

Materials set feature and its usage

The material sets enable faster prototyping and design of pressure vessels and heat exchangers, as well as minimizing possible input problems.

Online version: <https://nextgen.sant-ambrogio.it/KBo71471>

Latest update: 06 dic 2016

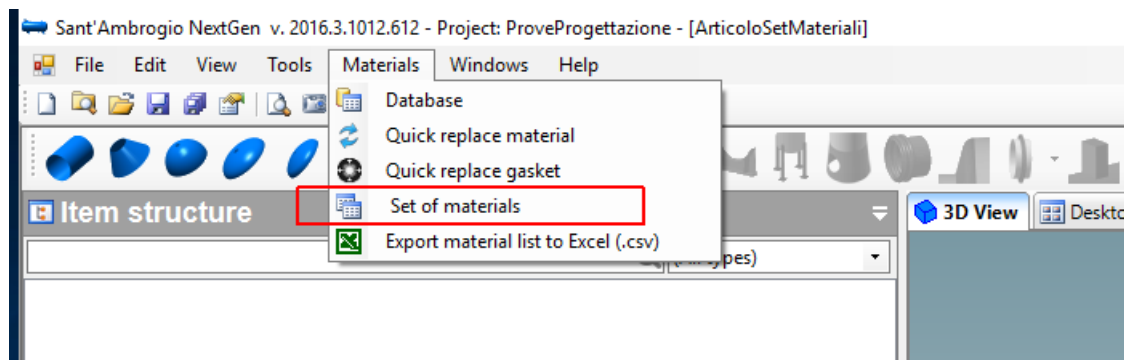
Materials set feature and its usage

Nextgen offers chance of using materials presets offre.

This feature allows designer that often uses some precise kind of material and product to save time, with no flexibility issue: it's still possible to change material and assign it to each main component type or component detail (e.g. pad or bolts).

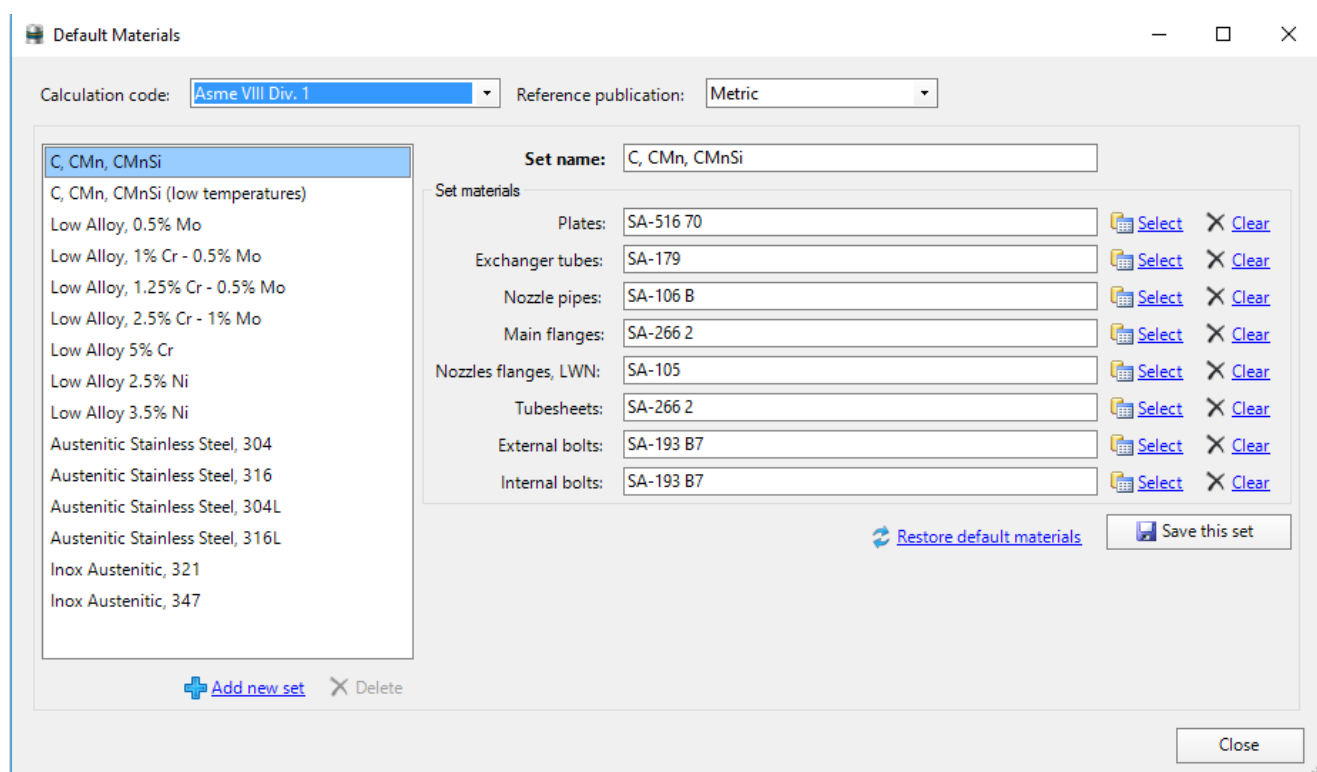
First of all, let's see how to take advantage of it.

