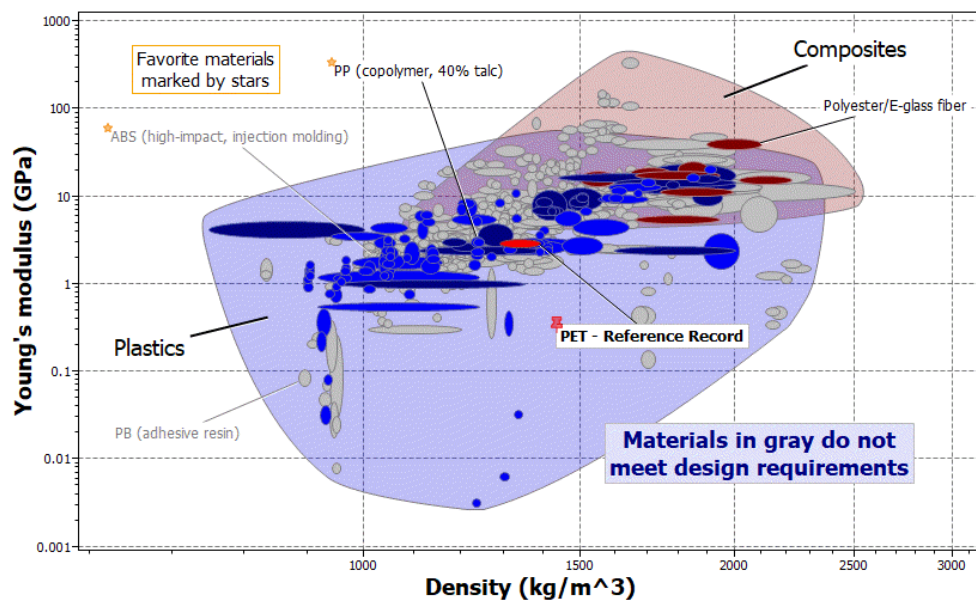


Getting Started with GRANTA Selector

Customize charts & data



1 About these exercises

The Getting Started exercises provide an overview of the key tools and features in GRANTA Selector, and form a set of tutorials to help you familiarize yourself with the software. You can choose whether to work through them in order, or complete only the exercises relevant to you. They are intended for use with GRANTA Selector 2020, and may not work correctly with earlier or later versions of GRANTA Selector.

There are also [Quick Start Videos](#) provided online to teach you about GRANTA Selector. These can be used independently of the videos, or alongside them, to test and check your knowledge.

This set of exercises covers how to customize charts, plot custom data, and define custom subsets for selection.

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Document conventions

In this document:

- ❖ Each step of the exercises is shown on a blue background, like this.

More detailed instructions appear below the main instruction.

Text on elements in the software (such as buttons, dialogs and tabs) appears in **bold**, **like this**. The names of records, datatables, and documents are emphasised *like this*. Words and numbers that you type as you follow the instructions appear in monotype, `like this`.

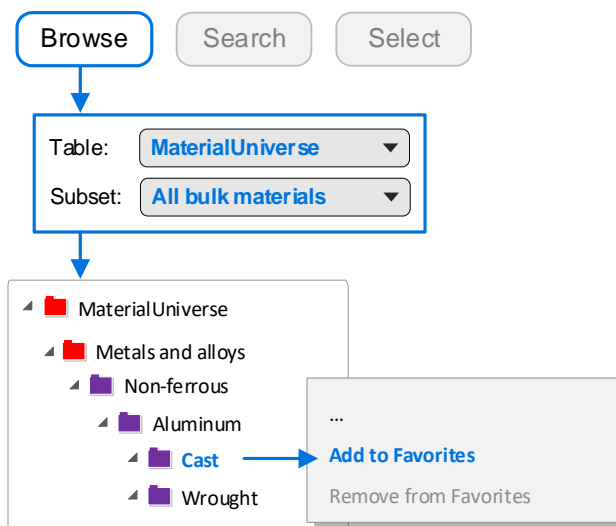
2 Exercises

Exercise 1: Favorite records

The **Favorites** feature enables you to highlight your favorite records, for example your company's preferred materials.

❖ Browse to the *Cast Aluminum* folder and add the folder as a favorite

Right-click the folder name and select **Add to Favorites**. This will add the folder and all records within that folder to favorites. On the Browse tree and data labels, any favorite records are marked with a star.




