



Environmentally Friendly Solders

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Message from the Guest Editor

Electronic interconnects (so-called soldering technology) serve both electronic and mechanical functions between the electronic components and the printed circuit boards (PCBs) in electronic devices. Thus, the importance of soldering in electronic packaging is increasing due to the rapid growth of the electronic industry in recent years. Traditionally, lead-containing alloys, (Sn–Pb solders), are used for interconnections in electronic components due to their unique combination properties and low cost. However, environmental and health concerns over the toxicity of lead combined with strict legislation to ban the use of lead-based solders have led to the development of lead-free solder alloys. Nowadays, several types of environmentally friendly solders have been introduced. However, with the advancement of micro/nanosystems technology toward higher speed, smaller, thinner and portable features, an increasing quest for better performance, miniaturization and reliability, the industry is facing severe limitations. Therefore, there is a critical challenge to introduce a highly reliable solder alloy that will enhance the reliability and longevity of modern electronic devices.





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Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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