



Are you ready for RoHS compliance?



Never has the electronics industries faced a bigger challenge than it does today with the transition to RoHS compliance.

Lead, among other substances in electronic products, has come under regulatory scrutiny which instigated the European Union's Restrictions on Hazardous Substances (RoHS) and the Waste Electrical & Electronic Equipment (WEEE) Directives.

This new financial year sees these regulations taking place in the electronics industry internationally.

The RoHS directive prohibits the use of six hazardous substances including mercury, lead, cadmium, hexavalent chromium and brominated flame retardants in all electronics exported to the EU.

In the past year, much of the focus has been on solving technical issues. Managers have discussed the complexities and pitfalls of forecasting production rates and end-of-life cycle for parts that will soon be obsolete.

There were also concerns on legal obligations and challenges the industry faces under the EU's directives.

But the greatest concerns have been and still are the hidden costs associated with adopting new equipment and training operators to comply with these regulations.

After considering the worldwide requirements for lead-free processing, one Australian electronics manufacturing services provider — Startronics — has established a broad range of activities that has been tailored to support industry participants.

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Component suppliers are leading the way in this transition with a wholesale commitment of component conversion to an RoHS-compliant status.

Companies exporting goods into areas requiring RoHS and WEEE compliance have a need to demonstrate an appropriate 'due diligence' review to verify RoHS compliance of their products.

Non-compliant goods will incur penalties varying from fines to possibly revoking import licences.

In real terms, the increasing scarcity of tin/lead components will drive products to RoHS-compliant conversion.

Importance of design for manufacture

Startronics has focused on meeting users' engineering and product design objectives by drawing on its experience in structured Design for Manufacture (DFM) review processes which aim to identify potential issues that could impact adversely on the cost, manufacturability and time-to-market of new products.

This Australian company's commitment to this refined technology ensures its products meet the strict criteria required for RoHS-compliant manufacturing.

It draws on its experience in a structured DFM review process to create a foundation for robust and long-term products.

During this review, issues affecting all the requirements for defect-free manufacturing are objectively evaluated — a process that extends the long-term reliability of electronic products.

With the movement to lead-free processes there is a necessity to improve the reliability of manufacturing and the need for DFM involvement is imperative more than ever.

The company has expertise with successful partnerships for many user projects in the complex transition to be RoHS compliant.

It has invested heavily in new equipment to facilitate the requirements of RoHS-compliant manufacturing, including selecting SAC 305 solder — the choice of many companies converting to lead-free processing.

This eutectic solder has a melting point of 217°C. Hence, engineers now have a soldering temperature that is 30°C higher than the previous tin/lead process.

This has diminished the available 'process window' which emphasises the requirement of the DFM review process.

The company's DFM review process includes such things as:

- CAD library footprints;
- Copper balance across the board;
- Hole size/annular ring dimensions;
- PCB construction and materials;
- Manufacturing process tolerances.

Startronics
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