❖ Add the *Type 66 PA* folder as a favorite as well

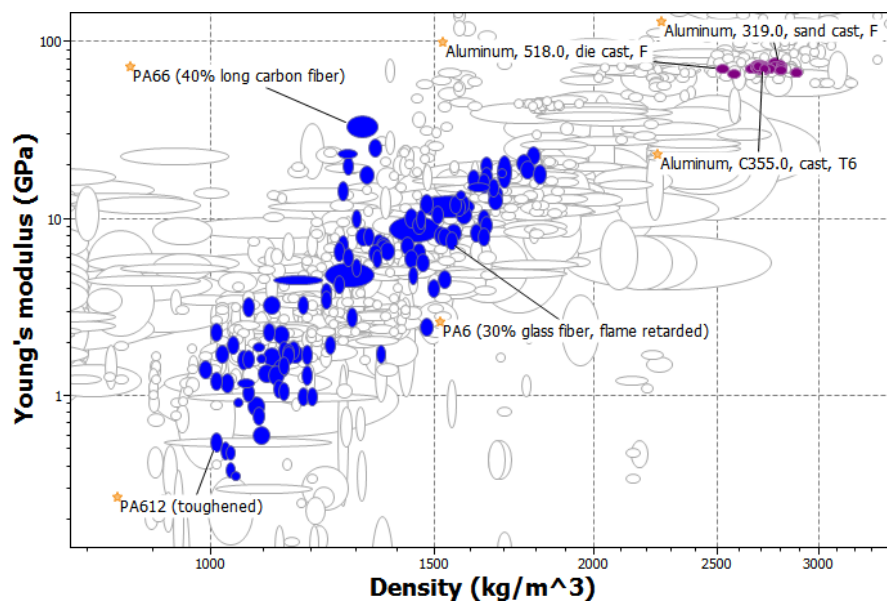
Expand **Polymers > Plastics > Thermoplastics > PA (Polyamide/Nylon)**.

❖ Make a bubble chart of Young's Modulus (E) against Density (ρ)

Select *MaterialUniverse: All bulk materials* and create a bubble chart. (See *Getting Started with GRANTA Selector: Browse, Search & Chart*, Exercise 6 for full instructions.)

❖ View your favorites on the chart

Click **Highlight favorite records** ; all the materials that are not favorites are grayed out. Add labels to some of your favorites.



❖ Clear your Favorites

On the **Tools** menu, click **Favorites > Clear**.

❖ Retain this stage for the next exercise

Exercise 2: Adding user-defined records

New materials are continuously being developed and introduced onto the market. These materials can be added and compared with other materials in the database using the **User-Defined Record** feature.

A user-defined record appears on the Browse tree under **My records**.

User-defined records are saved in the selection project file, not the database.

❖ Add a Limit selection stage with the following constraint:

Thermal expansion coefficient < 100 $\mu\text{strain}/^{\circ}\text{C}$

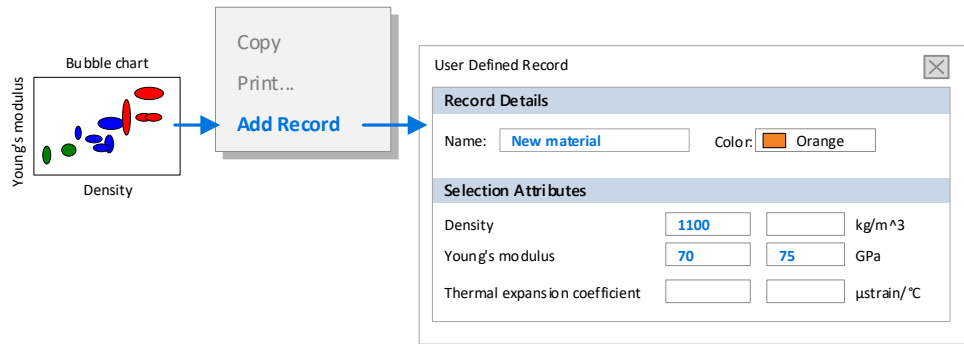
❖ Add a user-defined record

Right-click in the bubble chart and select **Add Record**.

❖ Set the following values for the new record:

<i>Name:</i>	New material
<i>Density:</i>	Min. 1100 kg/m^3
<i>Young's Modulus:</i>	70 - 75 GPa

Click **OK** when finished. The new record will be shown on the Chart Stage in the default color (orange).



❖ View the new record on the chart

On the Chart toolbar, click **Highlight user defined records** ; all the materials that are not user-defined are grayed out.

When a record is added from a chart, only the selection attributes are shown for data entry. User-defined records do not fail stages when no value has been entered for a specified constraint (thermal expansion in this example).

To edit or delete a user-defined record, right-click the record in the Browse tree and select the option on the shortcut menu.

