

Requirements verification

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Systems Modeling Language (SysML) is used to capture systems design as descriptive and analytical system models, which relate text requirements to the design and provide a baseline to support analysis and verification. Having the system parameter calculated, you can verify the system requirement and give the verdict on whether it is satisfied or not. The modeling tool enables to perform this verification automatically.

Getting ready for automated requirements verification

Before performing the automatic Requirements verification you need to get ready for this.

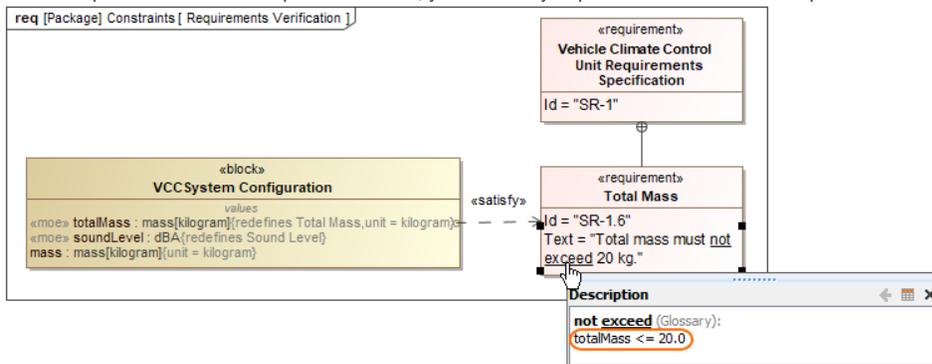
To get ready for automated requirements verification

1. Define the constraint in Requirement text.
2. Draw a Satisfy relationship from the Value Property to the Requirement.



The Value Property captures the system parameter whose value determines whether the system requirement is satisfied or not.

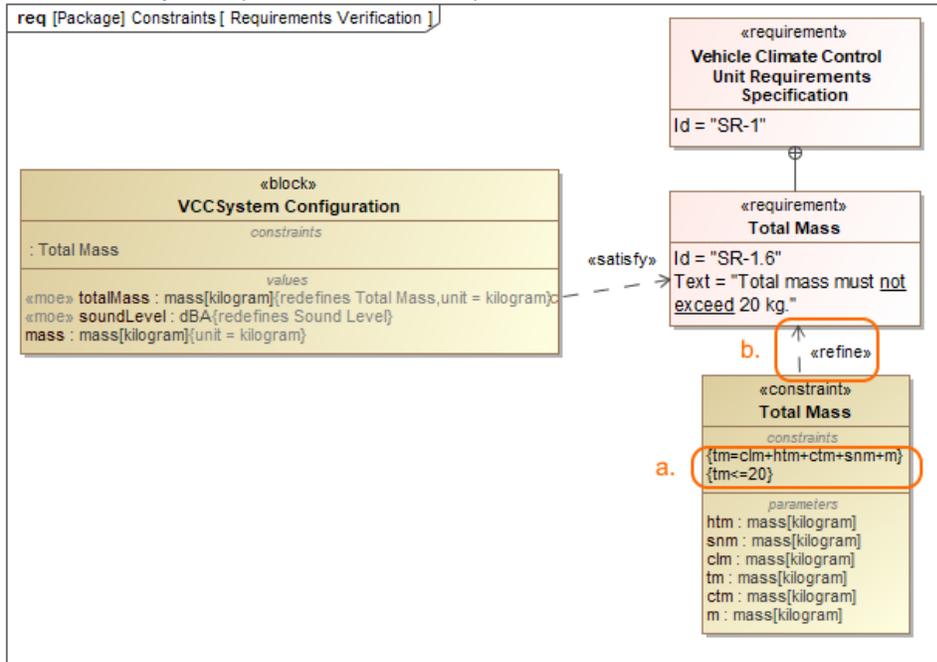
3. Do one of the following:
 - if the **Use Requirement Term Glossary** option is enabled, the condition term in Requirement text is underlined. Move over the mouse pointer to see the expression in the ToolTip. If it is correct, you are ready to perform the automatic Requirement verification.



Learn more:

- [How enable/disable the Use Requirement Term Glossary option.](#)
- [How to use condition terms in Requirement text.](#)
- [How to define a custom condition terms.](#)
- [How to check predefined condition terms.](#)
- [How to extract the Constraint from Requirement text.](#)

- If the expression in the ToolTip is not correct, do the following:
 - a. Create a constraint expression for the Constraint Block (see the figure below, a).
 - b. Draw a Refine relationship between the Constraint Block and the Requirement (see the figure below, b).
 You are ready now to perform the automatic Requirement verification.



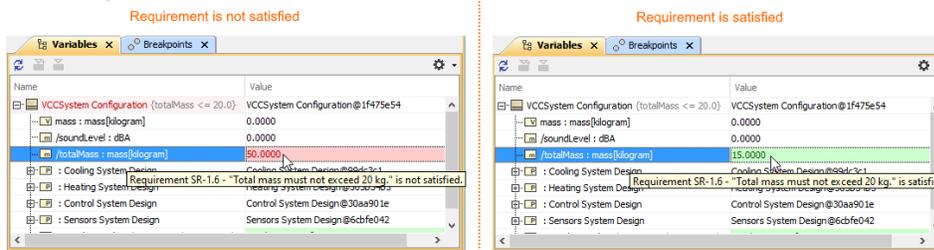
Performing automated requirements verification

With a help of simulation, you can perform automatic Requirements verification.

To perform the automatic Requirements verification you must have the Cameo Simulation Toolkit installed. [How to install >>](#)

To perform automatic Requirements verification

1. Right-click the Block which contains Value Property.
2. From the shortcut menu, select **Simulation > Run**.
3. In the **Question** dialog, click **Yes** to load the validation rules and validate the model before the simulation or **No** to simulate the model without validating it.
4. In the Simulation window, click or press F8 to start simulation. The result if value is satisfied or not is shown in the Variables pane. In the following figure, you can see when the Requirement is not satisfied (highlighted in red) and satisfied (highlighted in green). You can change the value directly in the Value cell and Requirement constraint is checked automatically.



Additional features of Cameo Simulation Toolkit
[Learn more about how to perform verification for a single element >>](#)

[Learn more about how to validate the model against a set of validation rules before executing it >>](#)

Webinar: Automated Requirements Verification

Related pages



Unknown macro: 'list-children'