Material Compliance – It’s Not Just for High Tech Any More

by Devin Bedwell

High tech companies have years of experience complying with directives and regulations for computers, cell phones, semiconductor devices, and other electronic equipment. However, the increased integration of technology into jewelry, wearable devices, and even apparel means that Retail, Fashion and Apparel (RFA) companies need to ensure that their products are compliant, too. Here’s what RFA companies need to know about these regulations, and what to look for in a software system to help manage product compliance.

A Brief History of Electronic Equipment Regulations

If a regulator from a country in the European Union called you today demanding material declarations and test reports certifying that your products are compliant with all material compliance regulations, how ready would you be? Do you know all of the regulations and directives that you are required to comply with? Could you easily supply product Bill of Material (BOM) lists, test reports, drawings, and material declarations for every product you placed on the market in the last ten years? Could you prove due diligence in controlling your supply chain to maintain compliance? Would this be a simple online search, or a frantic dig through filing cabinets after trying to find the engineers responsible for product development?

In February 2003, the European Union adopted the “restriction of the use of certain hazardous substances in electrical and electronic equipment” directive, also known as RoHS. This directive limited the use of six substances in various types of electronic equipment. When RoHS enforcement began in 2006, companies were prohibited from importing products into EU countries that violated the prohibited substance thresholds. They were also required to maintain documentation proving due diligence that their products were compliant, and to respond in as quickly as 24 hours to an audit with test reports, product drawings, and material declarations. This signaled a new wave of governmental regulations that companies have had to adjust to over the past decade, including:

- Waste Electrical and Electronic Equipment Directive (WEEE)
- Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Global RoHS requirements from China, Korea, California, and Switzerland
- Packaging, and/or End-of-Life Vehicle (ELV)
- Joint Industry Guide (JIG)
- Electronic Waste Recycling Act (EWRA)
- Conflict Minerals
- California Proposition 65

Violation of these regulations can result in significant monetary penalties, criminal and civil proceedings, supply disruption, and in some cases seizure of inventory or shipments that are deemed in violation. In addition, in the era of social media and instant communication, companies and brand names suffer social consequences when they violate environmental regulations. Most companies have responded by integrating self-regulation into their business model through Quality or Corporate Social Responsibility (CSR) business groups.

High tech companies that manufacture computers, cell phones, semiconductor devices, and other electronic equipment adapted quickly to RoHS by removing lead and other restricted substances from their products and their supply chain. They also pushed for exemptions to restrictions that were not economically feasible or affected product reliability or quality. Most tech companies were ready and waiting in 2006 when EU states began enforcing RoHS.

The reach of these regulations is widening, however, and some companies outside the high tech industry are shocked to find out that their products are within the scope of regulations that they previously didn’t consider. For example, the integration of technology into jewelry, wearable devices, and even apparel means that RFA companies need to ensure that their products are RoHS compliant. Even decidedly low-tech products like analog wrist watches can fall within the scope of RoHS.

The Basics of Compliance Management Solutions

There are many enterprise level tools and applications available to help companies manage their compliance portfolio. Some are stand-alone applications, while others tie closely with Product Lifecycle Management (PLM) tools to consolidate information from suppliers, product bills of materials (BOMs), and compliance definitions, efficiently tracking product compliance and generating the necessary Declarations of Conformity and compliance certifications.

While there is a wide range of compliance solutions available, and the most effective will have the following features:
Product BOMs for all components and sub-assemblies. In order to track and calculate compliance properties for the whole product, every component needs to be accounted for.

Supplier information for each component in the BOM. For internal manufacturing and sourcing this is often not an issue. But when contract manufacturers are used, tier two and tier three suppliers are sometimes not as visible. In order to accurately gather compliance data, you need to fully understand your supply chain and track which suppliers you need to collect data from.

Supplier part numbers and reference numbers for components used. Sometimes a part number that is used by designers and manufacturing engineers is not the same as what their suppliers use for the same part. This problem gets worse the more disconnected you are from your supply chain. But in order to collect accurate compliance data, factories, engineers, and suppliers need to speak the same language and understand part numbering schemes.

Streamlined data collection processes. Data collection can be a burden for suppliers. Ease this burden by using a streamlined data collection process and simple tools, such as an easy web portal for them to input data. Don’t make it any harder than it has to be for them to supply you with the data that you need.

Bi-directional communication between compliance systems and PLM systems or design tools. Giving engineers and designers visibility into compliance-approved component lists encourages reuse and reduces the data collection burden.

Business processes and training to ensure that all product groups follow the prescribed data collection requirements and design guidelines. Many compliance programs get derailed when different product groups use different design processes, data entry processes, and enforcement practices that lead to fractured systems and inaccurate data.

Getting Started with Compliance

If you are just getting started on your compliance journey, there is no need to do it all at once. Start small by selecting a handful of products, components, suppliers, and factories based on your estimation of risk. Once you perfect the tools and processes for this subset of products, it will be easy to quickly add new product families, suppliers, and compliance regulations to track. With these tips, you can become the master of your compliance information and can confidently certify your product compliance.

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