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# Advance Steel: Drawing Styles customization

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## Learning Objectives

- Learn the main structure of a drawing style using **Drawing Styles Manager**
- Discover by direct testing the existing settings and options of drawing styles
- Learn how to configure and use model objects, labels, and dimensions
- Learn workflow recommendations for using and configuring the drawing styles using Drawing Style Manager

## Description

In this hands-on lab you will learn how to customize a drawing style to suit your specific requirements for detail drawings, taking into account what should be shown in detail, how should it be shown, labels, and dimensions to be created.

We will walk through the workflow of configuring drawing styles using the **Drawing Styles Manager** interface, with an explanation of existing options and settings.

We will configure and use model objects, labels, and dimensions in specific scenarios. This class will include configuration and workflow recommendations for an efficient way of using drawing styles.

## Your AU Experts

*Emy Nestor has worked with Advance Steel software for more than 12 years, both as part of the Support and Development Team and as end user for very different projects. He joined Autodesk, Inc.'s, Product Support in 2014 as Technical Support Senior Specialist, helping customers and partners with their questions and issues for Advance Steel and Advance Concrete software products.*

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## Drawing Style and Drawing Style Manager

### Introduction

When working on a project with Autodesk® Advance Steel (AS), the first major part is to create the 3D model – with all its elements, verifications, numbering (identical part detection).

Then the next step in detailing workflow is to generate the detail drawings: general arrangement drawings, sections, node details and workshop drawings.

In Advance Steel, a detail drawing is generated by applying a **Drawing Style (DS)** – a template which contains a set of rules about what is shown in detail, how it should be shown and how it should be labeled and dimensioned.

The DS contains instructions for various settings (displayed parts, views, dimensions, labeling, clipping etc). It controls what it is created for each detail: for each assembly or for each general arrangement view, as example.

Advance Steel offers a variety of drawing styles for the creation of general arrangement drawings, sections and shop drawings in various layouts. The drawing styles can be customized in any aspects to adapt to the user's requirements, using a specific interface.

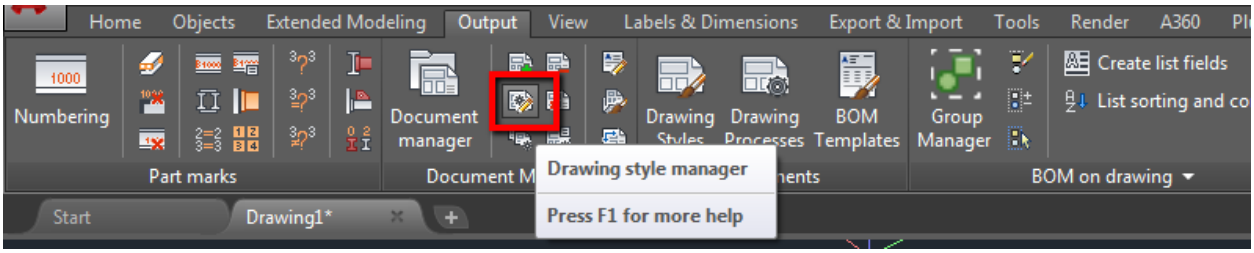
**Drawing Style Manager (DSM)** is the user interface to the drawing style definition. It is used to access, use, modify, create or delete a drawing style at any level.

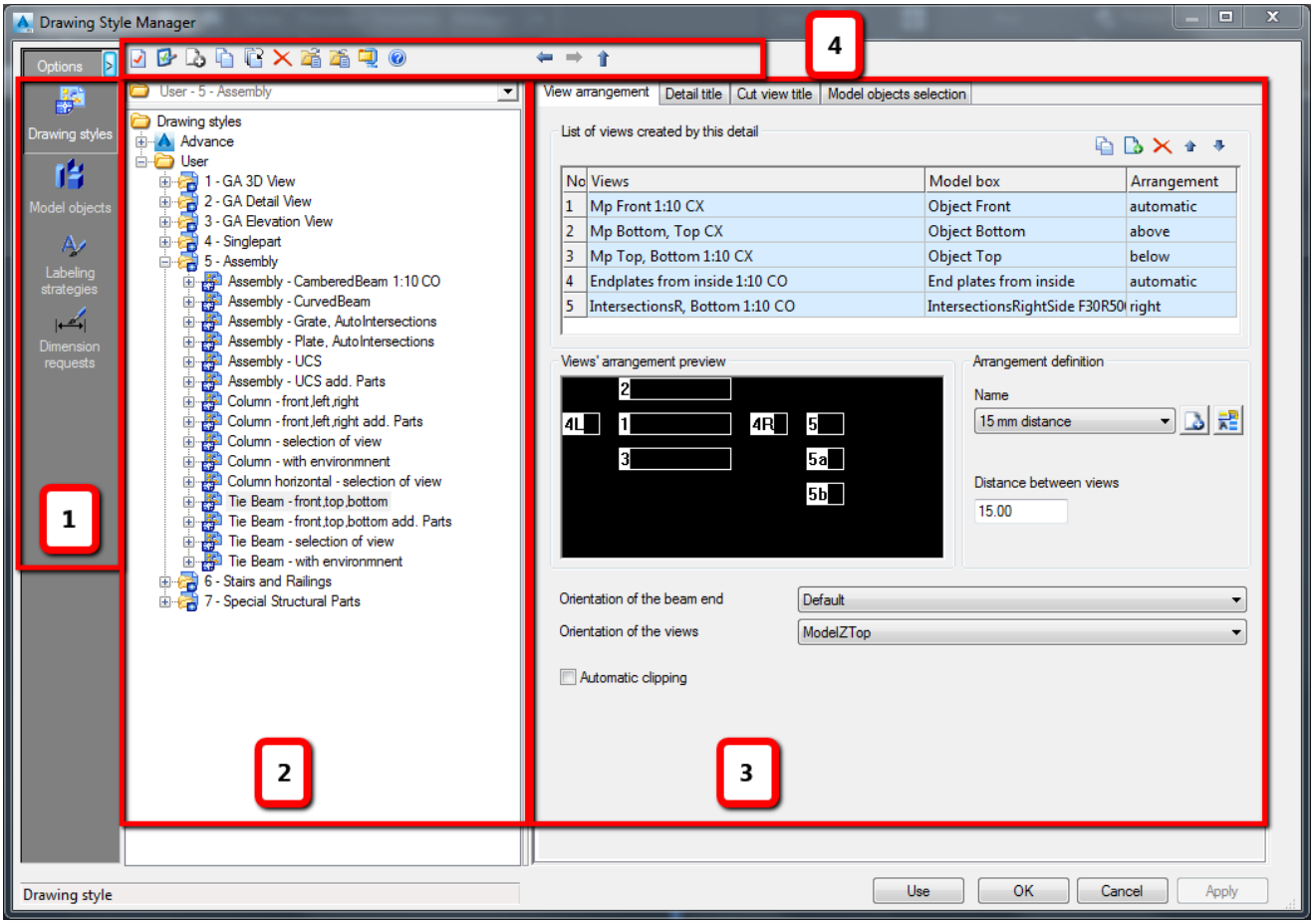
The numerous properties and settings that exist in a DS definition are grouped in sub-styles at different levels. These sub-styles can be referred / reused in the same DS or in other DSs.

### Drawing Style Manager – Main structure

To open the Drawing Style Manager, go to:

*Ribbon → Output → Document Manager panel → Drawing Style Manager*






**1 – Component panel** displays the most important types of the existing styles & sub-styles:

- Drawing styles
- Model objects
- Labeling strategies
- Dimension requests

**2 - Tree panel**: here you can see the content of all the branches and categories in a tree-like structure. Each item definition can be expanded in order to access the settings on different levels.

**3 - Properties Panel** shows the properties and settings of the selected item from tree panel. The displayed content changes according to the current type and level of the item.

