Dye-Pull Inexpensive Fast Failure Analysis Technique for Solder Joints

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Abstract:

With continuous miniaturization of components and increase in complex circuit card assemblies the check on integrity of hundreds of hidden joints of ball grid array and other bottom terminated components impose a challenge in X-ray and visual examinations. The assessment of Ball Grid Array (BGA) SMT joints is frequently desired in Printed Circuit Board Assembly (PCBA) industry as part of proto build assembly qualification and failure analysis investigation to minimize field risks. The “Dye and Pull” process facilitates dye penetration on fractured and separated solder joints which is visually detectable after component prying from assembly surface thus a proven viable inexpensive quick turnaround characterization method. This presentation will discuss Dye-Pull technique encompassing scope and limitations.