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The Advantages of The Ni-modified Sn-Cu Eutectic Solder as a Lead-free Hot Air Leveled Printed Circuit Board Finish

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While Hot Air Solder Levelling (HASL) was the most popular printed circuit board finish in Europe and America before the implementation of the EU RoHS Directive there was a widely held view that it was a finish that would not survive into the lead-free era. That misapprehension was based on early experiments with lead-free alloys such as basic Sn-Cu and Sn-Ag-Cu which did not have the properties required of a HASL alloy. However, with the introduction of the Ni-modified Sn-Cu eutectic, “SN100CL” lead-free HASL has become a process that can yield even better results than the SnPb HASL that it replaces. In this paper the mechanism by which the Ni-modified Sn-Cu eutectic works is explained and procedures required for the achievement of optimum results outlined.