**4 - Toolbar:** it contains several management functions

## Configuration of drawing styles using DSM

### Create a new Drawing Style (DS) – Deep Copy

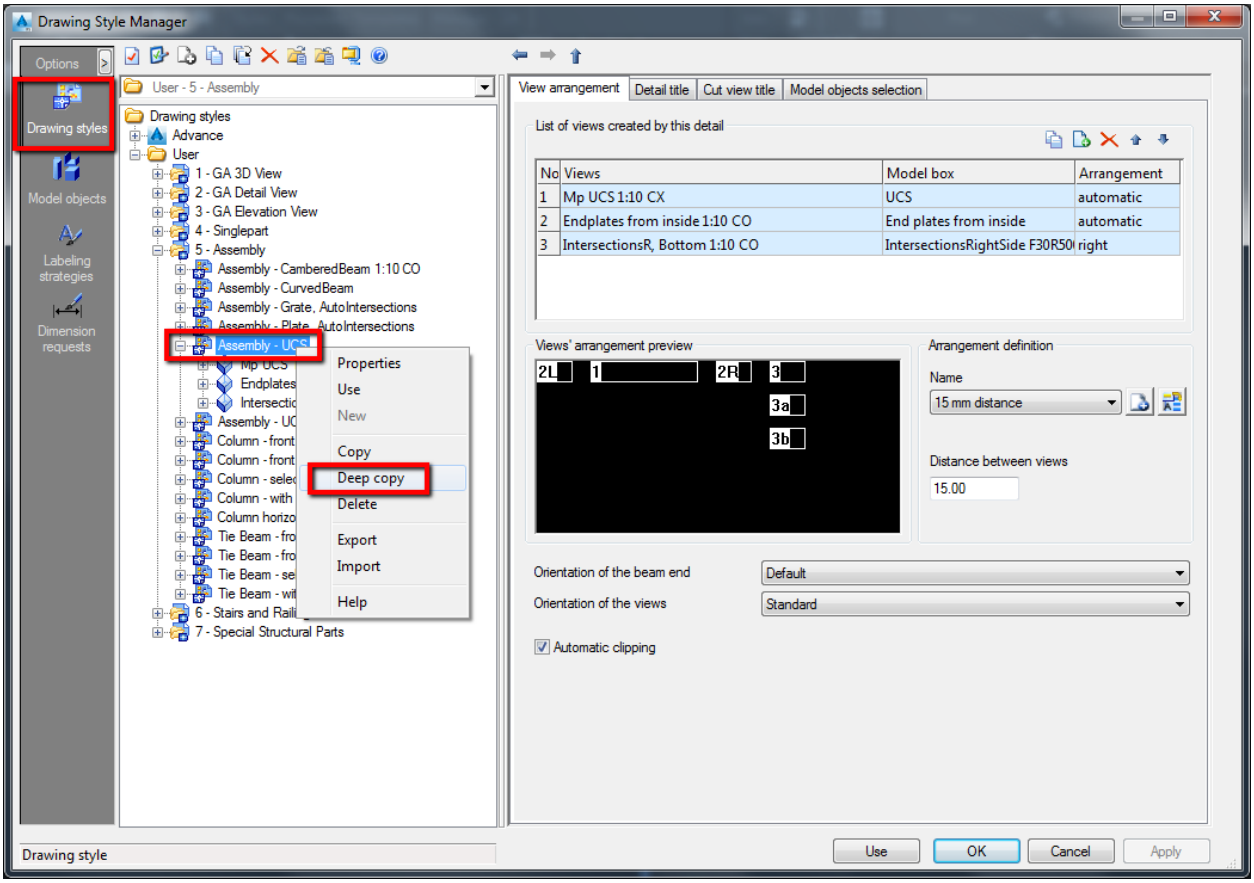
A new DS can be created only by copying an existing DS: by *Copy* or by *Deep copy* process. The main difference between the two methods is related to the level (or depth) of the copy process:

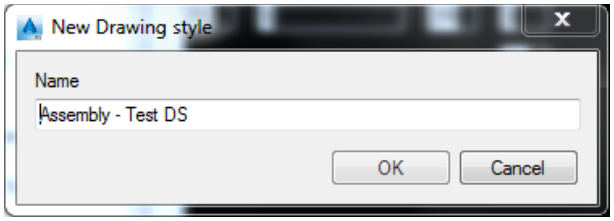
- The *Copy* function will create a new DS, but referring (sharing) the same sub-styles with the original DS.
- The *Deep copy* function duplicates the full structure definition of the original DS. The new DS is completely independent from the original one.

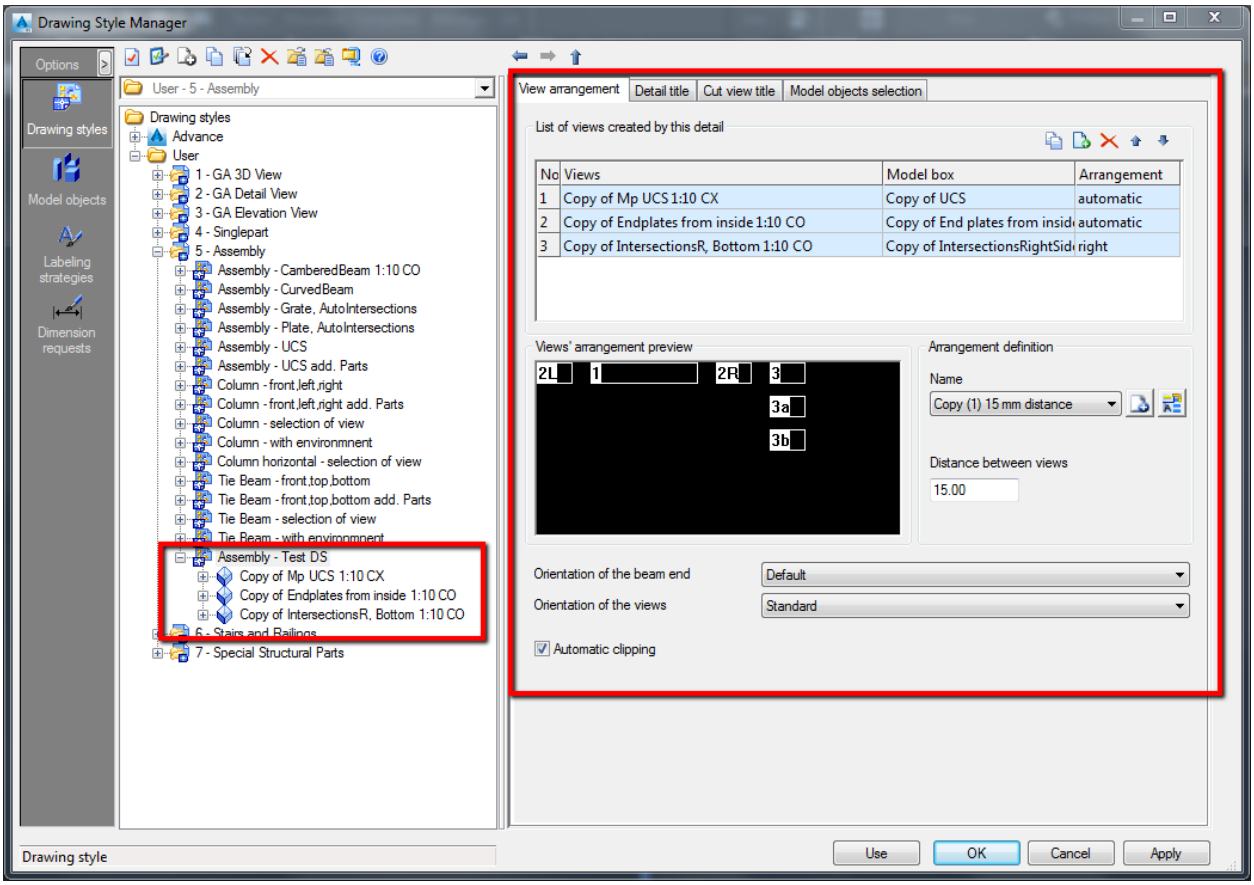
| *Exercise: Create a new drawing style by full duplicating an existing one* |
|---|

Follow these steps to create a full duplicate of an existing DS:

- Open DSM
- Select the *Drawing styles* section from Component panel
- Expand the tree panel and select an existing DS
- Right-click on it and select the option *Deep copy*
- Type the name of the new DS: *Assembly - Test DS* and press *OK*





