↗ White Paper

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Matching Flanges in AutoCAD Plant 3D

How to differentiate flanges that share the same Pressure Class and Facing to ensure a correct match when modelling.

Advanced Plant 3D Users / Administrators

Introduction

It is not uncommon for a Pipe Spec to contain multiple flanges that share the same Pressure Class and Facing yet conform to slightly different design standards. Using the default configuration of AutoCAD Plant 3D, it is not possible to differentiate between these different types of flange. It is quite possible that inserting a flange into a pipe to create a flange set could result in a pair of dissimilar flanges being inserted.

Flanged Joints

The default configuration of joint settings in Plant 3D matches flanges by comparing the Nominal Diameter, Pressure Class and Facing properties of the flanges. Therefore, an additional parameter is required to enable the application to differentiate between different types of flange that share the same Pressure Class and Facing.

Design Standard Property

One way to differentiate between flanges is to use the Design Standard property to identify each type of flange.
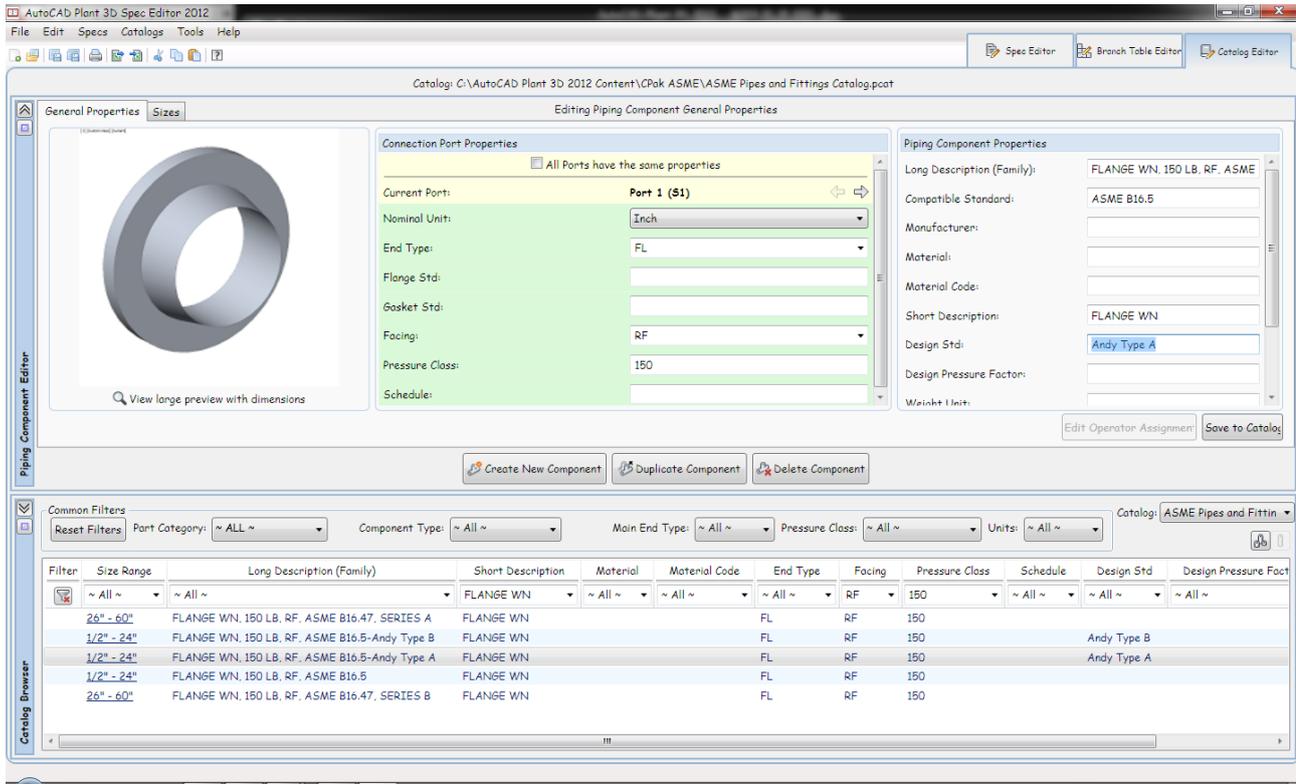
To use this property, a value needs to be added to the Design Standard property in the piping catalog where the flanges are defined and also to the flanges in any existing piping spec(s) in which they have already been used. If the flanges are added to a new pipe spec the value of the Design Standard property is copied through to the pipe spec automatically.
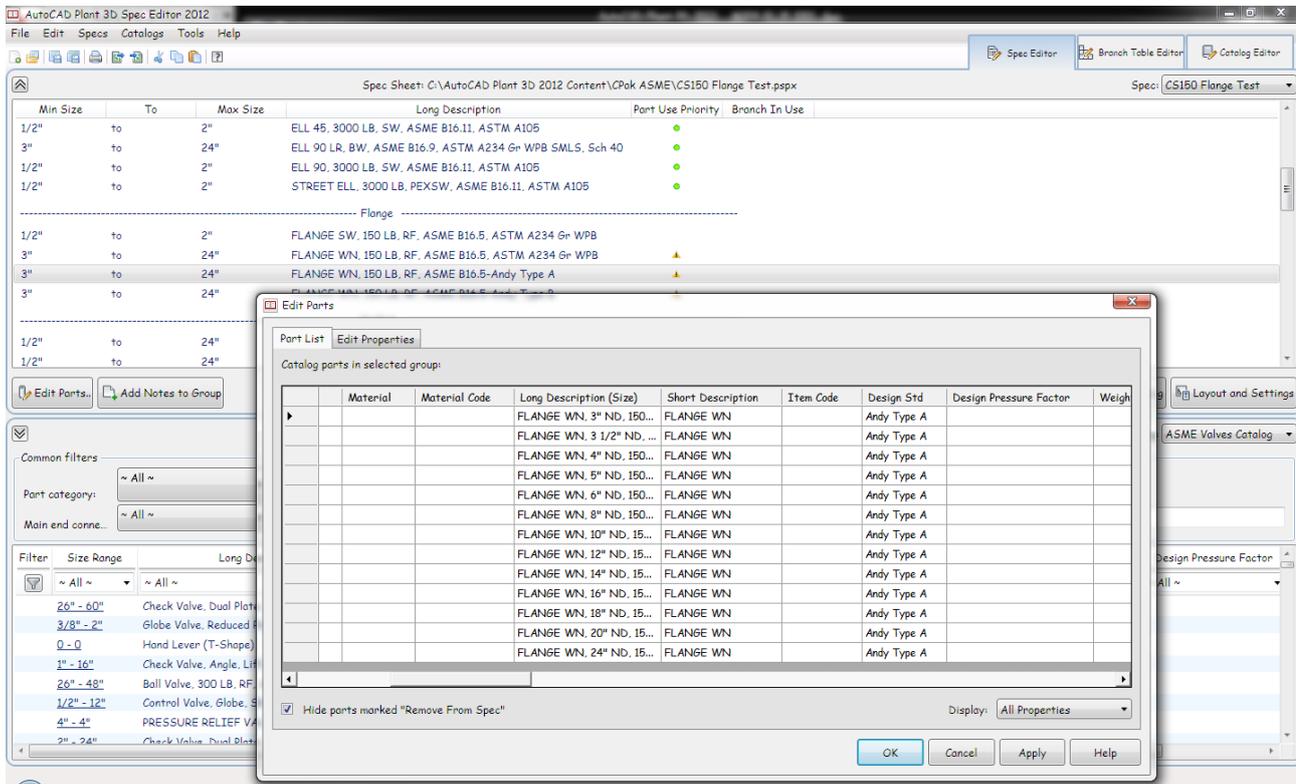
Joint Settings

