCode
Rail Link Code	RailLinkCode
Rail Shape Code	RailShapeCode
Channel Formation Point Code	ChannelFormationPointCode
Channel Formation Link Code	ChannelFormationLinkCode
Channel Formation Shape Code	ChannelFormationShapeCode
Pipe Code	PipeCode
Haunching	Yes
Haunching Type	Class_D
Pavement Type	Asphalt_pavement
Haunching Top Point Code	HaunchingTopPointCode
Haunching Top Link Code	HaunchingTopLinkCode
Haunching Point Code	HaunchingPointCode
Haunching Link Code	HaunchingLinkCode
Haunching Shape Code	HaunchingShapeCode

All the default value of the parameter can be edited by end-user. User can also input different values for the Haunch Depth Parameter & Haunch Width Parameter. By default both parameter is assigned with the maximum value.

3.2 Qmax300 with Edge rail



3.3 Haunch types

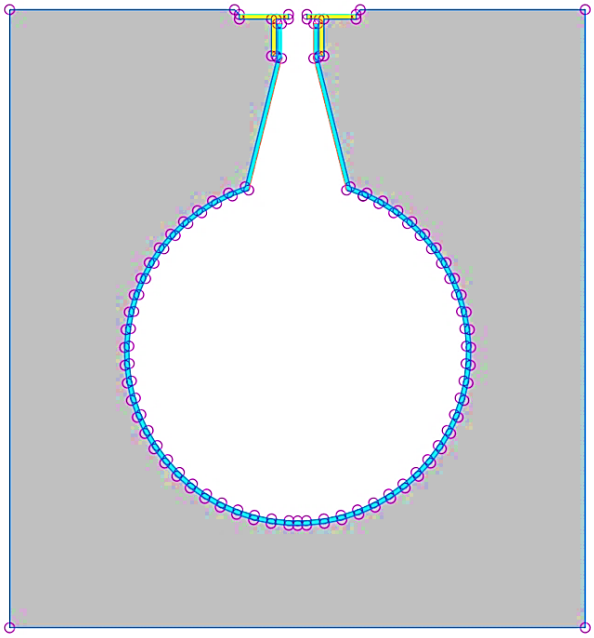
There are two types of haunching available for Qmax300.

HaunchingTypes:

