



Solder Pot Maintenance

If a solder pot is out of specification on elements some corrective action generally needs to be taken. The following lists of elements are listed with proper limits, corrective action and possible source of contaminant.

*Contaminant	Limit Precondition Surface (%)	Limit Wave or Pot Soldering (%)	**Corrective Action	Possible Cause
Cu	.75	.30	Cool solder pot to 370°F for 8 hrs and remove dross	Boards or leads have exposed copper
Au	.50	.20	Same as for copper	Gold pads or leads exposed to copper
Cd	.01	.005	Dump pot	Cadmium coated shields or fixtures
Zn	.008	.005	Dump pot	Plated bolts or heat sink
Al	.008	.005	Dump pot	Heat sinks fixtures
Sb	.50	.50	Dump pot	Not normally found except as an additive to solder
Fe	.02	.02	Dump pot	Will occur if pot is over heated comes from pot, pump or other surfaces in the wave.
As	.03	.03	Dump pot	Not normally found except as a contaminant from recycled solder
Bi	.25	.25	Dump pot	Can come from some lead-free surface finish. Typically not found
Ag	.75	.10	Dump pot	Can come from some lead finish.
Ni	.025	.01	Dump pot	Comes from contact with stainless steel

*Limits set from IPC J-STD 001C DOD 2000A

** When precipitating copper from a pot make sure the pot is stagnant and is undisturbed for at least 8 hours.

Tin levels will typically drop over time. $\pm 1.5\%$ of the nominal tin content is acceptable. To raise this level, calculate the weight in your pot times the analyzed percentage. This gives the actual weight of tin. Take the weight of solder held by the pot and multiply it by .63; this is the amount of tin that should be in the pot. Subtract the analyzed weight from the theoretical weight. This is the amount of tin needed in the pot. Remove 15% more solder than this and add the calculated amount of tin. Top off the pot with bar solder.