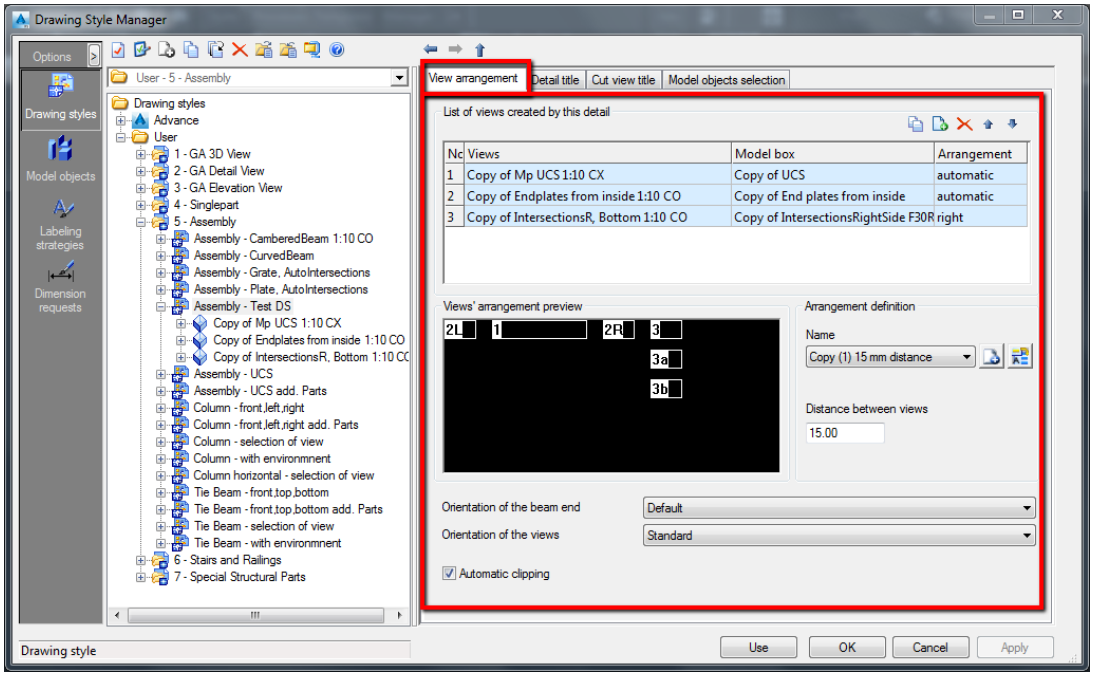




Note that all the sub-styles and levels of the copied DS received the prefix *Copy of* – all of them are new records in the database; any modification will affect this DS only.

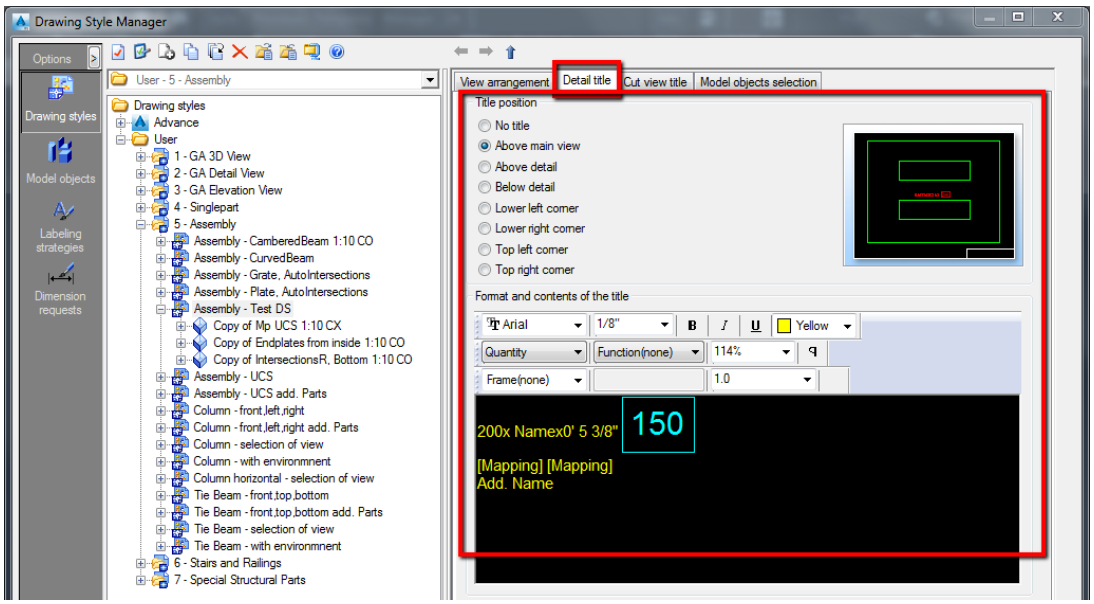
## General settings of a DS

*Exercise: Select the new created DS and open each page from Properties Panel with the general settings; remark the content and purpose of each one*

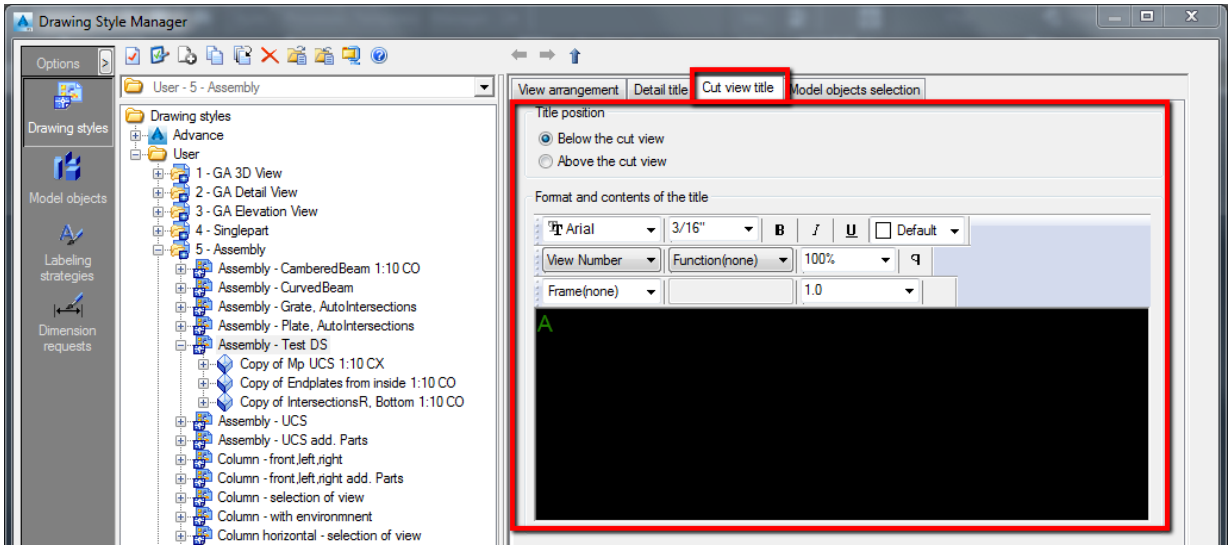
**View arrangement** page: displays the list of the views to be created by the DS, their arrangement, as well as the orientation of the views.



