CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1995

DateRun: 08/03/1995

Experimenters: Jay Jankauskas

ClientType: Stamping Company

ProjectNumber: Project #1

Substrates: Copper

PartType: Part

Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil

Cleaning Methods: Ultrasonics

Analytical Methods: Visual, Wipe

Purpose: To clean parts for client visit

Experimental Procedure: We will also be testing the Oakite Inproclean #3800 for Stamping Company due to the success of previous Oakite trials.

Trials #1 and #2 will use the Oakite Inproclean #3800 in a stirbar agitated beaker and the Crest ultrasonic unit respectively. Trials #3 and #4 will use the Sky Products cleaner #10 in a stirbar agitated beaker and the Crest ultrasonic unit respectively.
All cleaners and cleaning methods will use the same times and temperatures. Cleaning will take place for 15 minutes at 120 F. Rinsing will be done in a tank of tap water set at 120 F for two minutes. During rinsing the tubes will be agitated quite a bit to make sure they fill up with water. The parts will then be dried under air knives for one minute and then in a convection oven set at 170 F for thirty minutes. For all cleanings and rinsing the tubes will be positioned that the hole side is facing up at a 25-degree angle. If needed the tubes will be agitated enough so that they completely fill up with cleaner or water.
After cleaning the parts will be allowed to cool down and visually inspected for any residual oil. The parts will then be packed away for when Stamping Company arrives on Tuesday.

Results: CLEANING CONDITIONS:

Temperature

	time (min)	trial #1	trial #2	trial #3	trial #4
Stirbar agitation	15	123		121	
Ultrasonics	15		133		129
RINSE/TAP H_2O	2	116	121	120	119
DRY air knives	2	room	room	room	room
DRY convection oven	15	160	170	165	172

Parts look very clean on the outside, the ultrasonics more than the agitated immersion. A swab test was done on three tubes of each trial. The Oakite #3800 in the ultrasonics looked fantastic. The Sky Products #10 in the ultrasonic looked very good followed by the Oakite in the agitated bath. The Sky Products #10 in the agitated immersion looked unacceptable.

Summary:

Substrates:	Copper				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	10	0.00	☐	
Sky Products Company Inc	Cleaner #10	10	0.00	☐	

Conclusion: After the parts had cooled down, spots had started to form on the parts, on Monday, a deionized rinse will be used to try to solve this problem.