



ISO 9001:2000
CERTIFIED

Solder Analysis



Overview

The American Competitiveness Institute (ACI) offers solder content analyses of solder pot samples. Samples from the solder pot mailed to ACI are analyzed spectrographically to determine concentrations for the following elements: arsenic, antimony, gold, iron, nickel, bismuth, aluminum, copper, silver, zinc, cadmium, indium, sulfur, and phosphorus in addition to tin and lead.

This solder analytical service is used to assure that the solder pot has not become contaminated. Periodic testing will insure the correct balance of tin/lead for tin/lead solders and the correct balance of metals in lead free solders. Maintaining proper metal levels in the solder bath will reduce production rejects.

Services Offered

Solder Contamination Issues:

The solder pot can become contaminated from component finishes leaching into the solder pot, from improper maintenance of the solder pot, or from poor operator training. For example, an operator may mistakenly scrape SnPb solder splash and / or put a SnPb solder bar into a lead-free solder pot. Two SnPb solder bars are enough to raise the lead content of an 800 pound lead-free solder pot over the 0.1% RoHS directive limit.

Impurities can affect melting point, solder tension, and wetting of the solder. Typical production defects possibly resulting from contaminated solder pots are icicling, bridging, pin-holing, webbing, and poor joint connections. To gain control of contamination in wave soldering, ACI recommends performing solder alloy analysis on a weekly basis to determine the rate at which the solder pot becomes contaminated. After 2 - 3 months of gathering data, the solder pot analysis may be reduced to once a month, depending on usage and the rate at which the solder pot is contaminated.

Report:

The solder analysis report will compare measurements of the solder sample against industry standards IPC- J-STD-001. The report will be emailed to the customer three (3) business days after receipt of solder sample.

Cost: \$150

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