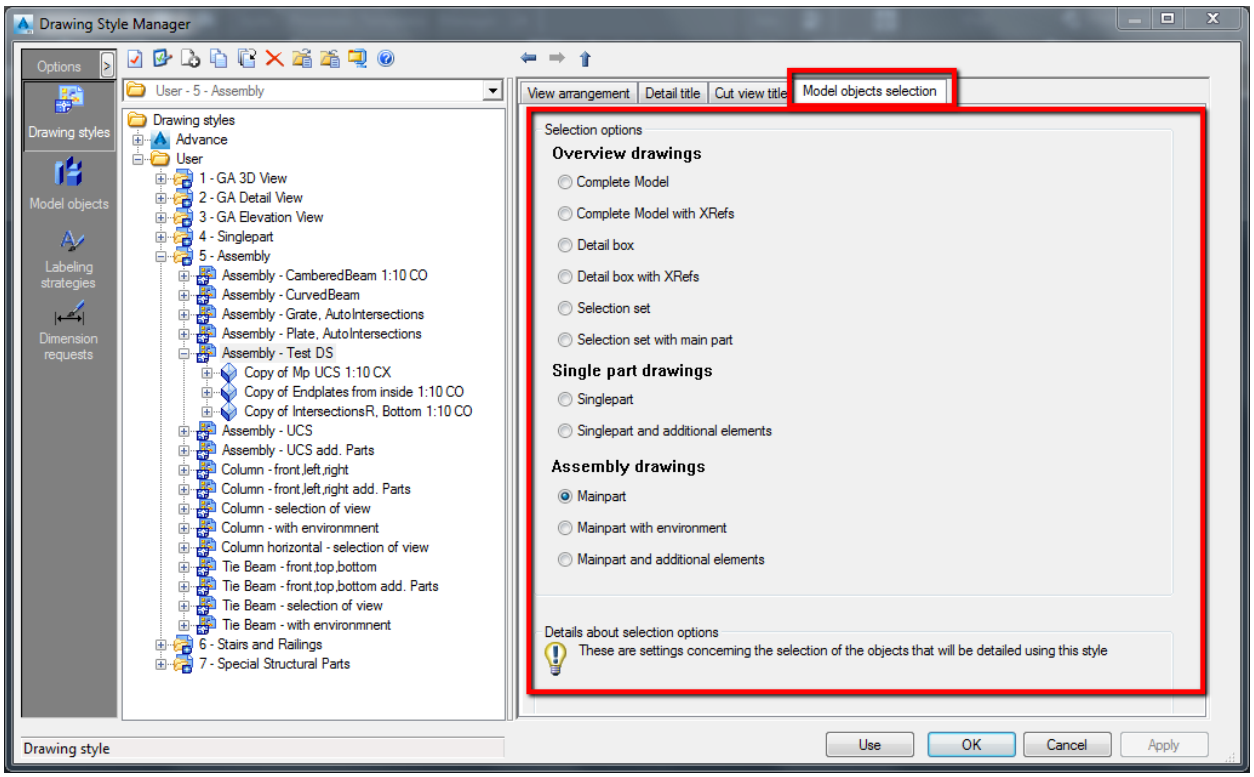

**Detail title** page: to define the DS title content and its position in detail



**Cut view title** page: to define the section views title content and their position in detail



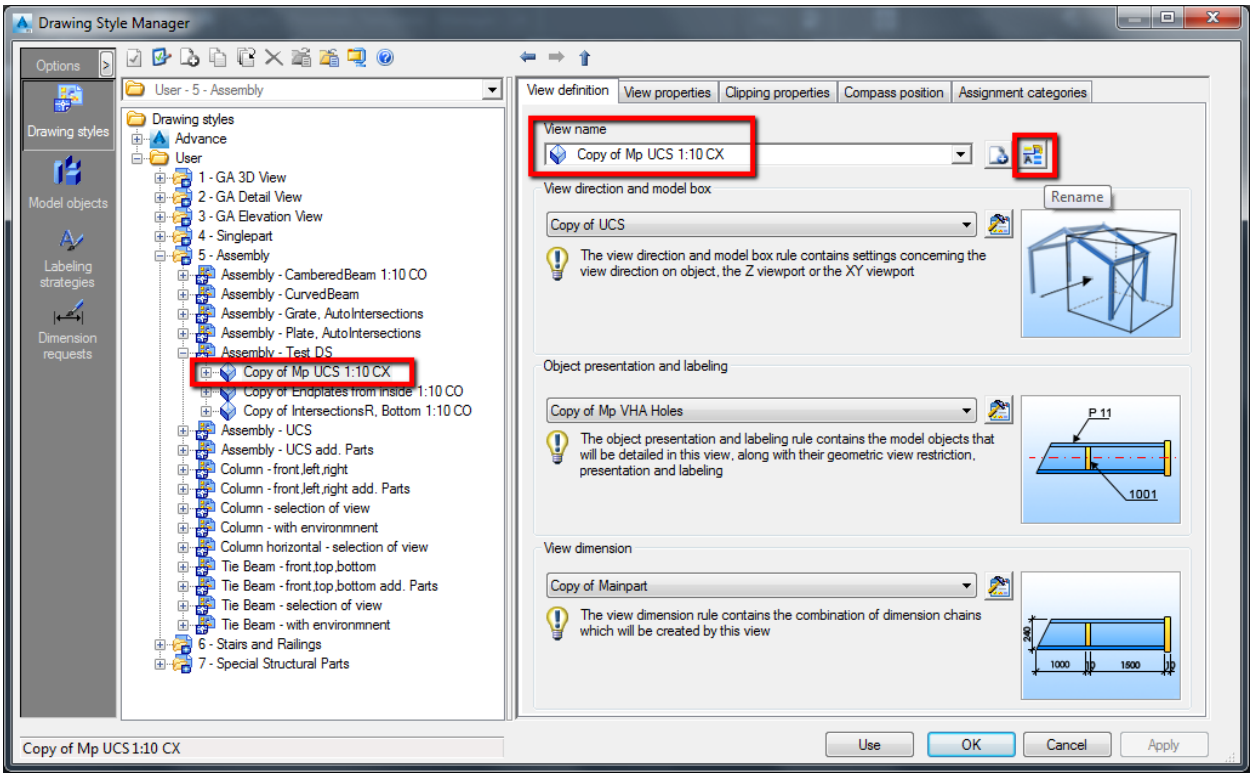

**Model objects selection** page: to define the detail type – *Overview* (erection detail) / *Single part* / *Assembly* detail – and the objects that will be taken into account for detailing

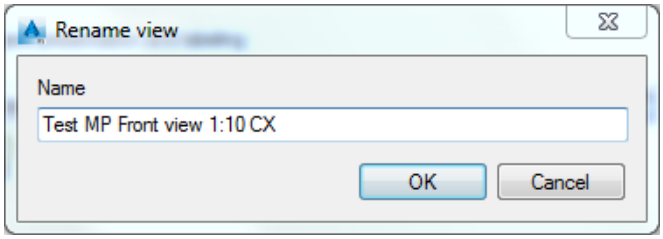


## Properties of a DS view – View direction

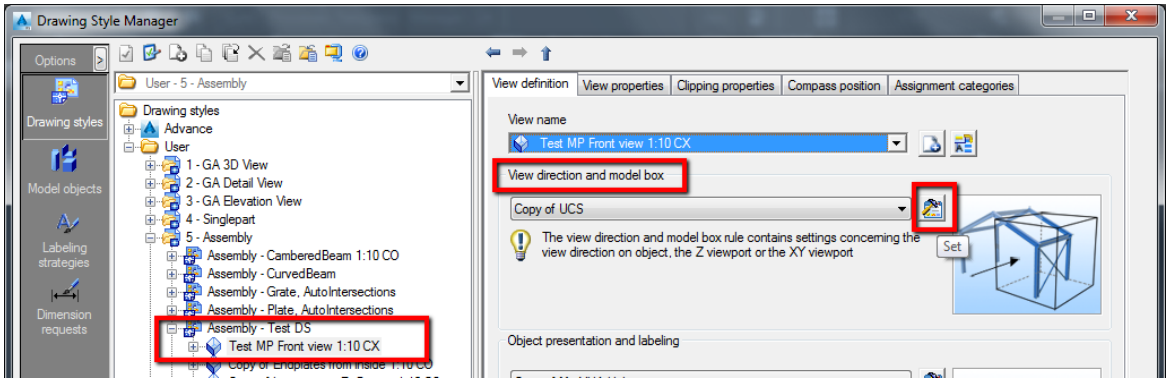
*Exercise: Configure the new DS to create the first view as the FRONT view of the assembly*

- Open DSM
- In the tree panel select the new created DS: *Assembly – Test DS* and expand its definition
- Select the first view name
- To set a proper name of the view use the button *Rename* next to the *View name* field from properties panel
- Type the new name of the view and press *OK*
  *Test MP Front view 1:10 CX*

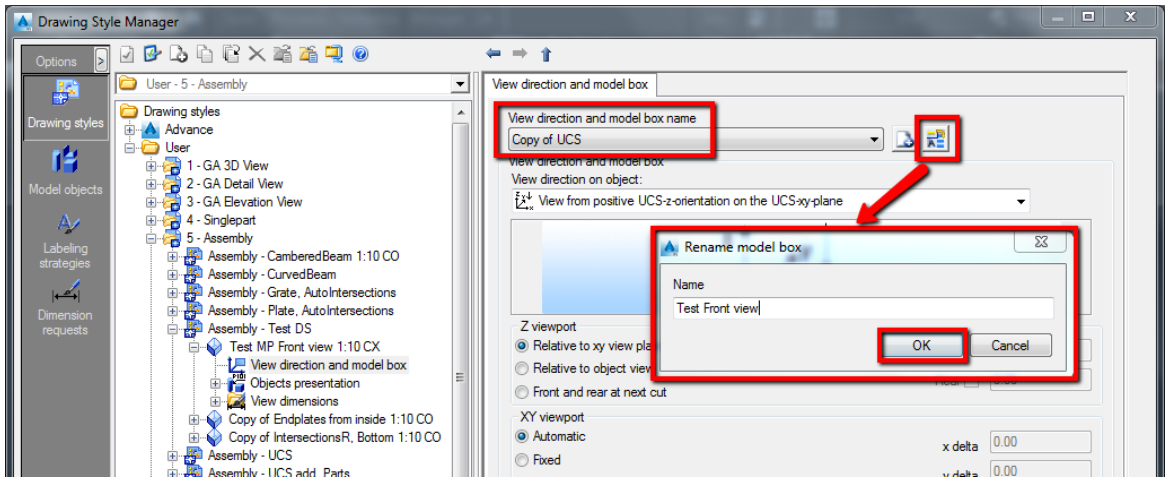


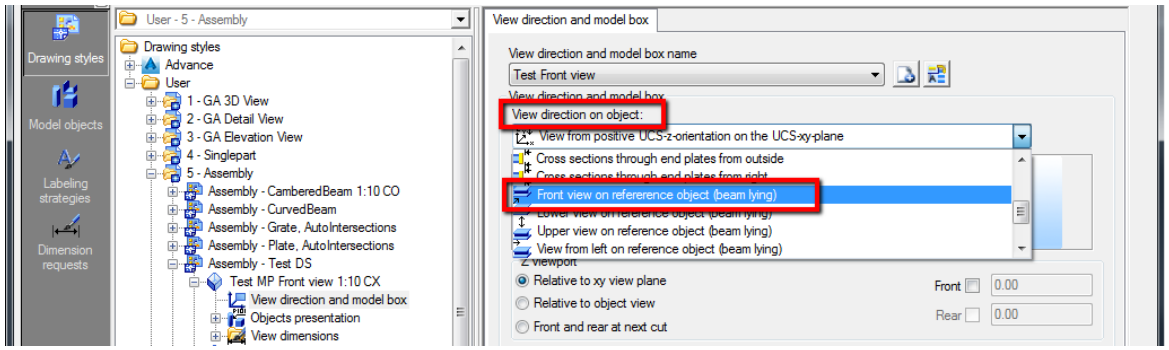
- To access the sub-style for *View direction and model box* use the button *Set*