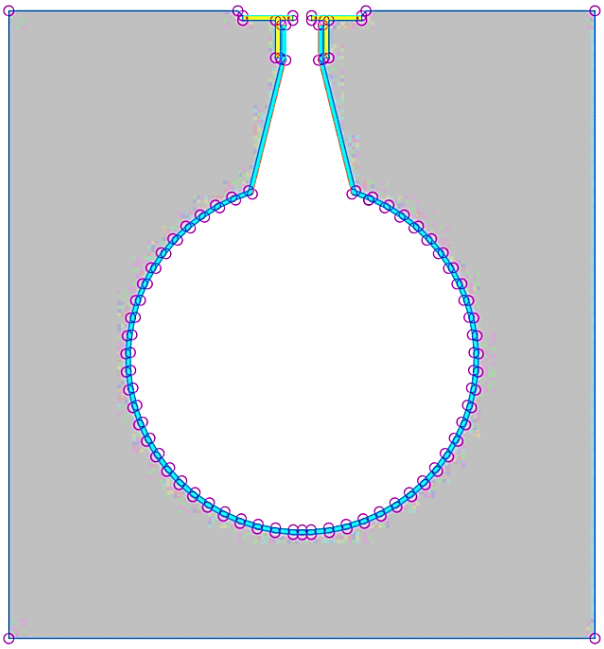
A. Class_D

1. Asphalt_pavement
2. Concrete_pavement

Asphalt Pavement



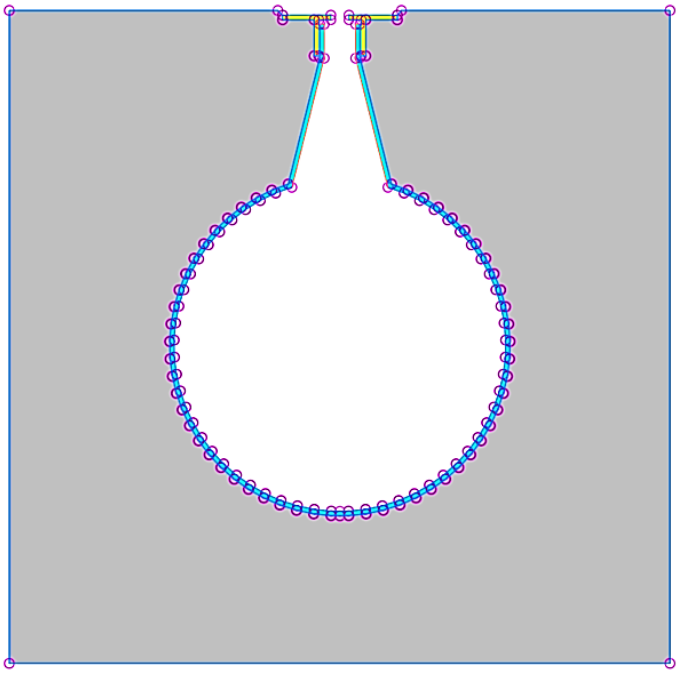
Concrete Pavement



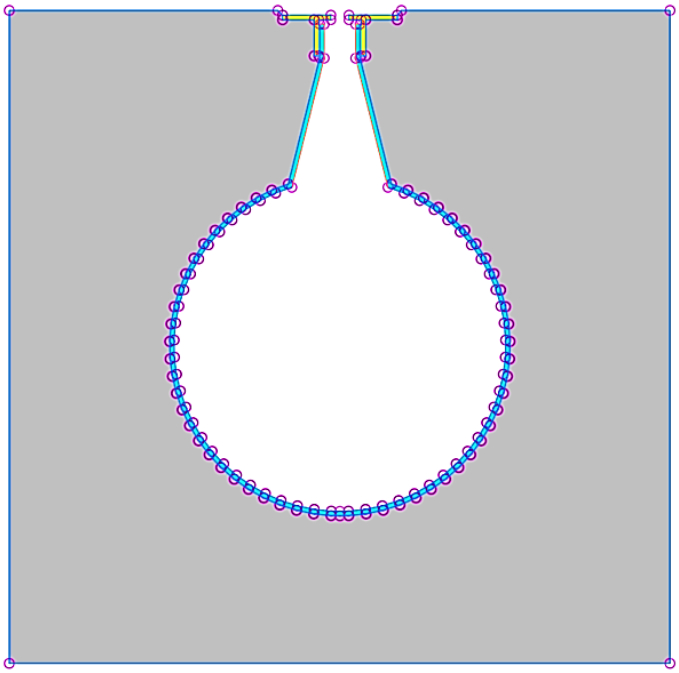
B. Class_G

1. Asphalt_pavement
2. Concrete_pavement

Asphalt Pavement



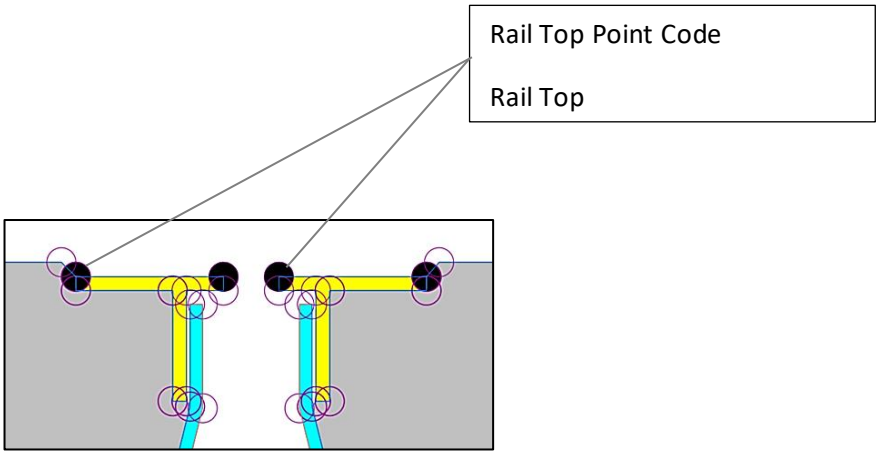
Concrete Pavement



3.4 Point Codes

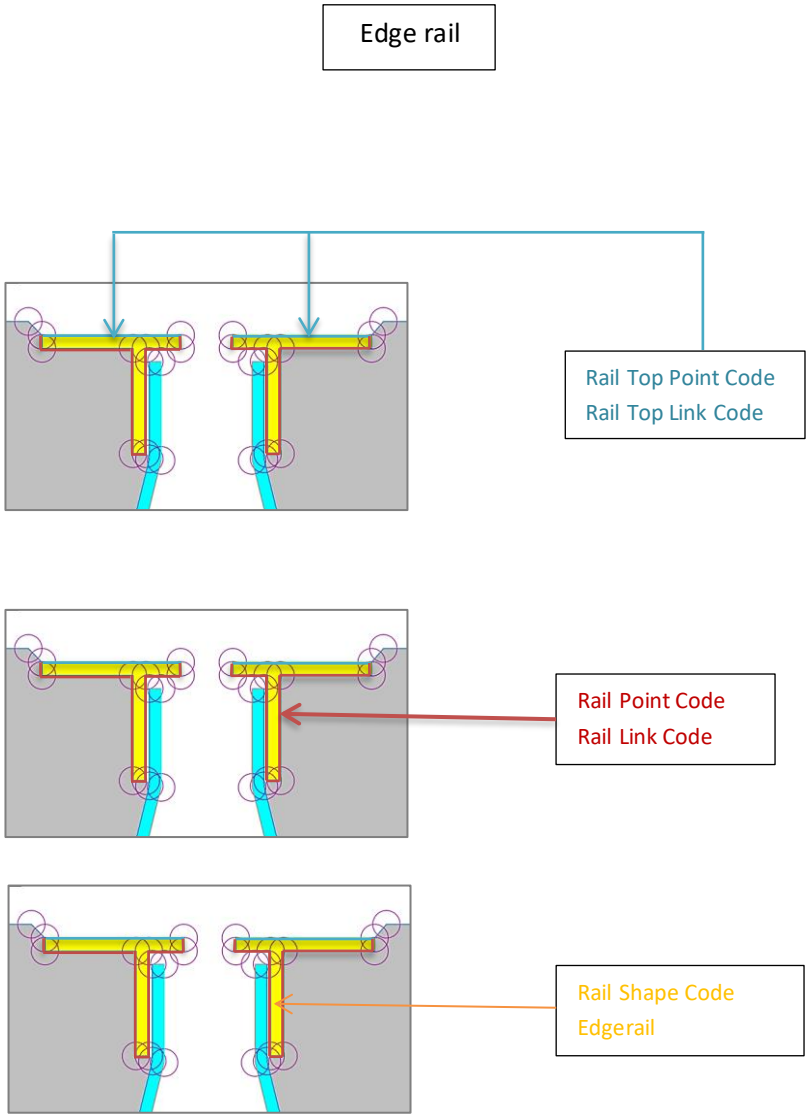
