CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1995

DateRun: 06/05/1995

Experimenters: Donald Garlotta

ClientType: Electrical Manufacturer

ProjectNumber: Project #1

Substrates: Brass

PartType: Part

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

Cleaning Methods: Low Pressure Spray

Analytical Methods: Goniometry

Purpose: Information update on cleaning and evaluation

Experimental Procedure:

Results: It was a pleasure to help Electrical Manufacturer in trying to solve their cleaning problems; trying to help them find alternative cleaners to the more environmentally - unfriendly organic solvents. Enclosed is the data that was obtained from the cleaning trials that were run on your parts. On March 21, 1995, two (2) cleaning trials on the brass conical connectors were performed, and this data is presented on the attached data sheets, along with any comments and observations. On May 17, 1995, contact angle goniometry tests were run on three (3) sets of parts, each subject to different levels of cleaning. A summary of the data of those parts subject to contact angle goniometry is as follows:

Bag A: Dirty Parts (Oily and surface grime)
Number of readings: 41
Average contact angle: 68.6585 degrees
Standard Deviation: 10.3726 degrees

Bag B: Clean Parts subjected to a standard cleaning
Number of readings: 42
Average contact angle: 80.381 degrees
Standard Deviation: 6.528 degrees

Bag C: Clean Parts, Bright-dipped; acid or alkaline cleaning after a normal cleaning
Number of readings: 42
Average contact angle: 77.2143 degrees
Standard Deviation: 11.0852 degrees

For all intents and purposes, two (2) angle readings were taken for each part that was evaluated. Three (3) microliters of deionized water were used in the contact angle goniometer measurements. In theory, the cleaner the surface of a part, the lower the contact angle should be. The results obtained indicate just the opposite of what should be expected. The parts from bag A should exhibit the highest contact angles, but instead they exhibit the lowest contact angles. It is hard to explain these results, other than the fact that the "dirty" parts appear cleaner than the two sets of cleaned parts.

Should you desire to further explore alternatives to your current cleaning processes and chemistries, please don't hesitate to contact the Surface Cleaning Laboratory.

Summary:

Substrates:	Brass				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Fingerprints, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
T & D Finishing Company	TD 110	4		☐	
Valtech Corporation	Valtron SP 2275	5		☐	

Conclusion: