FOCUS ONREAL DESIGN AUTOMATE THEREST

CUSTOMTOOLS
PROPERTY
MANAGEMENT





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Introduction

What does it do?

CUSTOMTOOLS allows you to manage the custom properties of your SOLIDWORKS documents. The custom properties defined in CUSTOMTOOLS are automatically saved into the file properties of the SOLIDWORKS documents. The custom properties can also be managed specifically based configurations.

How does it work?

The Properties pane of CUSTOMTOOLS can easily be customized based on your needs. CUSTOMTOOLS offers numerous tools to customize the Properties pane.

How can you use it?

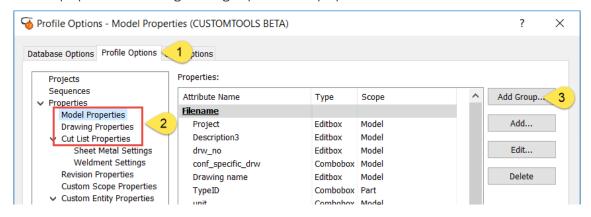
CUSTOMTOOLS offers a Properties pane fully embedded into SOLIDWORKS. The Properties pane always opens for the active component that is being selected. If an assembly is opened, a part or sub-assembly can be selected and by clicking on Properties, it will open the custom properties of the selected component.



Managing group of properties

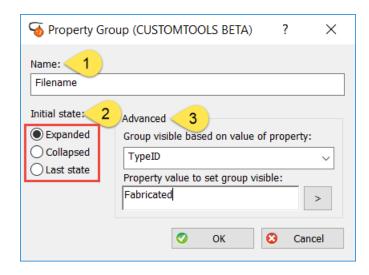
Adding a new group of properties

Custom properties are managed into group of custom properties in CUSTOMTOOLS.



To add a new Property group, open the CUSTOMTOOLS Options:

- 1. From the **Profile Options** tab,
- 2. Select Model properties, to add a group for Parts and Assemblies,
- 3. Click Add group.



1. **Name**: Define the name of the group of properties as it will be displayed in the Properties pane.

2. Initial state:

- a. Expanded: The property group will always be fully visible when the Properties pane is opened.
- b. **Collapsed**: The property group needs to be extended to display its properties.



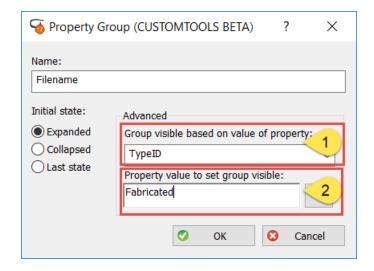
- c. **Last State**: CUSTOMTOOLS uses the last state defined for the last property group that was created.
- 3. Advanced: The visibility of the group can be managed based on a property value.

Managing the group visibility

The visibility of a group of properties can be managed based property values used in other group of properties. If a Property value matches with the group visibility criteria, then the groups of properties will automatically appear.

To manage the visibility of a group of properties, open the CUSTOMTOOLS Options,

- 1. From the Profile Options tab, select Model properties,
- 2. Click Add or Edit a Property group.



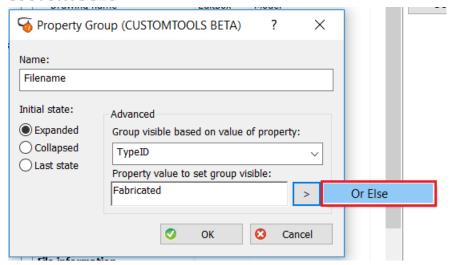
From the Advanced options of the Property Group dialog,

- Select the property to be used to manage the group visibility. When the Group visible based on value of property is extended, a drop down menu containing all defined custom properties appears,
- 2. From the **Property value to set group visible**, define the property value used to control the property group visibility.
- 3. Click **OK** to save and close the dialog.

The group visibility can be managed based on multiple Property value. By clicking on the > sign you can select **Or Else** to add additional property values criteria.

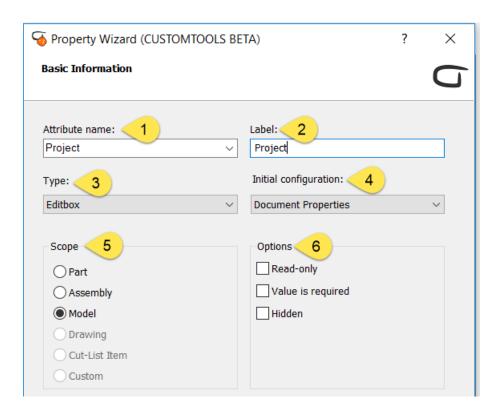


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Adding a new property

Properties basic information



- 1. Attribute name: Corresponds to how the property will be saved in the database. The attribute must be unique.
- 2. Label: Defines how the property name will appear in the Properties pane of CUSTOMTOOLS.
- 3. **Type**: CUSTOMTOOLS offers different type of properties:



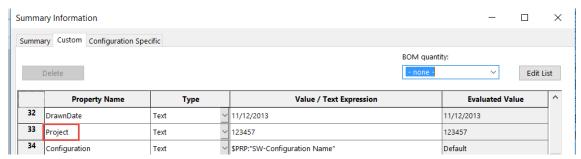
- a. Checkbox: Check boxes toggle between two predefined values.
 - b. Combobox: Contains a list of pre-defined values.
 - c. Date: Insert a date. The date format can be customized.
 - d. Dimensions: Link a dimensions of your 3D Model to a property.
 - e. **Editable combobox:** Contains a list of pre-defined values. If a value is not available in the combo, then it can be manually typed.
 - f. Editbox: Offers many different functionalities.
 - g. Hierarchical combo: Contains a list of pre-defined values with multiple levels.
- 4. **Initial configuration:** If you are using the configurations in SOLIDWORKS, defines to which configuration the property value will be written.
- 5. **Scope:** Defines to which types of SOLIDWORKS documents the property applies. Please note that Model applies to Part & Assembly.

6. Options:

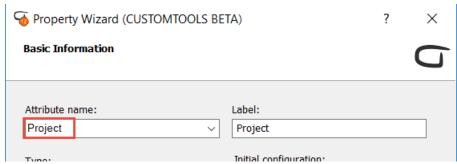
- a. **Read-Only:** The property value is displayed but cannot be modified or deleted. It prevents other users from modifying the value of a property.
- b. **Value is required**: The user is forced to define a property value in order to save the property.
- c. Hidden: The property value is written to the document properties but hidden from the CUSTOMTOOLS Properties pane. This can be used with Key value pair list for example to hide a key, which can be used in a combination of properties.

Displaying an existing property in the CUSTOMTOOLS Properties pane.

The CUSTOMTOOLS Properties pane can be configured to display properties values that have already been written to the SOLIDWORKS Documents (e.g. in the EPDM data card, in the SOLIDWORKS Tab builder or the file properties).







To add an existing property in the CUSTOMTOOLS Properties pane, open the CUSTOMTOOLS Options.

- 1. From the Profile Options tab,
- 2. Select **Model properties** to add the property for part and assembly or Drawing properties to add the property for the Properties pane displayed for drawings,
- 3. Click Add to add a new property,
- 4. In the **Attribute name field** of the **Property wizard** use the exact same name as the one used as the property name in the file properties of the SOLIDWORKS document.

Combining multiple custom properties

Multiple custom properties can be combined together to create a new property. Combination of properties can be used for example to generate a filename.

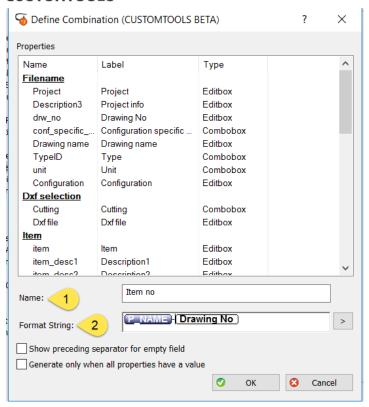
Creating a combination of properties

To create a combination of properties, open the CUSTOMTOOLS Options,

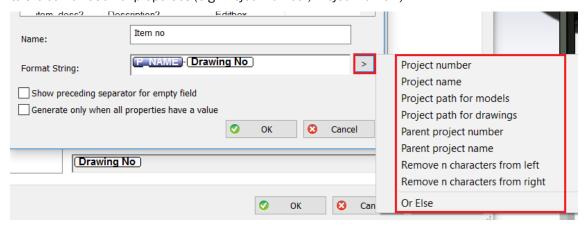
- 1. From the Profile Options tab,
- 2. Select Model combination from Combination of properties,
- 3. Click Add to create a new combination of properties,
- 4. The **Define combination** dialog appears:



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- 1. Name: Define the name of the combination as it will appear in the Property wizard.
- 2. **Format String**: Define which custom properties are used in the combination. Custom Properties can be dragged and dropped or added by double clicking on the property to be added. If you click on the > key then a pre-defined list of values can be selected and added to the combination of properties (e.g. Project number, Project name...).

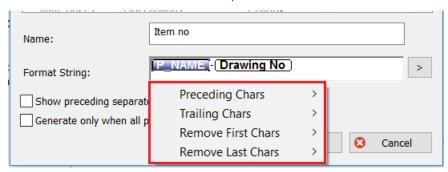


If one of the property used in the combination is selected, then the number of characters to be inserted can be controlled. If **Preceding Chars** is selected, then the number of the first characters to be inserted can be defined. (E.g. property value: Aluminum -> insert the first 3 Characters used in the combination, then Alu will be inserted in the combination). If **Trailing Chars** is selected, then the number of the characters to be inserted from the end of the selected property value can also be



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defined (e.g. property value: Aluminum -> insert the last 3 Characters used in the combination, then num will be inserted in the combination).

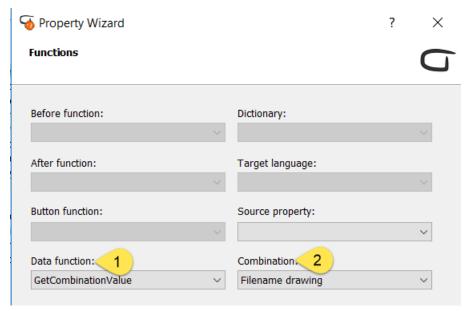


Creating a property that uses a combination of properties

Once the combination of properties has been created, it can be used by a property.

In the Property wizard (Options -> Profile Options -> Properties-> E.g. Model properties).

- 1. Select Editbox from the property Type in the Basic Information page of the Property wizard,
- 2. Then click **Next** to open the **Functions** page of the **Property wizard**.



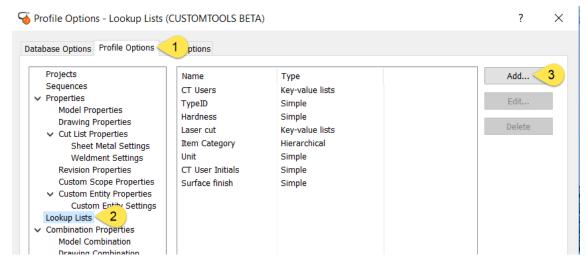
- 1. From the Data function, select GetCombinationValue,
- 2. Select the combination to be used from the Combination drop down menu (e.g. File name).

Managing look up list

CUSTOMTOOLS offers different types of look up list to manage custom properties.

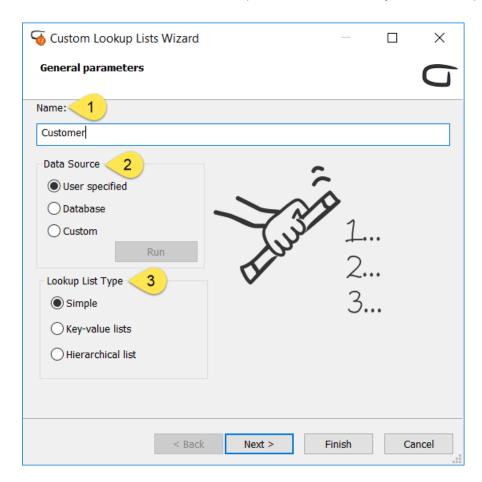
Creating a lookup list





To create a lookup list, open the CUSTOMTOOLS Options,

- 1. From the Profile Options tab,
- 2. Select Lookup list,
- 3. Click Add to create a new lookup list. The Custom Lookup Lists Wizard opens.



1. Name: Defines the name as it will appear in the Property wizard.



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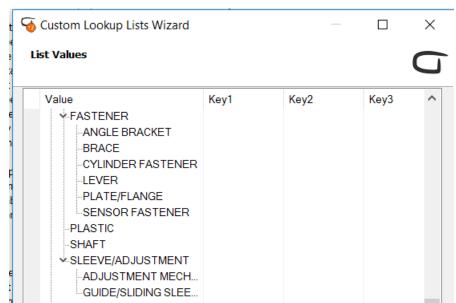
- 2. Data source: CUSTOMTOOLS offers different possibilities to fill the content of the look up list:
 - a. **User Specified**: The lookup list content is defined manually by the user.
 - b. Database: The lookup list content is pulled from an external data source by using an SQL Query.
 - c. **Custom**: Calls a specific command.
- 3. Lookup List Type:
 - a. Simple: The content is defined in a single column.



Key-value lists: The content is defined in multiple columns. Multiple keys (up to 15 keys) can be defined for the same value.



c. Hierarchical list: The content of the lookup list can have multiple levels.

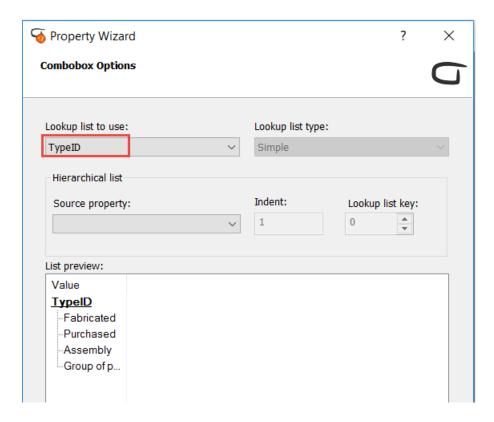




Creating a property that uses a look up list

Once the look list has been created, it can be used by a property.

In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties). Select **Combobox, Editable Combobox** or **Hierarchical Combo** from the property **Type** in the **Basic Information** page of the Property wizard. Then click **Next** until the **Combobox Options** page of the **Property wizard** appears.



- 1. Select the look up list to be used by the property from the Lookup list to use menu,
- 2. Then click Finish.

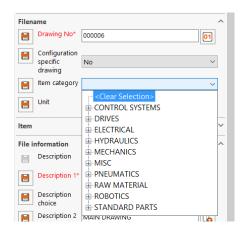
Creating a property that uses a hierarchical look up list

CUSTOMTOOLS offers two different ways to link a hierarchical look up list to a property. The multilevel look up list can be managed in a single property or each level can be managed in a separate property.

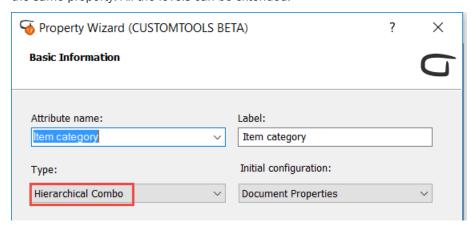


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Using a single property to manage a hierarchical lookup list

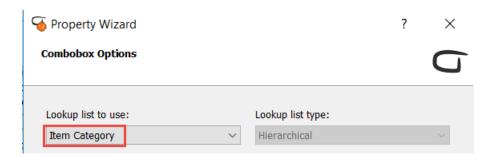


The single property allows the users to view the different levels of the hierarchical look up list within the same property. All the levels can be extended.



In order to link a hierarchical look up list to a property, create a new property (Options -> Profile Options -> Properties-> E.g. Model properties).

- Select Hierarchical Combo from the property Type in the Basic Information page of the Property wizard,
- 2. Then click Next to access the Combobox Options page of the Property wizard appears,



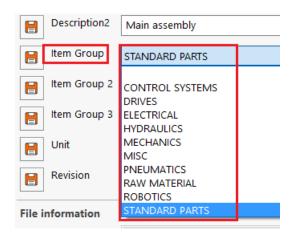


3. From the **Lookup list to use**, select the hierarchical look up list to be used by the property. Please note that only hierarchical look up list that have been created will appear in the selection.

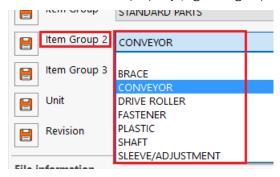
Using multiple custom properties to manage a hierarchical lookup list

Multiple custom properties can be used to manage the different levels defined in a hierarchical lookup list, where one property is used per level. The content available in the different look up lists of the child updates automatically based on what was selected from the parent look up list.

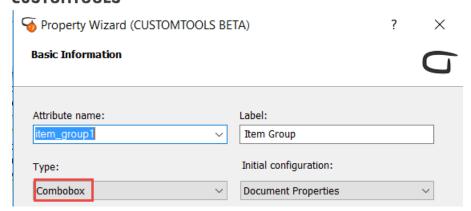
Selecting a property value from the first level:



Once the value has been selected for the first level (e.g. Item group: STANDARD PARTS), the content available for the next property (e.g. Item group 2) updates accordingly.



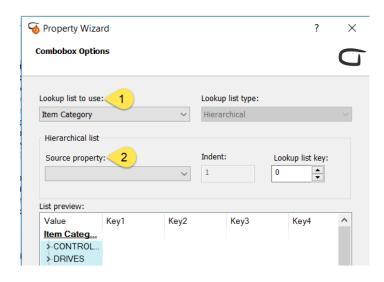




In order to link a hierarchical look up list to multiple custom properties, create one property for each level used in the hierarchical lookup list (Options -> Profile Options -> Properties-> E.g. Model properties).

- 1. Select Combobox from the property Type in the Basic Information page of the Property wizard.
- 2. Then click **Next** to access the **Combobox Options** page of the **Property wizard** appears.

Defining the first level:



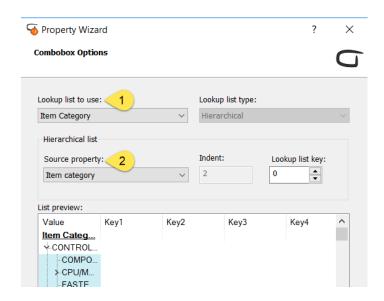
From the Lookup list to use menu,

- 1. Select the hierarchical lookup list to be used. The first level of the hierarchical lookup list is automatically selected.
- 2. Please note that the **Source property** must be left empty for the first level.



Defining child level:

Create a property for each child level (Options -> Profile Options -> Properties-> E.g. Model properties). Select **Combobox** from the property **Type** in the **Basic Information** page of the **Property wizard**. Then click **Next** to access the **Combobox Options** page of the **Property wizard** appears.



- 1. From the Lookup list to use, select the hierarchical look up list that was used earlier.
- 2. From the **Source property**, select the second level of the hierarchical lookup list. The second level corresponds to the first value available in the **Source property** menu.

NOTE: Please note that the look up list content selected from the Source property can be previewed from the List preview.

Creating a property that uses a key retrieved from a look up list

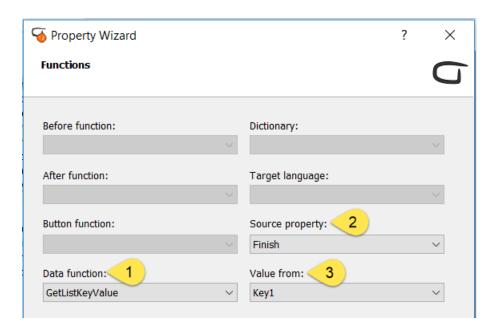
CUSTOMTOOLS allows you to create look up list that can have up to 15 keys. Lookup list keys can be used in different cases (e.g. File naming, filtering in the printing...). Key value pair look up list allows the user to write additional property values to the document.





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In order to link a property to a key, the look up list and property that uses that look up list must be created beforehand. In the Property wizard (Options -> Profile Options -> Properties-> E.g. Model properties). Select **Editbox** from the property **Type** in the **Basic Information** page of the **Property wizard**. Then click **Next** to access the **Function** page of the **Property wizard** appears.



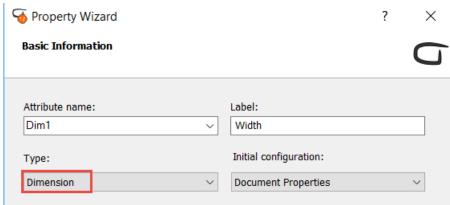
- 1. From the Data function, select GetListKeyValue,
- 2. From the **Source property** select the property that uses the look up list where the keys should be retrieved from,
- 3. Select the **Key** to be used from the **Value from** menu,
- 4. Click Finish.

Link a dimensions from the model to a property

Dimensions defined in the sketch can be linked to a property, by clicking on the property that uses a dimension type and selecting the desired dimension from the 3D Model side.

In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).

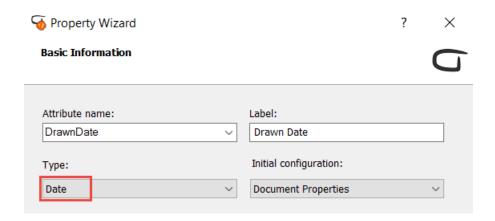




- Select Dimensions from the property Type in the Basic Information page of the Property wizard,
- 2. Click Finish.

Insert a date in a property

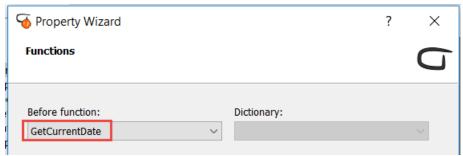
In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).



Select **Date** from the property **Type** in the **Basic Information** page of the **Property wizard**, then click **Next**.

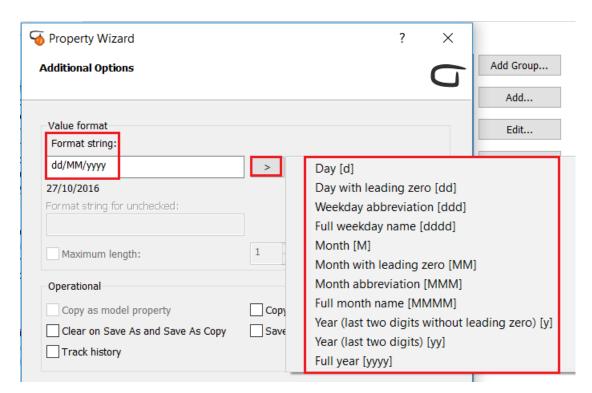
The current date can automatically be inserted once the file is created.





From the Functions page of the Property Wizard select GetCurrentDate from the Before function.

The date format can easily be customized (e.g. 14.02.2015, 02-14-15,...)



