Ansys

MATERIALS

Ansys Granta Selector
Product Overview

Granta Selector™ combines comprehensive materials data with powerful selection and comparison tools, enabling you to make smart materials decisions.

Find, plot and compare materials data. Fast access to comprehensive, easy-to-search data on your PC. Use interactive charting and comparison tools with the unique MaterialUniverse™ data set covering over 4,000 materials, plus specialist data modules on plastics, metals, batteries, composites, additive manufacturing and more.

Materials selection. Get your materials choices right first time during product development. It's easy to apply a proven, auditable, repeatable materials selection method. Gain confidence in your decisions and generate new ideas.

Materials substitution and equivalency. Respond quickly to problems with material supply, regulation, increasing cost or obsolescence. Find equivalent or similar materials at the touch of a button and easily compare material properties.

Minimize cost. Identify low-cost routes early in design, applying cost data, 'cost per unit of function' tools and part cost estimation.

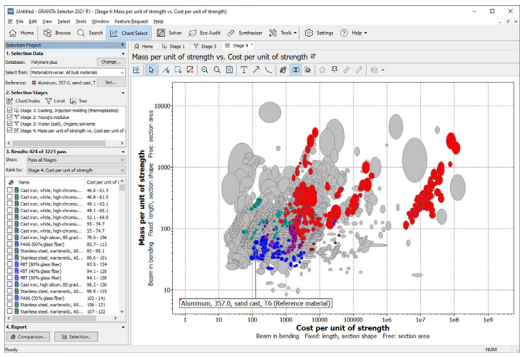
Materials development. Use graphical tools to identify gaps in the market that can be filled by new material solutions. Understand how your new material compares and communicate its advantages.

Lightweighting and hybrid materials. Experiment with the Hybrid Synthesizer for predicting hybrid material properties, reducing development time, estimating cost and guiding your materials testing.

Eco design and restricted substances. Reduce environmental impact and minimize restricted substances risk at the design stage by using detailed eco and regulatory materials data and tools.

Simulation and product design. Use Granta Selector independently or as part of an integrated workflow in Ansys Workbench. Export simulation-ready data into Ansys Mechanical, Ansys Electronics Desktop, Ansys Fluent, Ansys Discovery, Ansys Motor-CAD and other applications.

Batteries. Compare different battery cell types and compare performance and specifications of different designs of multi-cell battery modules and packs – rapidly explore battery module design space.



Balancing competing materials requirements in a materials property chart. These charts help you explore material space, support decision-making and communicate your results.

Key Benefits

Use materials to innovate and evolve your products:

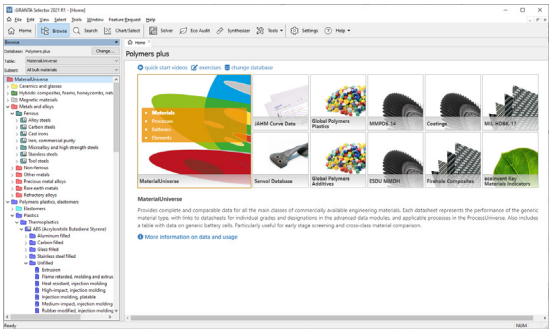
- Quickly identify solutions to materials issues.
- Confirm and validate your choice of materials.
- Reduce material and development costs.
- Change the way you work with colleagues and suppliers.

"A complex materials study using Granta Selector software now takes half the time of what we did before." - Radiall

Find more at
www.ansys.com/granta-selector

Materials Information

At the heart of Granta Selector is a database of materials and process properties. It comes pre-loaded with your choice of data from Granta's comprehensive library. Of particular value is MaterialUniverse™ – over 4,000 records providing properties for virtually every type of purchasable engineering material. A strength is that there are no 'holes' in this data – property values are either populated with known, referenced data or estimated using Ansys Granta technology. The result is that you can screen the complete 'universe' of candidate materials without excluding those for which you may not have complete data.



Granta Selector homepage. The software is straightforward to learn and use, beginning with choosing from a wide range of materials data sets to use in your project.

Choose Your Advanced Materials Data

Every copy of Granta Selector includes the Core Data. Then choose from our range of Advanced Materials Data.

Data series	What's included
Granta Selector core data	MaterialUniverse data. Browse and search materials information. Plot and compare. Support materials selection and substitution. Plus JAHM Curve Data, supporting simulation.
Polymers	Global Polymers – Detailed manufacturer data sheets on plastics and additives plus ChemRes (chemical and solvent resistance). For plastic and thermoplastic elastomers (TPEs).
Metals	Integrated global metals specifications from ASM Alloy Finder, StahlDat SX steels, MI-21, SteelSpec, Plus Powder Metals, ASME Boiler, Pressure Vessel Code materials and Sheet Steels.
Composites	Data from Mil-Handbook-17, the leading source of composite test data, plus Firehole continuous reinforced polymer data.
Aero	MMPDS aero alloys and coatings database. Used in aerospace, defense, motorsports, energy and related industries.
Medical	Medical data in MaterialUniverse, with links to the ASM Medical Materials Database, a comprehensive online resource.
Additive Manufacturing	Contains the Senvol Database™, a comprehensive set of additive manufacturing machines and materials.
ESDU	Statistically derived design strength data for alloys in aerospace applications.
Eco	Key traceable environmental indicators for both materials and relevant process, including geographic location.
Electromagnetics	Key property data on materials for low and high frequency electromagnetic applications, including printed circuit boards and magnetic materials.

Software Tools

Browse: Browse thousands of materials, view properties, use links to explore related records.

Search: Find the data you need – search by keyword or with advanced property queries.

Chart: Create dynamic property charts. Compare materials. Present your conclusions.

Select: Apply systematic material selection methodology developed by Prof. Mike Ashby at the University of Cambridge.

	CYCOLOY™ XCY620S resin | PC+ABS (SABIC Innovative Plastics)	Multilon® T-2716 | PC +ABS
General Information		
Manufacturer / Supplier	SABIC Innovative Plastics	TEIJIN LIMITED
Product Name	CYCOLOY™	Multilon®
Grade	XCY620S resin	T-2716
Forms	Not specified	Pellets
Test Standards Available	ASTM, ISO	ISO
Physical		
Density (g/cm^3)	1.14	1.14
Melt Volume-Flow Rate (MVR)	20	17
Mold Shrink, Linear-Flow (%)	0.5 - 0.7	
Mold Shrink, Linear-Trans (%)	0.5 - 0.7	
Mold Shrink (%)		0.5 - 0.7
Water Absorption at 24 hrs (%	0.3	0.2
Water Absorption at Sat. (%)	0.4	

Compare: Support substitution and equivalency projects with side-by-side comparisons (above). The Find Similar tool discovers close property matches for a material.

Eco Audit™ Tool: estimate energy use and CO_2 output from each stage in a product life cycle – consider environmental factors early in design.

Synthesizer Tool™: embed predictive models; comes with tools for hybrid materials and part cost.

FE Exporters: export simulation ready data for a wide range of CAD/CAE packages and/or use as part of an integrated workflow in Ansys Workbench.

Battery Designer Tool: Early stage design of multi-cell battery modules and packs. Estimate and compare performance for different cell configurations.

Contact us today to arrange a demo
www.ansys.com/granta-selector

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