Click on the top menu bar on Materials tab and then select "Set of materials" option.



A new window opens up.

On the left there's the presets list and related component-material association.

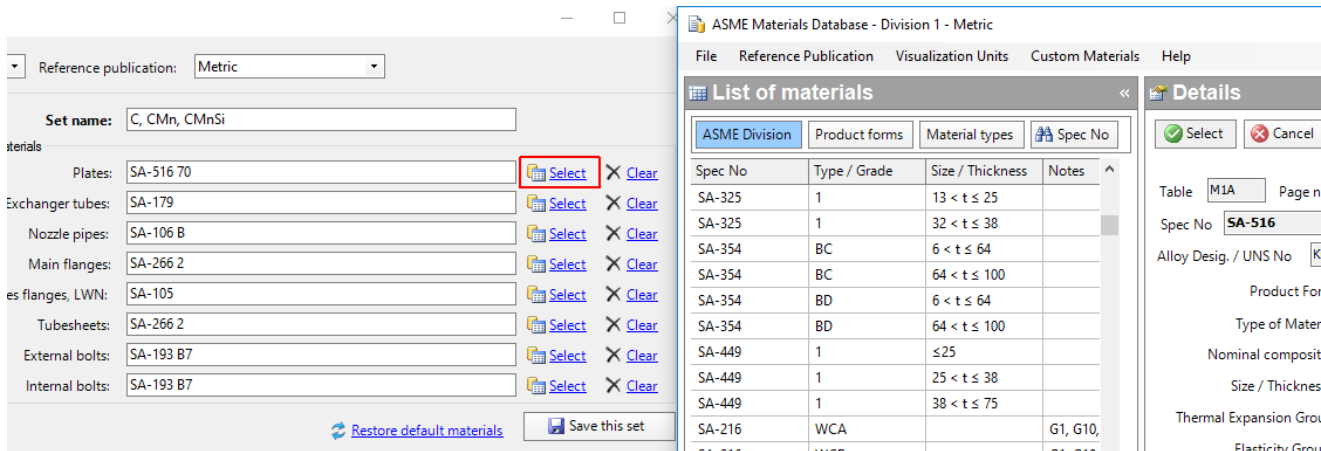


Set might be different according to calculation code implemented in NextGen.

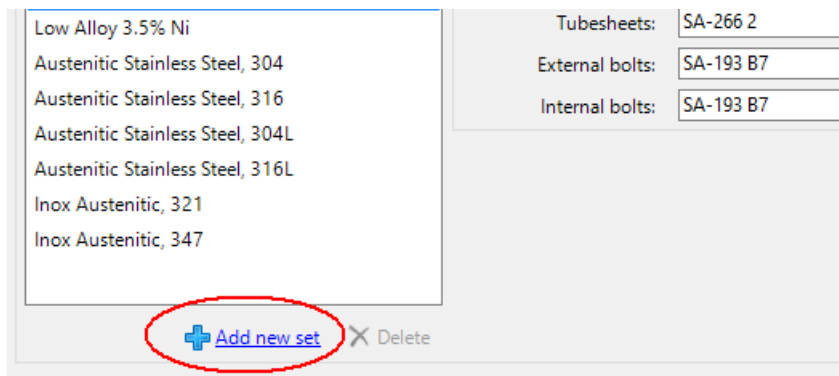
In fact dropdown menu on the top-left allows designer to select appropriate calculation code and related preset.

Every component typology matches a precise material, but choice is up to designer and might be a customized.

"Select" button opens material database window.