The point codes can be used in the code set styles to generate featurelines at the specific positions on the subassembly. The pipe point codes are included so that the user may project these lines onto a profile view, or possibly convert the featureline to a pipe object for exporting into an analysis package.

Edge rail



Q_Flow_ Galvanised_Edgerail.

3.5 Link and Shape codes



Qmax Channel

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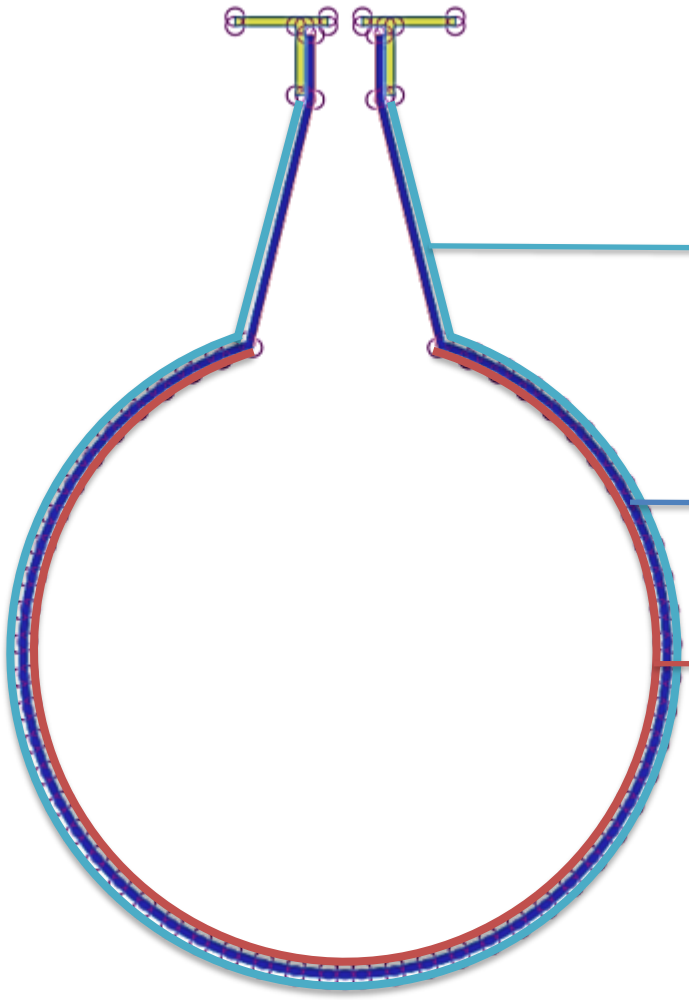