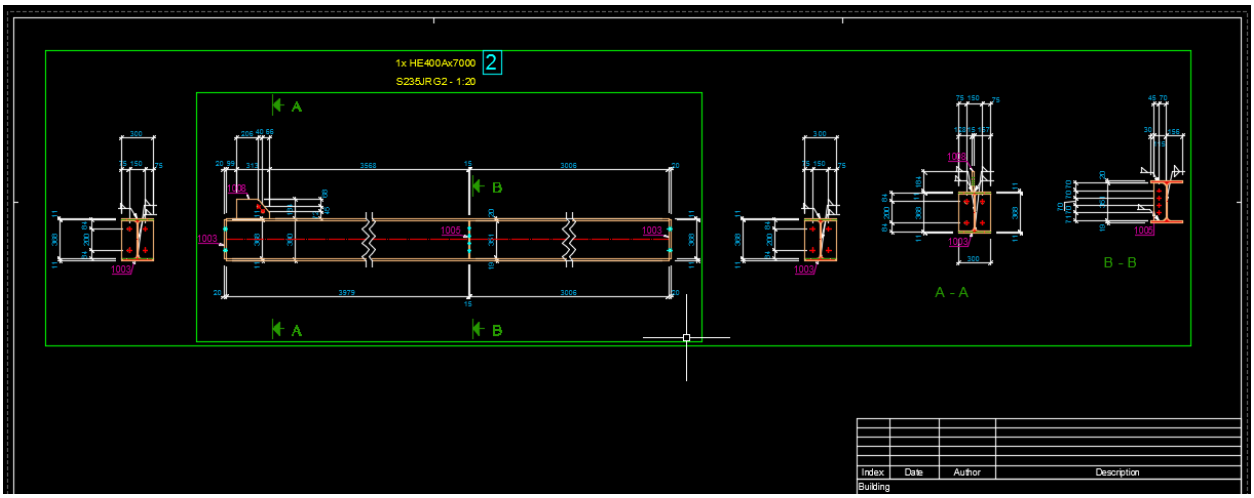

- In the *View direction and model box* page use the button *Rename* to set a proper name for this sub-style, then press *OK*
  *Test Front view*




- Open the *View direction on object* drop down list and select the option:
  *Front view on reference object (beam lying)*



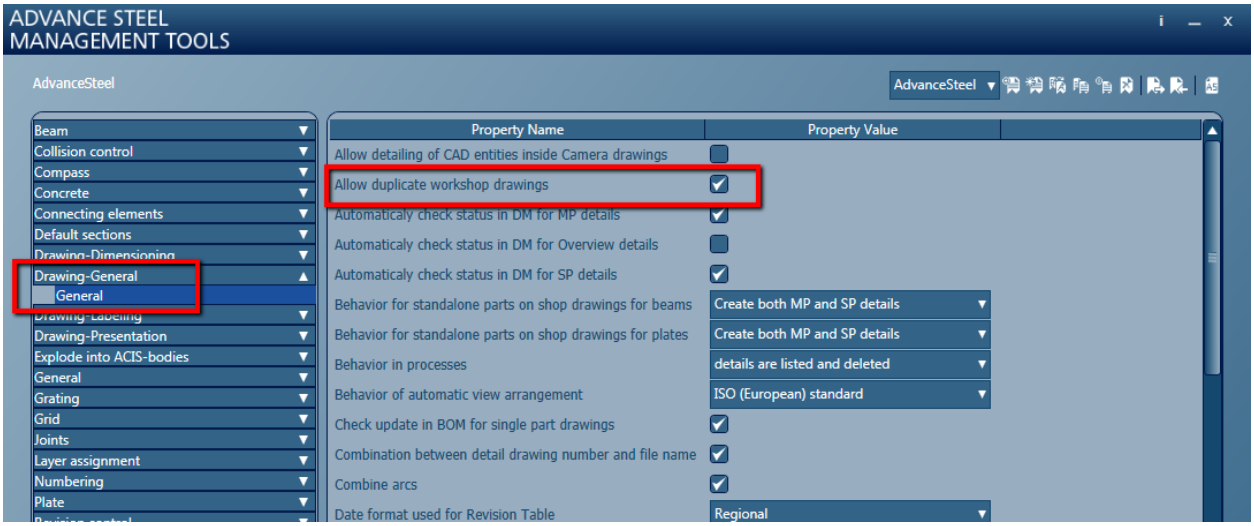
- Use the button *Apply* to save the configuration in the database
- Press the button *Use* to generate a detail drawing with this DS
- Open *Document Manager*, select the generated detail and open it




**Intermezzo**

During the configuration and testing phase, you might want to be able to generate as many details as you want for the same element, without deleting the previous created details.

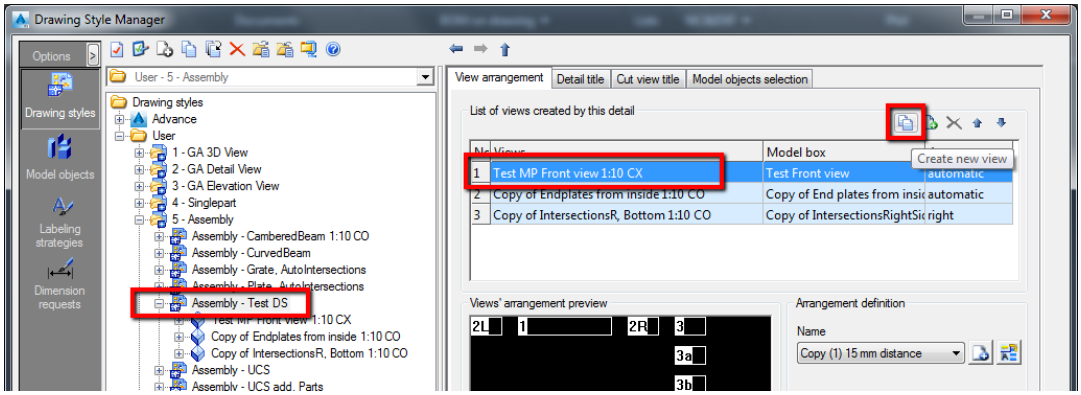
To be able to do this, activate the option *Allow duplicate workshop drawings* in *Management Tools* application.