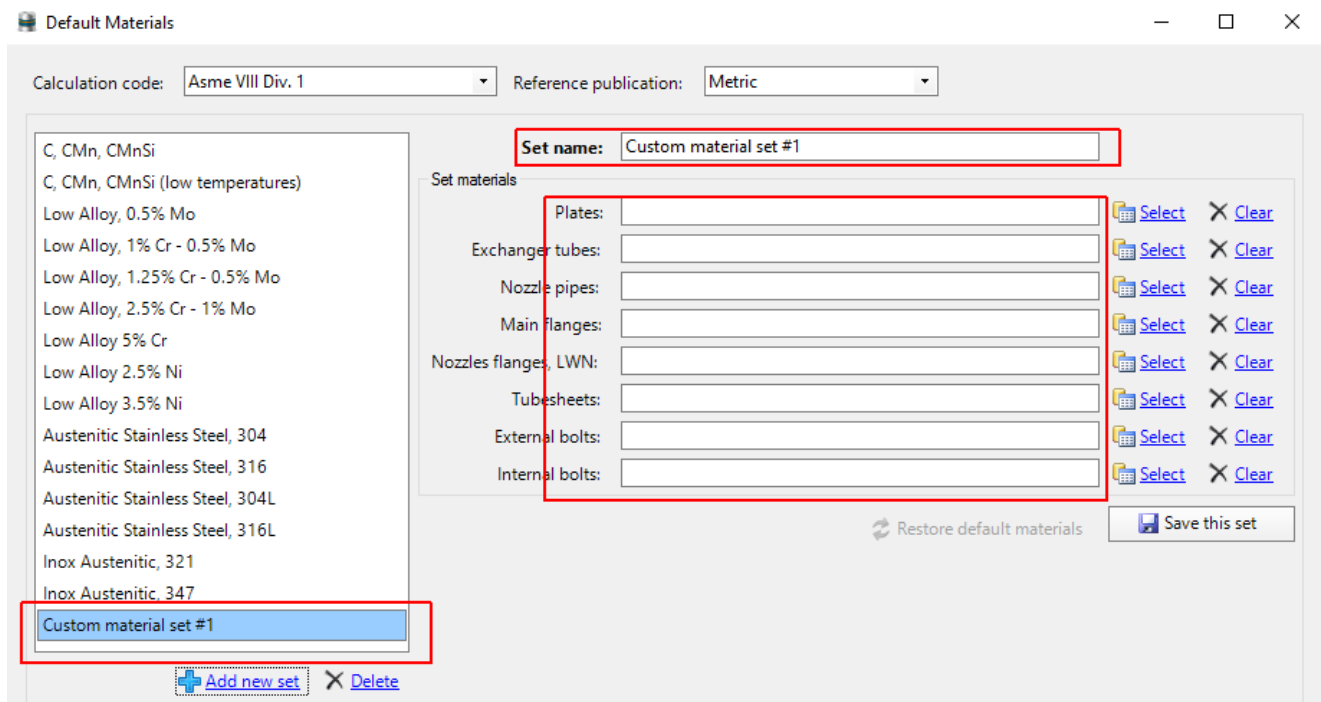


Not only you can modify a pre-existent set but it's possible to create new ones, just pressing "Add new set" button or delete them.



A new custom preset will be created and selected as you can see by the image.

Materials are blank and have to be filled. So the name is editable as well.



Press "Save" and you can now tune projects with materials presets.

We open item we are designing and navigate through its properties.

Item Properties

Vessel Operating conditions

Item name: ArticoloSetMateriali

Calculation code: Asme VIII Div. 1 Ed. 2015

Reference publication: Metric

Item description:

Input data units: MPa, °C, mm

Default bolt type: ANSI

Default standard for nozzle flanges: ANSI B16.5 / 16.47

Default gasket for nozzle flanges: Gaskets

Use a default set of materials:

Service: Not specified

Lethal service:

Use Code Case 2286-5 for external pressure calculation:

General Geometry Tests Location Jacket Insulation Wind Seism WRC Supports

Update Cancel

Under "General" tab, locate "use a default set of materials" checkbox and tick it.

A new dropdown menu opens up with a list filled of default materials sets and custom ones.

Use a default set of materials:

Set of materials: [Dropdown menu open]

Service:

Lethal service:

General Geometry Tests Location Jacket Insulation Wind Seism WRC

After choosing the one you want, you will notice that material property of the component is already filled with the chosen material group.

Cylindrical shell "Cylindrical shell #1"

General Conditions Geometry Ligaments External loads Weight Reporting Import file...

Name / Position: Cylindrical shell #1

Material: SA-203 E Database

Undertolerance: 0 mm

Overpressure due to static head - internal: 0 MPa

Overpressure due to static head - Hydraulic test: 0 MPa