

### 36 – 56 Effect of adsorption of polyoxyethylene laurylether on electrodeposition of Pb-free Sn alloys

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Three plating baths (Sn-Cu, Sn-Bi and Sn-Ag-Cu) containing a polyoxyethylene laurylether (POELE) additive were developed as Pb-free solder plating solutions. The addition of POELE afforded a smooth, homogeneous alloy upon deposition. A mechanism for the effect of POELE in the electrodeposition process is proposed in which POELE adsorbs on deposited Sn surfaces, suppressing subsequent deposition during electrolysis. The POELE remains on the surface of the deposited Sn as the plating layer grows, and is efficiently removed in the final water rinse.

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