

# **Guidelines for Identification of Lead-Free Electronic Components and Board Assemblies**

## **NEMI RoHS Transition Task Group Component & Board Marking Project**

**Rev. 1.8  
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### **Objective:**

Establish a global marking guideline for Pb-free compliant electronic components and PCB assemblies.

The sub-team's charter is to create an industry standard that will achieve the following objectives:

- Identification of materials used in solders.
- Part numbering guidelines during the transition to Pb-free components and PCB assemblies
- Vocabulary to identify key phases of the transition to Pb-free manufacturing

### **Approach**

Current industry practices were reviewed, along with the desired outcomes from various companies and standard bodies. Based on these inputs a proposal was created, and manufacturing feasibility was verified. The proposal approved by the team was forwarded to appropriate standard bodies such as JEDEC, JEITA, IPC, Soldertech and Rosettanet.

### **Team Results**

The following are the results from NEMI's Components and Board Marking sub-team.

- JEDEC Standard JESD97: "Marking, Symbols and Labels for Identification of Lead (Pb) Free Assemblies, Components and Devices" has been released. It contains the guidelines for the identification of solders used in components and board assembly. Additional information about the material contents shall be contained in the Materials Declaration Tools being developed in the Industry.
- The team decided that it will not recommend identifying the different phases of implementation of Pb-free materials leading up to RoHS compliance. This decision was made based on the short time left until the RoHS deadline. The team felt that there was insufficient time available to implement a scheme related to identifying the phases of RoHS compliance.
- The team identified standard vocabulary terms (Pb-free, RoHS Compliance, and Pb-free Second Level Interconnect) to create a common terminology related to Pb-free. These vocabulary terms have been proposed to IPC, JEDEC and Rosettanet for inclusion in their "dictionary of terms."
- The team recommends the use of unique manufacturer part numbers (MPN) to identify the components and board products that have been modified for use in the Pb-free process. This is being recommended due to the higher temperatures present in the Pb-free assembly process compared to SnPb process. This is due to concerns related to the possibility of reliability failures when components are inadvertently processed at temperatures above their stated ratings. For products that are inherently Pb-free and meet Pb-free process temperature requirements, (for example. Side-brazed ceramic DIP) part number changes may not be needed, and a simple notification to customers will suffice, provided the manufacturer is not currently producing or marketing (including distribution channels) a version of the same product which does not meet Pb-free process conditions.