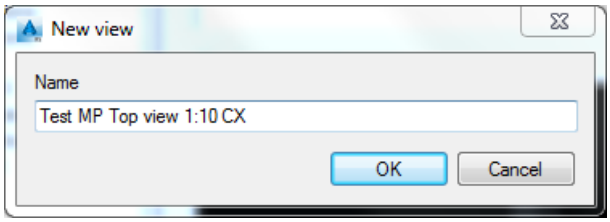


## Creating and adding a new detail view

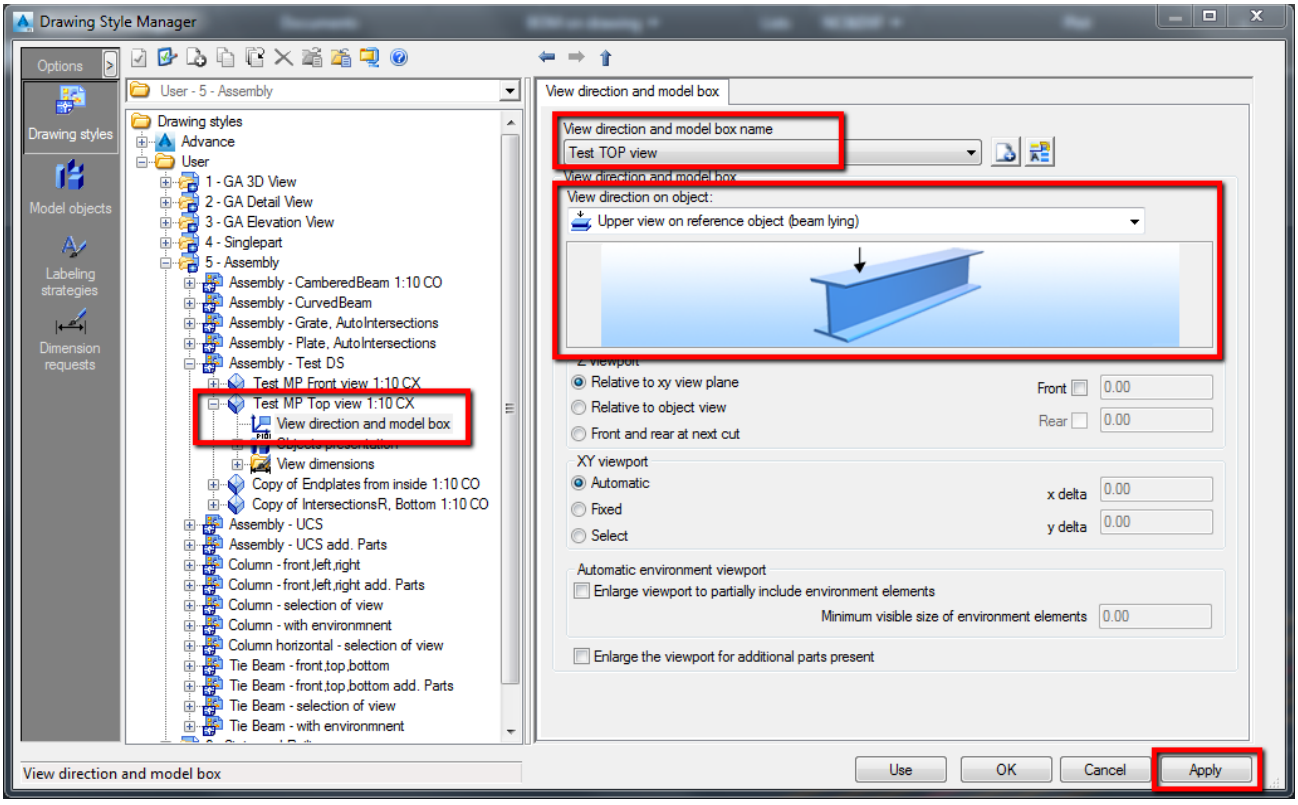
*Exercise: Create and add new views for the TOP and BOTTOM views of the assembly*

- Select the new created DS
- Select the first view (the FRONT view of the assembly)
- Use the button *Create new view* and type the proper name:
  *Test MP Top view 1:10 CX*

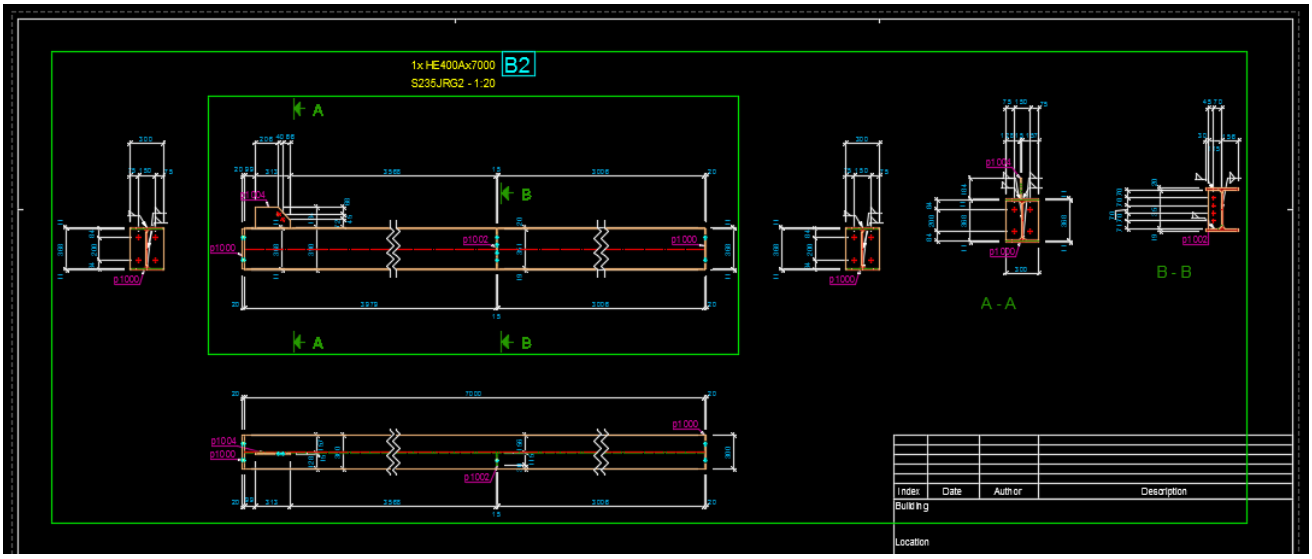



- Use the button *Move up selected view* to place the new created view right below the *Front* view
- In the tree panel select the new created view to access its properties
- Open the *View direction and model box* page
- Use the option *New* next to the sub-style name and create a new sub-style:
  *Test TOP view*
- From the *View direction on object* drop down list, select the proper direction of viewing:
  Upper view on reference object (beam lying)
- Use the button *Apply* to save the configuration in the database



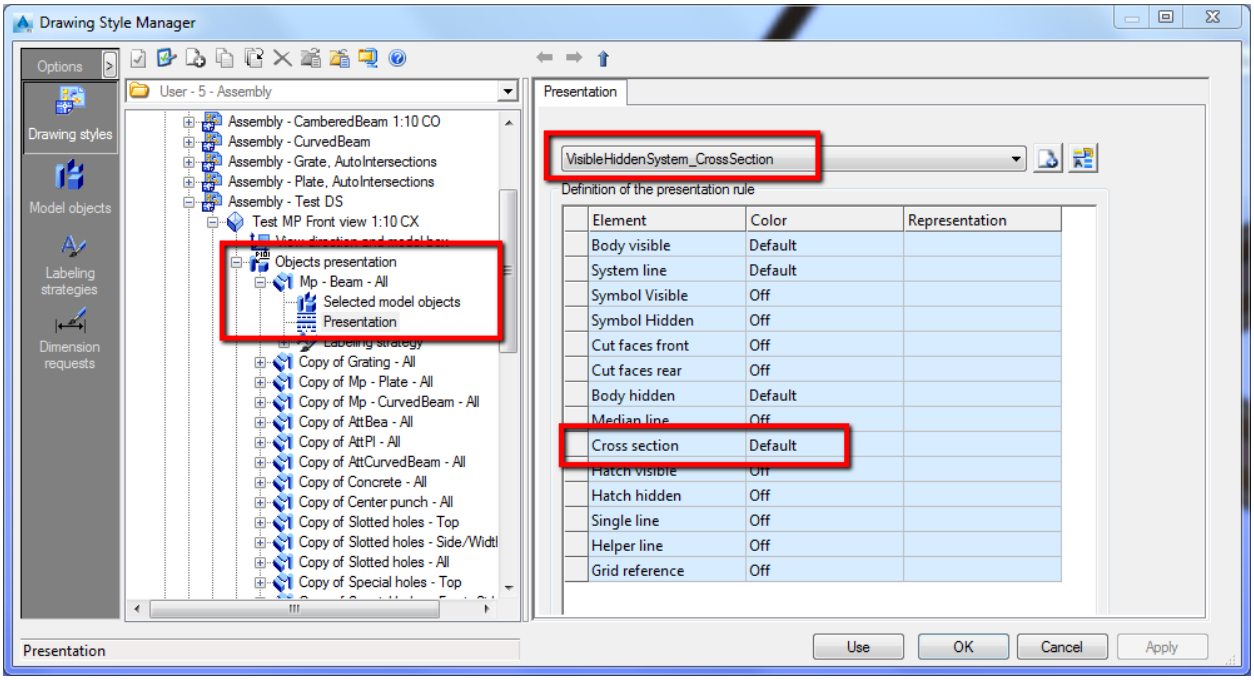

- Repeat these steps to create and add the bottom view of the assembly
- Press the button *Use* to generate a detail drawing with this DS
- Open *Document Manager*, select the second generated detail and open it

