

Bath Life and Filtration Session Questions and Answers

- Q: Is non-volatile residue or NVR testing the only way to establish soil loading and predicting bath life, or can I use pH or other indicators as a quick check on the condition of my wash bath?**
- A:** NVR is the best direct indicator of flux loading into a wash bath. However, because many cleaning chemistries are buffered to hold pH stable as acid (flux) contaminants are introduced into the bath, and flux loads in at different rates depending on throughput, full lab analysis. This is including pH and alkalinity ratio, a measure of free alkalinity to total alkalinity, and are just as important to monitor and manage the life of the bath.
- Q: What can I expect when trying to rinse heavily soil loaded soap solution from my circuit card assemblies?**
- A:** Depending on the age of the bath and level of contaminant load, soils contained in the wash bath can deposit in connectors, under tight pitch components and especially in vented chip caps. This makes it very difficult to rinse out without extended rinse time and/or excessive spray pressures.
- Q: Is there a typical ceiling on acceptable NVR in my wash bath?**
- A:** Some companies run as high as 5-8% NVR before changing out their wash bath, others barely ever reach even 2%, choosing to change out their bath after fewer wash pump run hours to guard against any chance of poor cleaning. Although there's no fixed level, a number customer uses a maximum of 3% NVR before changing out their wash bath, but again it's best to establish and implement your own NVR ceiling.
- Q: Once I understand the rate at which my bath loads, should I institute a routine change-out frequency, say weekly, monthly, quarterly, or longer?**
- A:** Short answer, yes. And in fact, most customers set up their change-out based on a fixed number of wash pump run hours, established through analysis of bath samples when first adopting chemical cleaning. A soil loading profile can be easily developed by sampling the wash bath routinely, typically weekly, until it "hits the wall" as we say - quits cleaning, starts foaming or starts showing other signs of interference from soils introduced over time. The weekly bath samples collected are then sent in and analyzed by your chemical supplier and results correlated with field cleaning performance. Generally, the maximum number of wash pump run hours is backed off to assure successful cleaning performance throughout the life of the bath. So, if a bath lasts 200 pump hours before showing any signs of wear, they will set the change-out frequency at 150-175 pump hours just to play it safe.