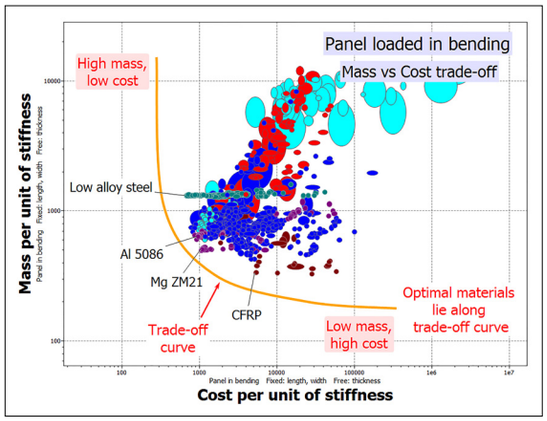
ANSYS© CES Selector - Product Overview

CES Selector™ enables smart materials decisions. It is the industry standard software tool for materials selection and graphical analysis of materials properties.



Material property charts can be made for any combination of material properties. Explore material property space, support decisionmaking, and publish your results in informative and persuasive reports and presentations.

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, covering almost 4,000 engineering materials, plus specialist data modules on plastics, metals, composites (details overleaf), and additive manufacturing.

Materials selection. Get your materials choices right first time during product development. Its 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™ models for predicting hybrid material properties, reducing development time 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.

Key Benefits

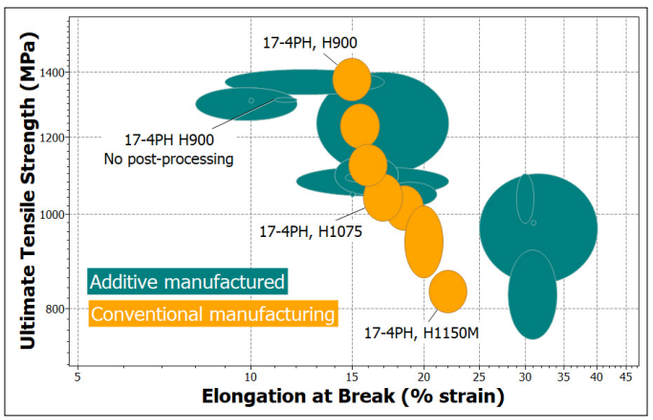
- Use materials to innovate and evolve your products
- Quickly identify solutions to materials issues
- Confirm and validate your choice of materials
- Reduce material and development costs
- Change the way you work with colleagues and suppliers

Systematic materials selection helped Tecumseh save €2m.

Find more case studies at the website below...

Materials Information

At the heart of CES 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™—nearly 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 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.



Additive manufacturing (AM) material selection study comparing the performance of materials produced by additive and conventional technologies. The chart above shows the strength and elongation characteristics of precipitation hardened stainless steel (17-4PH) produced by AM (orange) and conventional (teal) technologies.

Choose Your Data

Choose the editions of the software which is right for you:

Data Collection	What's Included
CES Selector	MaterialUniverse data. Browse & search materials information. Plot & compare. Support materials selection & substitution.
Polymers	CAMPUS®, M-Base, and Prospector® (formerly IDES) plastics data, plus ChemRes (chemical and solvent resistance). For plastics and thermoplastic elastomers (TPEs).
Metals	MI-21 metals, SteelSpec and StahlDat SX steels. For study of metals, e.g., global equivalencies.
Aero	MMPDS aero alloys, Mil-Handbook-17, and Firehole composites. Used in aerospace, defense, motorsports, energy, and related industries.

CES Constructor™ (optional) enables you to add and edit data in your database.

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 the 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 sideby-side comparisons (above). The Find Similar tool discovers close property matches for a material.

Eco Audit™ Tool: estimate energy use and CO2 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.

ANSYS, Inc.
www.ansys.com
ansysinfo@ansys.com
866.267.9724