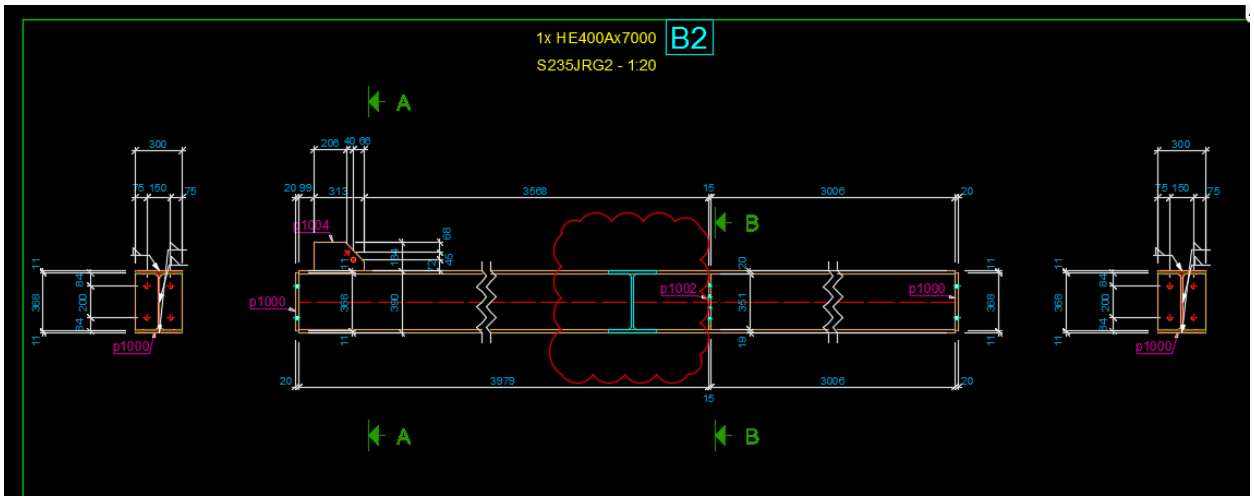


## Configuration of drawing styles using DSM – part two

### Changing object presentation rule

*Exercise: Configure the* Front *view to display the main beam with its cross section*

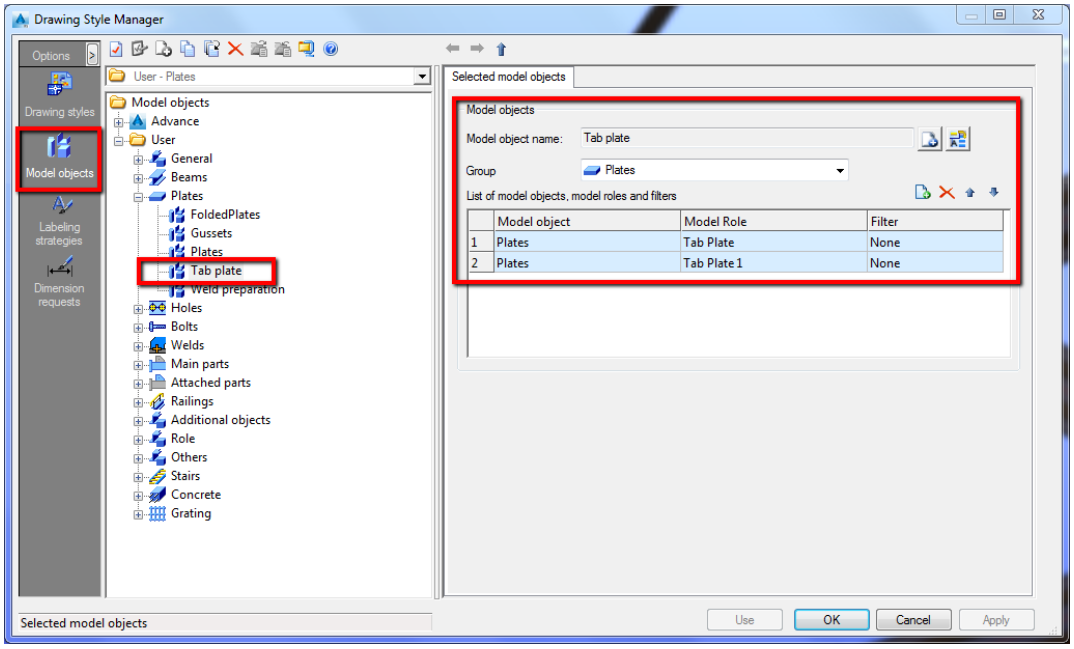


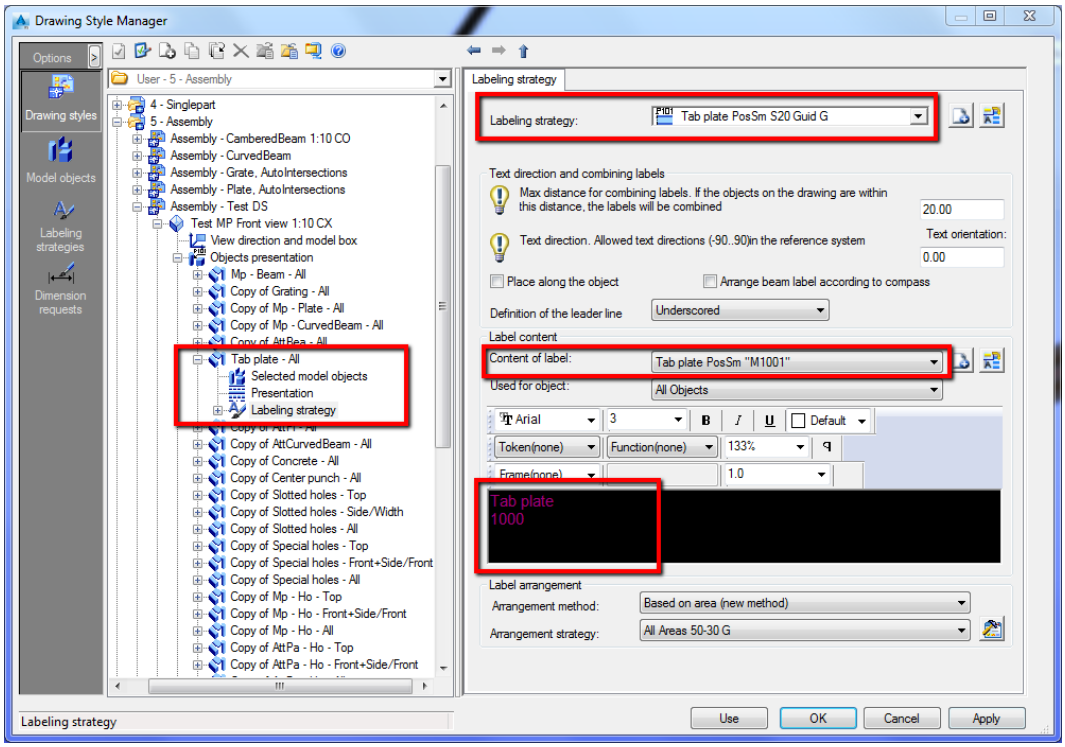
## Changing object labeling

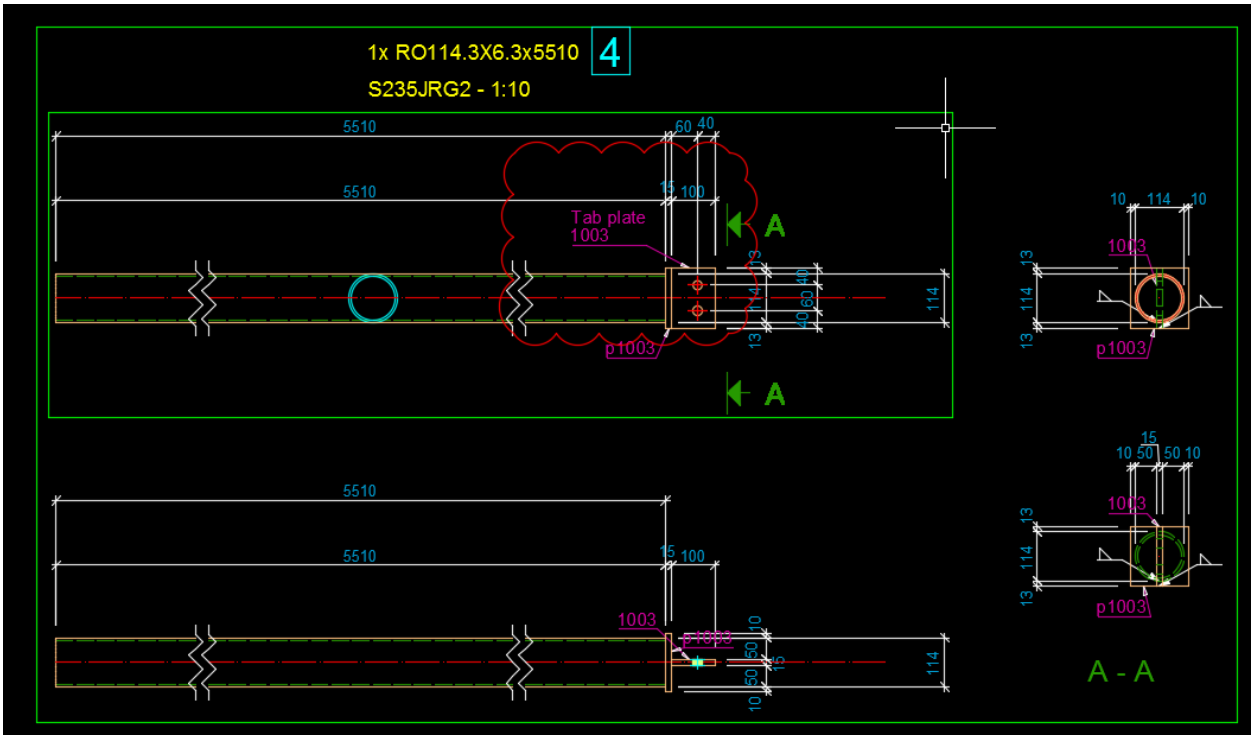
*Exercise: Create a specific label for the tab plates – the plates with the model role* Tab plate

