

Product data sheet for WIAM software products

Product: **WIAM® MaterialsHub**



Scope of Application

The product is used in product design in general and in depth for the development and quality assurance as well as compliance of its material components. Companies can use the software to secure the development and approval of their internal materials data from requirements to material cards, to create quality and transparency and, above all, to track and compare supplier information on raw materials and components.

Customer Benefit

The product supports the customer in the digitization of their in-house material and product information processes. With a view to product liability and protection against loss of information, the product offers the possibility of making the data available at any time in accordance with the processes and user roles prevailing in the company and thus, offers a valuable basis for product design processes, construction and protection of components and parts.

Functionalities / Key Features

Material data management and material qualification

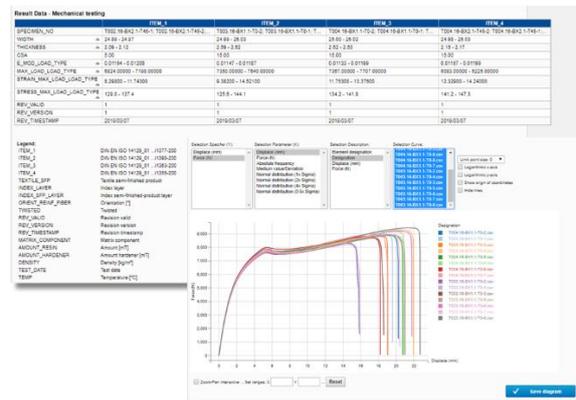
- ✓ Creation of materials, material standards, specifications for metals, any kind of materials such as plastics, ceramics, glass, natural materials, etc.
- ✓ Creation of any number of material components, e.g. Raw materials, semi-finished products, lubricants, fibers, matrix, and much more.
- ✓ Material approvals through the four or six eyes principle
- ✓ Documentation of all changes (versioning)
- ✓ Comparison of materials in tabular or graphic overview
- ✓ Storage of application areas, application limits, geographic locations
- ✓ Rights-specific display of materials, e.g. by country, role, usage

Material search using search terms, standards, groups and parameters (reverse search)

Material substitution according to application, or similar

Fine-grained consideration of process steps and parameters for e.g. Fiber composites, surface technology, additive manufacturing

Assignment to components and / or product catalogs



WIAM® MaterialsHub: Data Tables & Diagrams

Reporting/ Dashboard

- ✓ Dashboard for an overview of orders, tests, resources, status, etc. with any addition of further steps
- ✓ Creation of management reports (utilization, KPIs, ...)

Digital material information process - expansion and evaluation

- ✓ Transfer of a cross-material data model for metals, plastics, fiber composites, composites, AM materials, e.g. Material description, physical, mechanical, chemical, compliance and much more information to describe a material
- ✓ Extensibility of the data model, e.g. new materials, new material standards, customer-specific data on the material

Kontakt

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- ✓ Summary of material parameters from the test result (if available in WIAM) using formulas
- ✓ Comparison of material specifications with actual values on the material
- ✓ Creation of formulas for evaluation, validation and further processing through scripts in the interface that can be adapted by key users (WIAM® Formula Service in JavaScript and Python)
- ✓ Provision of a CRON job editor for the automatic execution of formulas (time-controlled, action-controlled) with examples

Digitization and Automation

WIAM® MaterialsHub is based on the server on the **JavaEE stack** and can therefore be used across platforms on **Windows and Linux**. It can be operated as a stand-alone solution, but also in a distributed environment with several parallel instances (on the AppServer or with Docker).

The software is **cloud-compatible** and is used productively in company-specific cloud environments as well as with public cloud providers (e.g. AWS).

For the integration in digitization and automation processes, WIAM® MaterialsHub has a **generally valid data format** (Excel, XML or JSON) with which the entire database or any sub-aspects (structure, transaction data, objects) can be mapped for data exchange (import / export) port). An associated mass data interface enables data transfer via a REST-API, considering the integrated rights management.

The product supports various **single-sign-on** concepts for integration into the corporate environment but can also be adapted to company-specific solutions. The connection to an Active Directory is configurable.

The frontend based on **HTML5 / JavaScript** can thus be called up in modern browsers. No additional software is required on the clients.

WIAM® MaterialsHub has a scripting engine called WIAM® Formula Service, which, depending on the rights management, can be used to store and execute **algorithms** in Python and JavaScript **for data processing** at runtime. Consequently, WIAM® MaterialsHub can be expanded by administrators or key users **at runtime** without having to update the application in the backend. In conjunction with the WIAM® **CRON** service, these algorithms can be **executed automatically in a time- or action-controlled manner**, which means that automated workflows can be designed.

Technical Requirements

Operating System: Windows 10+, Windows Server 2012+ Linux

Application Server: GlassFish 4, Apache Tomcat 8+, further on request

Database Server: MSSQL 2005+, MySQL 5+, Oracle 9+, PostgreSQL 9.3+

Hardware Requirements: Intel Core i5+ or Xeon E3+, 8GB+ Free Main Memory (RAM), 200GB+ Free Disk Space (HDD, SSD)

Operation, Maintenance & Support of application as **SaaS**

Secure Access by VPN, https, user rights

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