

Environmental aspects on Isola base materials

Apart from the for a long time existing directives 76/769/EWG the Commission of the European Union has legislated to put two new ones into force from 2006, which are of importance for the pcb industry:

- Waste of Electrical and Electronical Equipment (2002/96/EWG)
- Restriction of Hazardous Substances (2002/95/EWG)

The WEEE regulates the disposal and recycling of electrical and electronic waste. Base materials are affected by this regulation because halogen containing waste must be declared as special waste whereas halogen free waste can be disposed of as standard waste.

The RoHS prohibits definitely the use of

- Lead (Pb)
- Cadmium (Cd)
- Mercury (Hg)
- Chromium (Cr-VI)
- Polybrominated biphenyls (PBB)
- Polybrominated biphenylethers (PBBE oder PBDE)

such as

- Pentabromodiphenylether
- Octobromodiphenylether
- Decabromodiphenylether
- Bis(tribromophenoxy)ethane

Isola GmbH confirms that these components are neither part of our base materials nor are they used in the production of

Isola GmbH

Base materials for pcb's

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laminates or prepregs. The ban of lead will end up with a 30 - 40 °C higher solder temperature using lead free solder alloy. Accordingly thermal resistant base materials have been developed and are part of our current product portfolio. Cadmium, Mercury and Chromium have always been insignificant for laminate production.

Regarding flame retarders we are very often asked which flame retarder Isola is using and if they belong to the class of PBB's or PBBE's.

To achieve V0 according to UL 94-specification we use brominated epoxy resin. We combine the reactive component Tetra-bromo-bisphenol-A (TBBA) with suitable Glycidylethers to obtain a brominated epoxy polymer where the TBBA is reacted in and cannot be separated anymore.

It is important to know that neither the TBBA nor the epoxy resin containing TBBA belongs to the class of PBB or PBBE.

That means that Isola's brominated epoxy resin base materials are produced in full compliance with the directives 76/769/EWG, 2002/95/EWG and 2002/96/EWG.

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