

Windchill® Materials & Substances

AUTOMATE DATA CAPTURE AND EFFICIENTLY MANAGE MATERIALS AND SUBSTANCES

Windchill Materials & Substances enables manufacturers to systematically capture and validate supplier data, collect real-time bill-of-material (BOM) and product data, and manage the materials and substances used in products. Now you can automate data collection, review reports to mitigate risk and ensure data confidence, and provide accurate data for use in reports on Life Cycle Assessment (LCA), compliance and other product analytics.

Manufacturers need to understand detailed information about the materials and substances used in their parts and products. This information is necessary to respond to government regulations and customer requirements, as well as to create internal product performance metrics. This data can also be leveraged to meet obligations for the management of toxic substances, recyclability and reuse, country of origin, tonnage, and LCA reports.

In the Medical Device and Aerospace & Defense industries, where reliability is paramount, the data is also used to confirm the presence of materials with unique performance characteristics that have no suitable commercial alternatives. Additionally, manufacturers use material and substance information to accurately measure product weight, and to better understand supplier cost drivers and commodity price exposure.

So, what are the risks if you don't know the materials and substances and their supply source for your products? Blocked shipments, costly redesigns, excessive tariffs, and scrapped parts are just the beginning. To avoid these problems, manufacturers must identify, track and control the materials and substances used in their products, while keeping up with frequent changes in product designs, parts and suppliers.

Enter Windchill Materials & Substances – a proven solution that integrates with your existing supply chain and product development systems. This powerful solution provides current, accurate visibility into materials and substances in your products and supply chain, based on real-time bill-of-material (BOM) and actual product data. It automates supplier data-capture using industry standards or custom formats, and enables Windchill LCA and Windchill Compliance solutions to generate accurate environmental impact and product compliance reports.

Part Number	Part Mass	UOM	Pre-Consumer Recycled (%)	Post-Consumer R		
28-6910-14	110	g	10	20		
Subpart Name	Material	Supplier	Substance	Class/Category	CAS Number	Mass
28-LUBR	HG_20 MAT123	SUPPLY CO		9.2 LUBRICANTS		50
		➔	MERCURY	MERCURY COMPOUNDS	7439-97-6	50
		➔	Total Unspecified			0
28-6910-47	PB_43 MAT123	SUPPLY CO		3.2 COPPER ALLOYS		50
		➔	LEAD	LEAD AND LEAD COMPOUNDS	7439-92-1	25
		➔	FE	OTHER	7439-89-6	25
		➔	Total Unspecified			0
28-6910-PCB	PB_17 MAT123	N/A		8.1 ELECTRONICS		10
		➔	LEAD	LEAD AND LEAD COMPOUNDS	7439-92-1	5
		➔	FE	OTHER	7439-89-6	5
		➔	Total Unspecified			0

Efficiently track the materials and substances in parts and products.

Key Benefits

Ensure material and substance requirements are met

Windchill Materials & Substances tracks and manages the materials and substances in your products, beginning early in the innovation process and throughout the product development lifecycle. With this solution, manufacturers can identify a list of materials, substances and their percentages or concentrations, and then grade components, products and suppliers against these targets.

Manufacturers can also manage testing and certification reports for parts and products. Additionally, Windchill LCA and Windchill Compliance solutions rely on the material and substance information from Windchill Materials & Substances to generate accurate environmental impact and product compliance reports.

Automate supplier data acquisition and validation

Windchill Materials & Substances is designed to leverage multiple methods and data sources to collect required part information, including direct requests, data exchanges and third-party data brokers.

Windchill Materials & Substances will automatically generate and submit direct supplier data requests using industry standard data exchange formats, and aggregate and validate supplier responses. With these reports, you'll be able to track supplier response rate, accuracy and timeliness. Additionally, with the software's support for progressive disclosure, manufacturers can improve data quality over time, moving from a simple "Yes/No" disclosure to full material data.

Provide early visibility into materials and substances

By making material and substance data available in the earliest stages of product innovation—where decisions have the greatest impact and are least disruptive, manufacturers can bring products that meet requirements to market faster, with lower costs. With visual displays in Windchill Materials & Substances, engineers and stakeholders will be able to quickly identify if a product does not meet defined material or substance requirements, not only during early stages of development, but throughout the entire product development lifecycle.

Identify, measure and improve the performance of products and supply chain

Managing the materials and substances in your products or supply chain is not an event; it's an ongoing process. That process must be integrated throughout the entire product lifecycle – as market requirements are developed, new materials are qualified, new parts created, new suppliers and manufacturers approved, and new products launched and enhanced throughout their lifecycle. Supply chain management can compare the performance against requirements of different suppliers' parts, in order to identify preferred suppliers and set improvement targets with underperforming suppliers.

Features

Supply Chain Assurance

Ensure that your suppliers meet your evolving material and substance requirements. Manage and maintain the supplier data required for reporting.

- Automate supplier data requests, which can be batched or triggered by events
- Improve data quality through automatic error-checking and supplier feedback
- Improve supplier performance by identifying overdue requests and tracking supplier reporting metrics

Data Collection and Information-Exchange Standards

Communicate regarding parts, using industry-standard formats and protocols. Supported standards include:

- Data disclosure: Yes/No Certificates, partial disclosure (banned/reportable), full material disclosure
- Data declaration standards: IPC-1752 Standard (Class 1 through 6), IPC-1752A, JAMP-AIS, and company-specific formats
- Data repositories: International Material Data System (IMDS), BOMcheck and others
- Data providers: Full-service providers and third-party brokers

Reporting and Analytics

Generate reports demonstrating that products and suppliers are meeting material and substance requirements.

- Leverage out-of-the-box compliance reporting provided by Windchill Compliance
- Build your own custom analytic reports, or perform ad-hoc analysis on individual materials and substances
- Provide evidence of due diligence, with an exhaustive audit trail tracing requirement status back to source
- Identify testing and certifications reports, total weight and the presence, mass and percentage/concentration of materials and substances in parts and products
- Use the intuitive dashboards and status icons to make complex analysis easy to understand
- Review metrics assessing confidence, variability and risk in your products and supply chain

Systems Integration

Windchill Materials & Substances integrates with design and supply chain data management systems, including:

- PLM: Windchill®, Teamcenter®, ENOVIA® and others
- ERP: SAP®, Oracle® and others

Platform Specifications

- Server Operating Systems:
 - Microsoft Windows®: Windows 2008
 - Unix®: Solaris 10, HP-UX® 11i, Red Hat Enterprise® Linux 5
- Java: Java version 1.6 and higher
- Browser: Internet Explorer® v7.0 and higher, Mozilla Firefox® v3.0 and higher
- Database: Oracle 11g R2, Microsoft SQL Server® 2008
- Languages: English, Chinese (Simplified and Traditional), French, German, Japanese, Korean

Learn More

For more information about Windchill Materials & Substances, please visit:

PTC.com/products/windchill/productanalytics

© 2011, Parametric Technology Corporation (PTC). All rights reserved. Information described herein is furnished for informational use only, is subject to change without notice, and should not be construed as a guarantee, commitment, condition or offer by PTC. PTC, the PTC Logo, Windchill and all PTC product names and logos are trademarks or registered trademarks of PTC and/or its subsidiaries in the United States and in other countries. All other product or company names are property of their respective owners. The timing of any product release, including any features or functionality, is subject to change at PTC's discretion.

6290-Windchill Materials & Substances-DS-EN-0211