❖ Delete the Limit Stage, but keep the initial Chart Stage, as this will be needed for the next exercise

❖ Save the project

Exercise 3: Selection with a Custom Subset

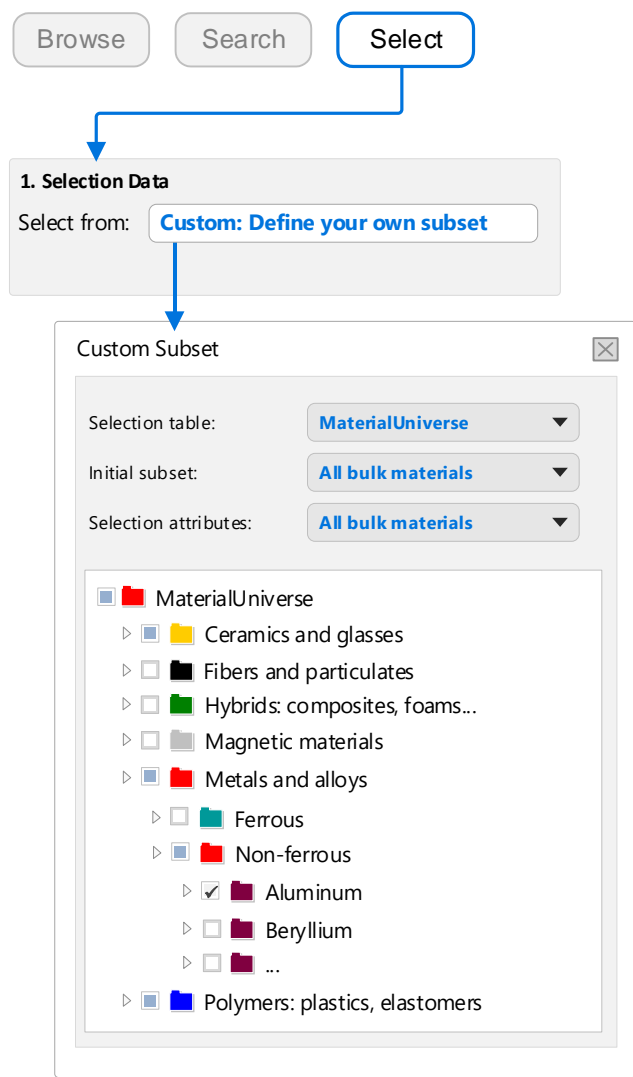
The GRANTA Selector databases are supplied with a range of standard subsets (e.g. *All bulk materials*, *Metals*, *Magnetic materials*) which enable users to restrict their material selection to certain material groups within the database. The custom subset feature enables you to define your own subsets.

❖ Define a Custom Subset

In the **Select from** list, choose **Custom: Define your own subset**.

Select *Aluminum* and *Plastics* and check that the bubble chart updates.

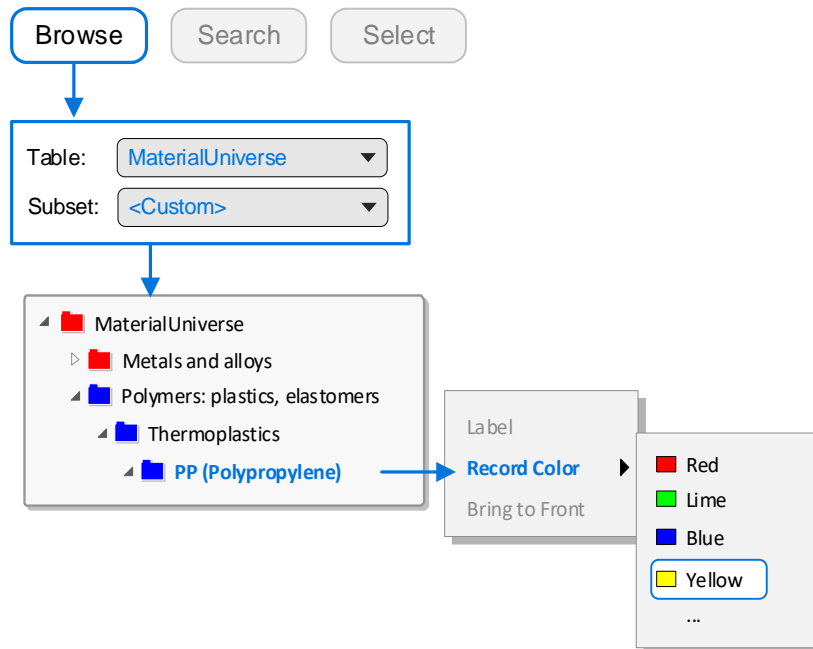
In the **Custom Subset** dialog, use the check boxes to include or exclude records and folders.



Note: The **Selection attributes** setting defines what properties will be available in Chart and Limit selection stages.

Exercise 4: Record color in Browse tree and charts

The GRANTA Selector databases use a standardized color scheme for displaying records (for example, blue for plastics). You can change the default colors to highlight particular records.



- ❖ Browse to the *Polypropylene* folder, right-click the folder name and change the record color to **Yellow**

Record colors can also be changed by right-clicking on a record in a chart stage or the selection results list.

- ❖ Check that the record color on the bubble chart has updated

- ❖ Delete this stage

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