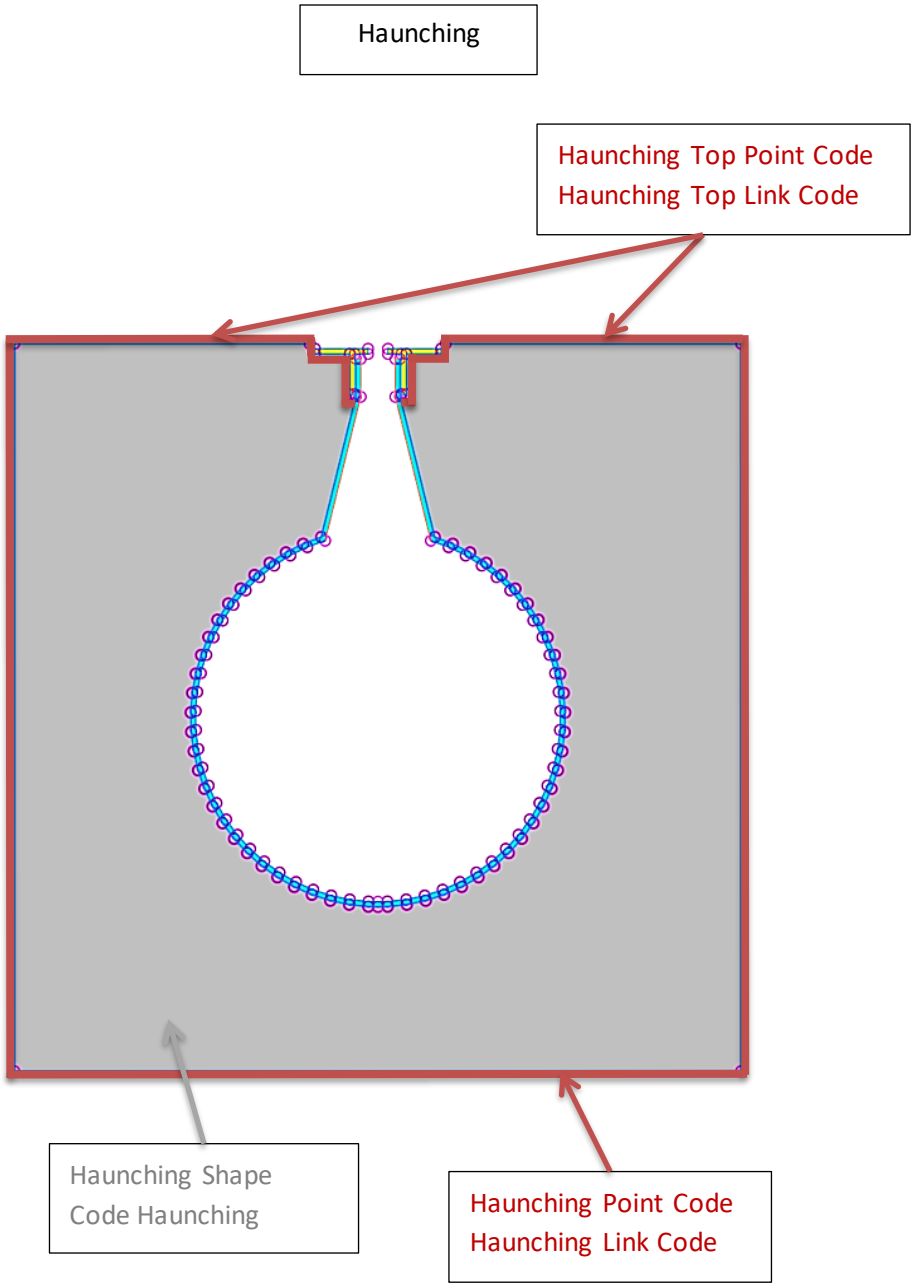

The link codes can be used to display the outline of the subassembly in cross-sections, and also to create surface from the codes. The default values supplied with the subassembly include the standard codes of Top and Formation which are used universally to indicate a Top surface of the corridor model or a Formation surface of the corridor model respectively. The Qmax is indicated by the default link code of Qmax, and the default shape code of Qmax. The Edge rail is indicated by the default link code of edge rail, and the default shape code of edge rail .The haunching is indicated by the default link code of Haunch, and the default shape code of Haunch. All of these codes can be over-ridden by the user. The shape codes are used to enable hatching to be applied in the cross-section views, and also to enable volumes of materials to be generated.