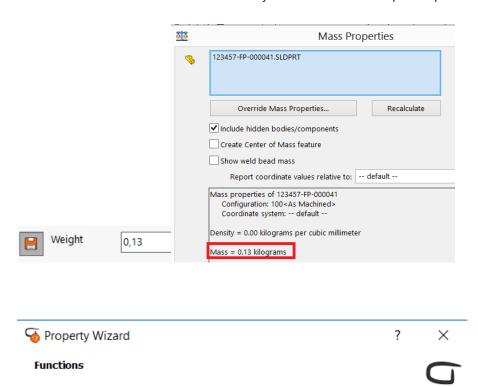
From the **Additional Options** page of the **Property wizard**, click on the **>** key from the **Format string** and select how the date should be formatted.



Before function:

GetMass

The mass of the 3D model can automatically be inserted in the Properties pane.



In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).

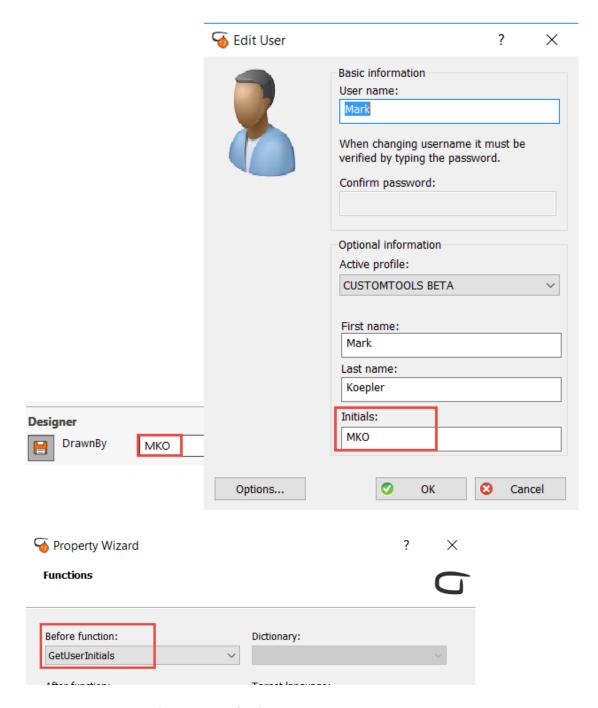
Dictionary:

- 1. Select Editbox from the property Type in the Basic Information page of the Property wizard,
- 2. Then click next, to open the Functions page of the Property wizard,
- 3. Then select GetMass from the Before function.



Retrieve the initials of the CUSTOMTOOLS user

Initials can be defined for every CUSTOMTOOLS users in the **CUSTOMTOOLS Administration**. The initials can automatically be retrieved in the Custom properties in SOLIDWORKS based on the CUSTOMTOOLS users who is currently logged in.



In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).

1. Select **Editbox** from the property **Type** in the **Basic Information** page of the **Property wizard**,

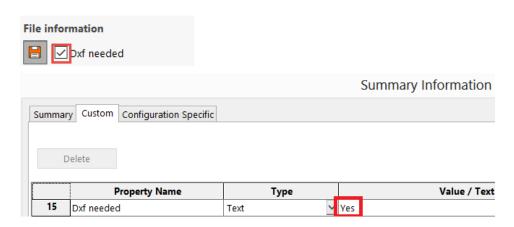


- 2. Then click next, to open the Functions page of the Property wizard,
- 3. Then select **GetUserInitials** from the **Before function**.

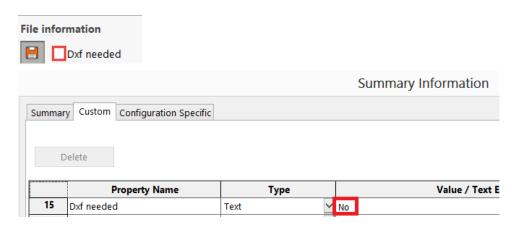
Insert a check box

Property values that will be written to the document property if the Check box is selected or not can be defined.

In the picture below the property called *Dxf needed* is selected, then the value *Yes* is written to the document properties.



In the picture below the property called *Dxf needed* is not selected, then the value *No* is written to the document properties.

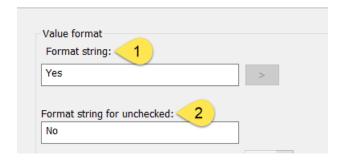


In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).

- 1. Select Checkbox from the property Type in the Basic Information page of the Property wizard,
- 2. Then click next, to open the Additional Options page of the Property wizard.



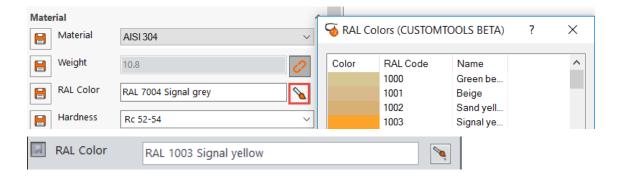
Additional Options



- 1. From the **Format string**, enter the value that will be written to the document property if the checkbox is selected (e.g. Yes).
- 2. From the **Format string for unchecked**, enter the value that will be written to the document property if the checkbox is not selected (e.g. *No*).