- Create the model object *Tab plate*




- Create the Labeling strategy & Label content for the model object *Tab plate*

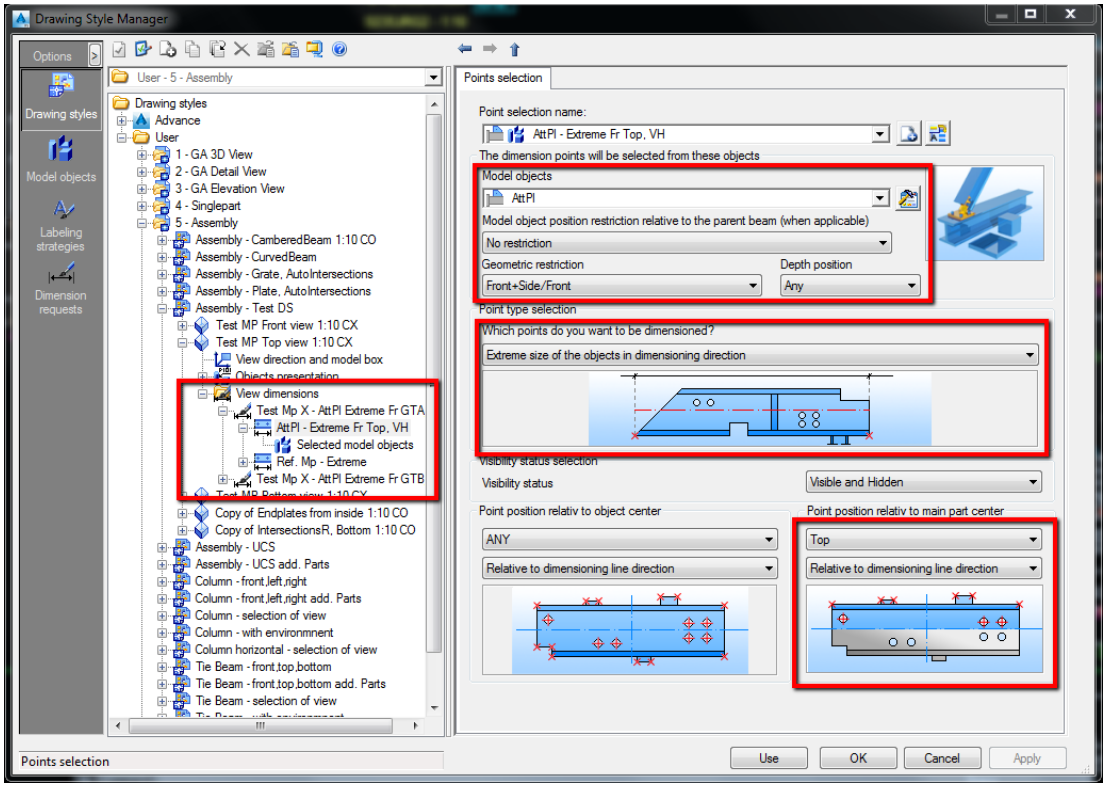


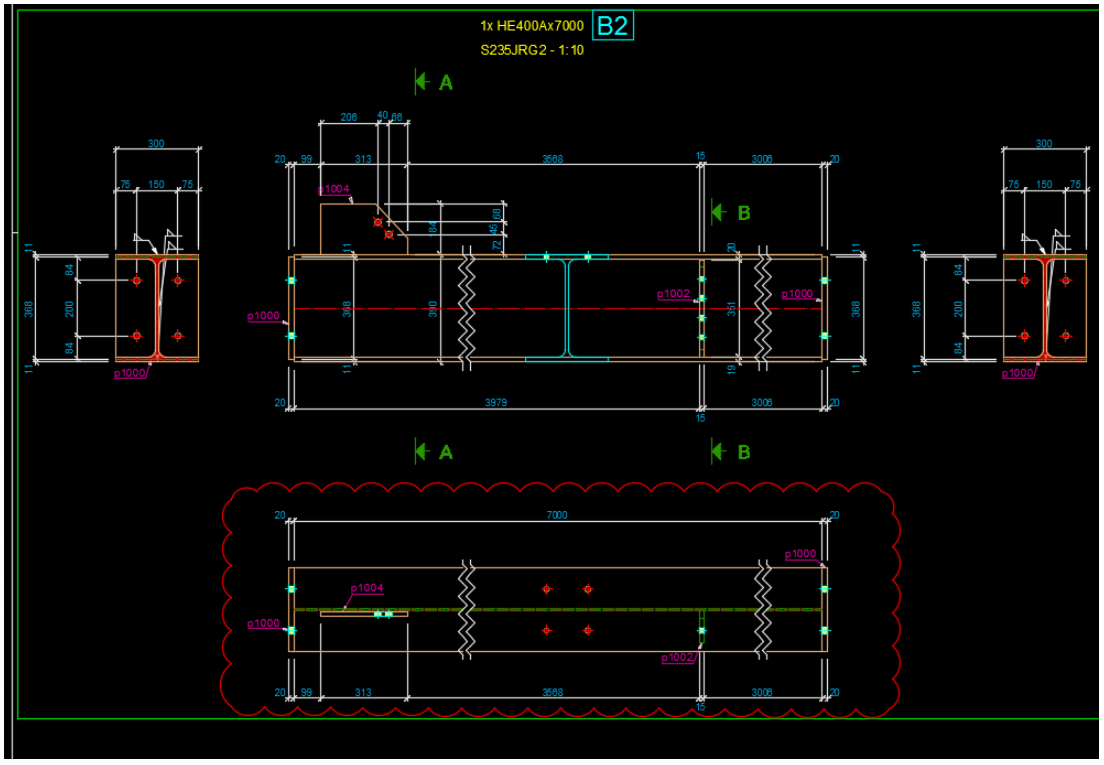



**Creating a dimension line definition**

*Exercise: Create a specific dimension definition for the TOP view in respect with the following requests:*

- *Horizontal dimension line, linear with relative distances*
- *To dimension only the plates attached to the main part and seen from Top and not the ones seen from their width*
- *There should be separate dimension lines for the plates in the upper side and for the plates placed in the bottom side of the view*
- *The plates should be dimensioned relative to the main part left & right extreme points*


Drawing Style Manager
Options
Drawing styles
Model objects
Labeling strategies
Dimension requests
User - 5 - Assembly
Drawing styles
Advance
User
1 - GA 3D View
2 - GA Detail View
3 - GA Elevation View
4 - Singlepart
5 - Assembly
Assembly - CamberedBeam 1:10 CO
Assembly - CurvedBeam
Assembly - Grate, AutoIntersections
Assembly - Plate, AutoIntersections
Assembly - Test DS
Test MP Front view 1:10 CX
Test MP Top view 1:10 CX
View direction and model box
Objects presentation
View dimensions
Test Mp X - AttPl Extreme Fr GTA
AttPl - Extreme Fr Top, VH
Selected model objects
Ref. Mp - Extreme
Test Mp X - AttPl Extreme Fr GTB
Copy of Endplates from inside 1:10 CO
Copy of IntersectionsR, Bottom 1:10 CO
Assembly - UCS
Assembly - UCS add. Parts
Column - front,left,right
Column - front,left,right add. Parts
Column - selection of view
Column - with environmnent
Column horizontal - selection of view
Tie Beam - front,top,bottom
Tie Beam - front,top,bottom add. Parts
Tie Beam - selection of view
Points selection
Point selection name:
AttPl - Extreme Fr Top, VH
The dimension points will be selected from these objects
Model objects
AttPl
Model object position restriction relative to the parent beam (when applicable)
No restriction
Geometric restriction
Front+Side/Front
Depth position
Any
Point type selection
Which points do you want to be dimensioned?
Extreme size of the objects in dimensioning direction
Visibility status selection
Visibility status
Visible and Hidden
Point position relativ to object center
ANY
Relative to dimensioning line direction
Point position relativ to main part center
Top
Relative to dimensioning line direction
Points selection
Use
OK
Cancel
Apply


1x HE400Ax7000
B2
S235JRG2 - 1:10
A
B
p1000
p1002
p1004
3979
3568
3006
7000