Product overview

Aerospace & Energy Data Series

- Cost-effective multi-user access to leading sources of reference data
- Search, browse, analyze, and manipulate both numerical and graphical data quickly and easily
- Access PDF copies of original handbook pages, enabling full review of the context for materials property data
- Apply a complete solution: data is integrated with powerful data management and analysis, and can be combined with proprietary and other reference data

Example uses

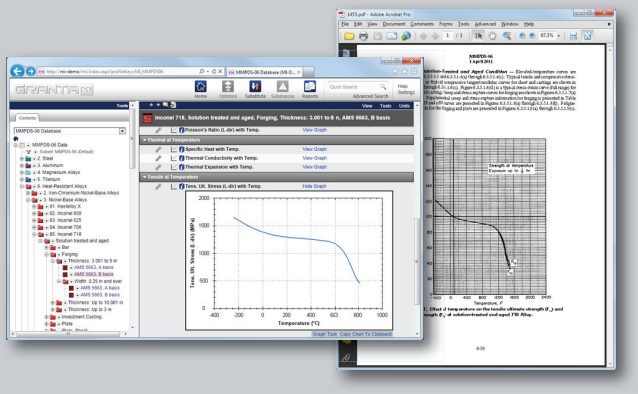
- Access specialist reference data
- Support engineering design and analysis (CAD, CAE/FEA, PLM...)
- Enable materials selection

Industrial relevance

Aerospace, defense, energy, motorsports and other engineering enterprises

Get cost-effective, quick, efficient access to authoritative sources of data on the materials used in aerospace, nuclear design, and similar applications. This data has been developed by industry-government consortia and professional societies over many decades and is available in a regularly-updated, searchable digital format. It includes data on:

- High performance aerospace alloys: design-strength data from MMPDS (formerly MIL-Handbook-5) and ESDU MMDH.
- Advanced composites data from projects including CMH-17 (formerly Mil-Handbook-17), AGATE, and NCAMP.
- Property data for metals used in nuclear and conventional energy applications and for process / chemical plants: ASME BPV Code and NIMS Creep and Fatigue Datasheets.



Accessing MMPDS data within GRANTA MI's browser interface. *The 'data tree' view on the left allows users to browse and access 'live' numerical and graph data. Links to PDF pages from the MMPDS handbook provide traceability (pictured, behind). GRANTA MI lets you search, analyze, and apply this data.*

Whatever your needs for reference data, our GRANTA MI™ software offers superior access—from a 'read only' option providing a swift and simple means to view a specific reference, to a comprehensive system for enterprise materials information management. To understand the advantage of the Granta approach, see how accessing data via GRANTA MI compares with alternatives:

	GRANTA MI	Hardcopy handbook	CD-ROM handbook	Other databases
Access to source documents (e.g., handbook pages)	Yes	Yes	Yes	Some
Access to 'live' numbers / design curves	Yes	No	No	Yes
Search capabilities	Yes	No	Yes	Yes
Most cost-effective / practical solution for multi-user access	Yes	No	No	No
Integration with materials data management and analysis	Yes	No	No	No
Integrate with in-house and other reference data for easy comparisons	Yes	No	No	Some
Option to access and use data directly within CAD/CAE system	Yes	No	No	Some
Support from materials information technology specialists	Yes	No	No	No

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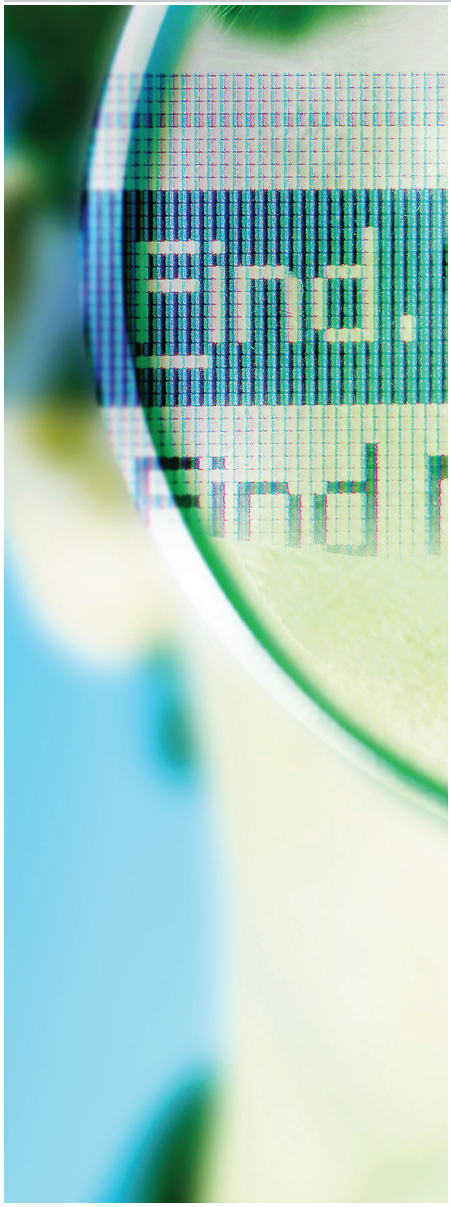


