Material intelligence in PTC software

GRANTA MI creates a single, approved source of corporate materials information, and integrates it into product design, simulation, and development.

Materials information (engineering properties, regulatory data, cost, application experience, and more) is vital to engineering enterprises. GRANTA MI™ manages your company’s ‘material intelligence’ and enables you to apply it. This includes supporting materials data requirements throughout the product lifecycle. Granta and PTC partner to support users of Creo® and Windchill®. Without GRANTA MI, materials information comes from varied sources, risking inconsistencies and making change control difficult. With GRANTA MI, you ensure consistency and control. From initial assignment in CAD to finding the right models for CAE, engineers and analysts access the right data, fast, and confident that it is up-to-date and traceable to its source.

Key benefits

- Create and maintain one consistent source for corporate materials information
- Integrate company material intelligence into engineering workflows via Creo and Windchill
- Give designers and analysts quick, easy access to the materials data that they need, with full traceability
- Avoid delay and inconsistency by linking material datasets across CAD, CAE, and PLM

Typical problems solved

- Managing materials data and using it to generate ‘material intelligence’ (e.g., for input to simulation) is complex, time-consuming, and error-prone.
- If materials information has no traceability or context, you can’t have full confidence; re-use of this information or resulting analyses may be limited.
- Limited CAD/CAE material libraries cause delays or use of unvalidated data.
- Without a controlled list of materials in CAD, weight rollup is either not possible or unreliable. This can cause delays later on in development.
- CAD and CAE users work from different material datasets, making CAD-to-CAE transfer of geometry and materials error-prone.

Case studies

“Benefits include consistent material usage, improved documentation, traceability, and considerable time savings”

Lockheed Martin case study

This and other case studies at: www.grantadesign.com/casestudies

NEW: Check out the sample materials data from Granta in every copy of Creo 4.0.
The GRANTA MI solution

Industry-standard materials information management

GRANTA MI is the leading system for materials information management, used by many of the world’s leading engineering enterprises.

- Manage the full lifecycle for complex materials test data, including for advanced applications such as composites and Additive Manufacturing.
- Support analysis to derive accurate design data and simulation inputs.
- Integrate specifications, regulatory and environmental information, high quality material property reference data, and much more.

Materials data for design and analysis: when & where you need it

Mi:Materials Gateway is an integrated app within Creo, for instant access to the data in your GRANTA MI database.

- Browse corporate data and reference data, choose materials, assign them to parts in the Creo model.
- Designers: ensure that parts have the correct density for mass property calculations; report on materials assignments; assess eco, restricted substance, and other risks. Quick, interactive, and with no errors in data transfer.
- Analysts: use the same material descriptions in CAD and CAE, with tools to save time by transferring assigned materials from CAD to CAE.

Consistent materials definitions throughout the product lifecycle

GRANTA MI integrates with Windchill to ensure consistency in the material definitions used throughout the product lifecycle. Use Mi:Materials Gateway to choose applicable materials and assign them to parts that you are managing. You can reconnect to the original material record at any time and find the latest data—including for “downstream” analyses that may need extra information on the materials. Taking advantage of the interoperability between Creo and Windchill, Mi:Materials Gateway users in Windchill can run reports on materials assigned in Creo, and vice versa, subject to appropriate access controls.

Reference data

Every copy of Creo 4.0 now offers sample property data for 117 representative materials from Granta. Through GRANTA MI, you can access our reference data full library, including:

- ASME BPV Code: data for power and process industries.
- CAMPUS® Plastics: 6,000+ plastics measured to ISO standards.
- ESDU MMDH: aero alloys.
- Firehole: fiber-reinforced polymer composite data.
- JAHM Curve Data: input data for simulation.
- MaterialUniverse™: Granta’s unique database covering all engineering materials.
- MMPDS: authoritative US data on aerospace alloys.
- NCAMP: from the world-leading composites project.
- Restricted Substances: substances, materials, and regulations (e.g., REACH).
- StahlDat SX: the complete register of European steels.

What do you buy?

Core GRANTA MI database system and admin tools

Mi:Materials Gateway for NX, Teamcenter

Mi:Enterprise Connect

Your choice of reference data from the Granta library

Getting Started Services