Void Reduction and Elimination for Reflow & Curing Processes

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Abstract

One other key challenge facing the global Semiconductor packaging industry is the reduction and/or elimination of voids in both the soldering and epoxy curing processes. To address the challenge of eliminating voids in the soldering process a vacuum chamber has been integrated directly in the reflow zone of a conventional reflow system. This vacuum chamber reflow process has delivered actual customer results that has reduced soldering voids to <1%.

The key to this design approach is that this system configuration provides significant void reduction while maintaining the highest possible UPH. The second application to be discussed is the elimination of voids in epoxy during the curing process. For this application a pressure cure system has been developed. This batch cure system utilizes pressure to drives the voids out during the curing process. In addition, an optional integrated vacuum process step is can be implemented to further increase void reduction. Customers typically utilize the vacuum step before the pressure curing process step begins.