Further Information

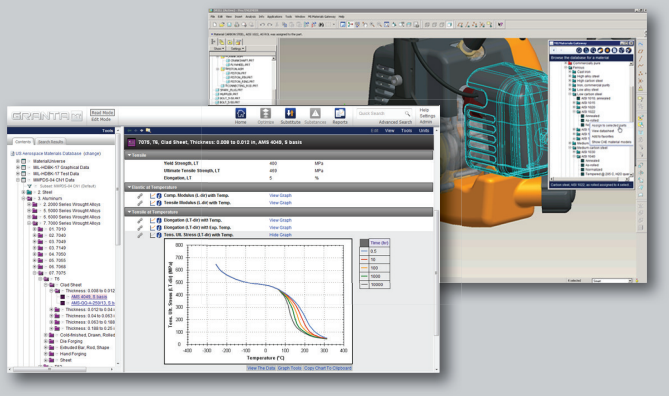
Find out how Granta data products can help you by contacting us to arrange a discussion and on-line demonstration.

More in-depth information at our website.

www.grantadesign.com/products/data/

MMPDS (formerly MIL-HDBK-5)

The Metallic Materials Properties Development and Standardization dataset is the pre-eminent source for aerospace component design 'allowables'. MMPDS contains 2,000+ records of statistically derived design data for alloys, and 1,000+ sheet material/fastener combinations. Records include information on the temperature dependence of mechanical properties, fatigue curves, and corrosion rankings. Regular updates ensure the latest data, maintained by the MMPDS organization with support from its Industrial Steering Group (ISG). Granta is an active ISG member.



Data in the GRANTA MI system can be presented as text, numbers, and interactive graphs within the MI:Viewer web browser interface (left). It can also be accessed and applied within CAD and CAE systems via the MI: Materials Gateway technology (right).

CMH-17 (formerly MIL-HDBK-17)

The Composite Materials Handbook (CMH-17) module contains over 1,000 records of test data for polymer matrix, metal matrix, and ceramic matrix composites. Information includes stress-strain and S-N curves. Data covers a wide range of environmental conditions, including the worst case 'hot-wet' scenario.

Composite Design

This module provides traceable design data for composite materials from the from the NCAMP and AGATE projects. It covers the constituents, intermediates, and processing steps used to generate over 600 laminates, including design data tested in up to four standard conditions.

ESDU MMDH

The ESDU Metallic Materials Data Handbook (ESDU MMDH) is the leading source of European design-strength data about the properties of aerospace structural metallic materials. The current version contains nearly 600 materials specifications in over 2,500 datasheets. Properties include creep, rupture, aging, and fatigue and fracture, in addition to standard static behaviors such as strength and stiffness.

ASME BPV (Boiler and Pressure Vessel) Code

The American Society of Mechanical Engineers (ASME) maintains this leading source of standards information and specifications relating to materials for boilers, pressure vessel, and nuclear power components. Part D provides tables of design stress values, tensile and yield strength values, and tables and charts of material properties. The Granta module provides this data in electronic form. Users can access both PDF copies of the service book pages and a structured 'live' database of the property data. It contains 250 material standards covering 430 different materials.

NIMS Creep and Fatigue Datasheets

Raw metals data from Japan's National Institute for Material Science (NIMS) is made accessible in this data module, covering up to 40 years of creep and fatigue data at both room temperature and elevated temperatures.

Other Granta data

Through Granta software you can integrate aerospace data with other references and engineering software. For example, Granta's Plastics Data Series supplies data from well-known sources such as CAMPUS and IDES. Granta's MaterialUniverse enables comparisons across the spectrum of material and processing possibilities.

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MATERIAL INTELLIGENCE

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