As mentioned previously, the default Flanged and AutoFlange joint settings compare Nominal Diameter, Pressure Class and Facing properties only. Therefore these joints must be modified to recognise the Design Standard property also.

Adding a Design Standard

The value of the Design Standard property is set by adding a value to the Design Std field in the Piping Component Properties panel in the Plant 3D Catalog Editor.
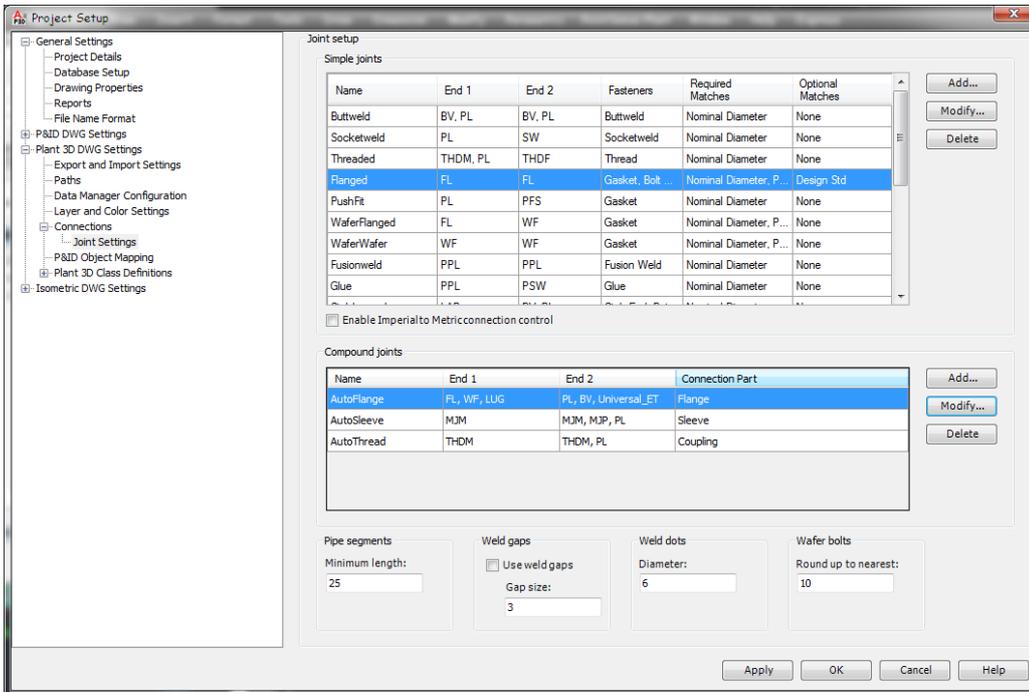
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There must also be a value in Design Std column of the Part List panel in the Edit Parts window of the Plant 3D Spec Editor.

Modifying Joint Settings

The Flanged and AutoFlange joint settings must be modified within Project Setup of a Plant 3D project to enable the Design Standard property to be recognised during the lookup process.

The Design Std property must be added as an optional match to the Flanged simple joint.

The Design Std property must also be added to End 1 of the compound AutoFlange joint settings.