Insert a RAL Color or Color

A RAL Color or Color can be selected from a property and apply the selected color to the selected part. The list of available RAL Colors and Colors available can be configured as well.

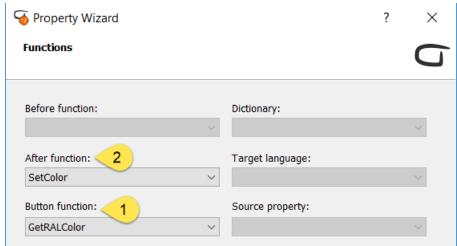


Create a property that uses a RAL Color or Color

In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).

- 1. Select Editbox from the property Type in the Basic Information page of the Property wizard,
- 2. Then click next, to open the **Functions** page of the **Property wizard**.





- 1. From the Button function, select GetRALColor for RAL Color or GetColor for RGB color,
- 2. From the After function, select GetColor to apply the selected to the part (3D Model).

Customizing the RAL Color or Color

The list of RAL Colors and Colors that are available from the Properties pane can be customized. New colors can be added or removed.

To add or remove RAL Color or Color open the **Options**, from the **Profile Options** tab, select **RAL Colo**r or **Color**. Click **New** to add a new color and define the color settings.



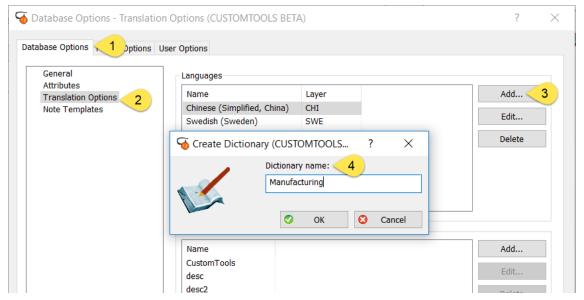
Manage properties via dictionaries

Custom properties can be searched and retrieved from dictionaries. Dictionaries can be used also to translate property values during the printing and conversion of your SOLIDWORKS drawings.

Creating a dictionary

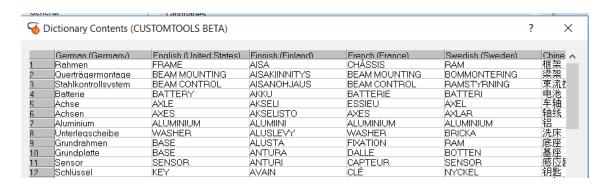
To add a new dictionary, open the CUSTOMTOOLS Options,





- 1. activate the Database Options tab,
- 2. select Translation Options,
- 3. Click Add to create a new dictionary,
- 4. Define the name of the dictionary in the **Dictionary name**.

Once the dictionary has been created, the content can be added or pasted (e.g. from Excel).



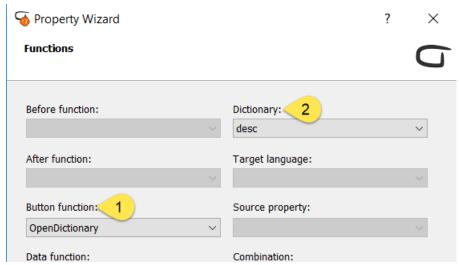
To open the dictionary content, select the dictionary to edit from **Dictionaries** and click on **Contents...**Select the last row and press the **Enter** key to define new rows.

Creating a property that retrieve a property from a dictionary

In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).

- 1. Select Editbox from the property Type in the Basic Information page of the Property wizard,
- 2. Then click next, to open the **Functions** page of the **Property wizard**.

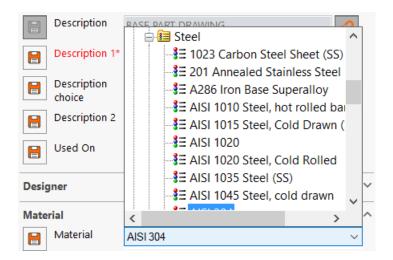




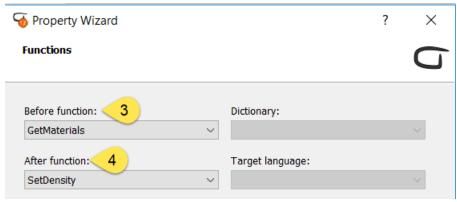
- 1. From the Button function, select OpenDictionary.
- 2. From **Dictionary**, select the dictionary to be opened.

Select a material from the Property

SOLIDWORKS material can be accessed from the Properties pane.





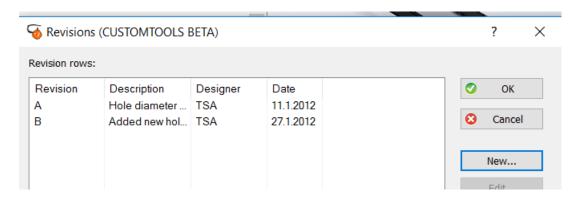


In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).

- 1. Select Combobox from the property Type in the Basic Information page of the Property wizard,
- 2. Then click Next, to open the Functions page of the Property wizard,
- 3. From the Before function select GetMaterials,
- 4. Select **SetDensity** from the After function to calculate the density based on the selected material.

Manage revisions data with CUSTOMTOOLS

CUSTOMTOOLS can be used to manage the revision data.



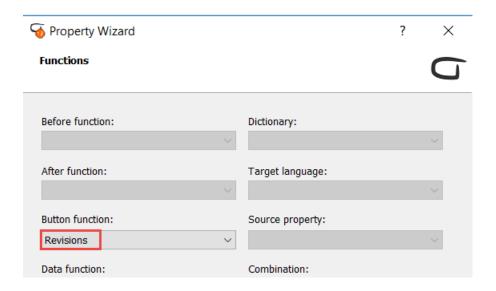
Customize the revision table

The custom properties available in the revision table can be customized.

In the **Property wizard** (**Options** -> **Profile Options** -> **Version properties** -> Click **Add** to add a new property to the revision table.



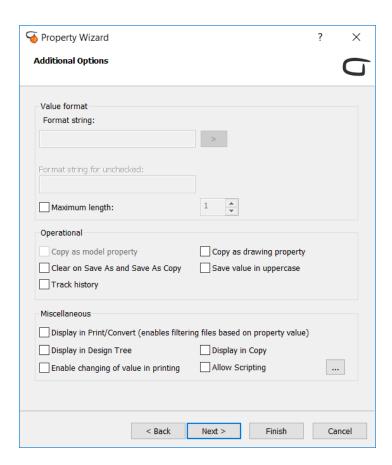
Linking a property to the revision table



In the **Property wizard** (Options -> Profile Options -> Properties-> E.g. Model properties).

- 1. Select Editbox from the property Type in the Basic Information page of the Property wizard,
- 2. Then click **Next**, to open the **Functions** page of the **Property wizard**,
- 3. From the Button function select Revisions.





Value Format:

- **Format string:** Define how the date will be formatted (e.g. 14.02.2015) or a value used if a property that uses a checkbox is selected (e.g. Yes).
- Format string for unchecked: Define a value used if a property that uses a checkbox type is not selected (e.g. No).
- **Maximum length**: If the checkbox is selected then a number of maximum characters to be used by the property can be defined. (e.g. 5 characters).

Operational:

- Copy as model property: Allows the user to copy cut list item properties as properties of the model.
- Copy as drawing property: Allows the user to copy model properties as properties of the drawing.
- Clear on Save As or Save As Copy: The property value will be cleared during certain saving operations.
- Save value in uppercase: The property value will be automatically written in capital letters (e.g. CONVEYOR).



- **Track history**: Tracks the 10 latest changes in property value.

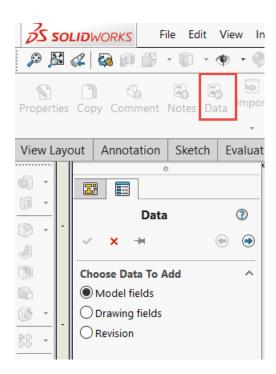
Miscellaneous

- Display in Print and Convert: Filter documents to print or convert based on a property value.
- Display in design tree: Display the property in the design tree of the CUSTOMTOOLS Viewer.
- **Display in Copy**: Display the property in the list of documents to copy.
- Enable changing of value in Printing: Allow to modify the property value.

Customizing your drawing template with your Custom properties

Drawings or drawing templates can easily be customized with the custom properties defined in CUSTOMTOOLS.

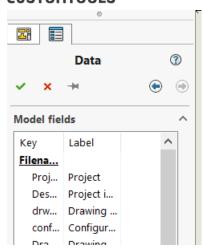
Open a drawing or drawing template in SOLIDWORKS, then click **Data** from the CUSTOMTOOLS menu.



The Data pane opens. CUSTOMTOOLS offers three choices to insert data in your drawing:

- Model fields: Insert properties defined for the model (Part & Assembly).
- Drawing fields: Insert properties defined for the drawing.
- **Revisions**: Insert the revision table.





Select a property to insert in the drawing, move the mouse focus to the drawing and press Enter or click on **OK**.

