CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 10/18/2006

Experimenters: Jason Marshall

ClientType: Metal Finishing

ProjectNumber: Project #1

Substrates: Brass, Carbon Steel

PartType: Part

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To identify best way to rinse parts after cleaning with aqueous product in ultrasonic cleaning.

Experimental Procedure: Two products were selected from the lab's database of testing results. Products were selected based on contaminant removal and substrate compatibility. Both products were diluted to 5% using DI water and heated to 130 F by immersing beakers into a Branson 3510 ultrasonic tank filled with water. Solutions were de-gassed for 5 minutes.

Parts were placed into a basket and immersed into each solution and cleaned using 40 kHz ultrasonic energy for 5 minutes. After cleaning, a set of parts were removed from the cleaning and were not rinsed. These parts were dried using compressed air at room temperature for 30 seconds. Observations were made following drying. A second set of parts were rinsed in a single tap water bath at 130 F for 20 seconds, followed by the air drying and analysis. A final set were rinsed in three tap water baths, each at 20 seconds and 130 F. Drying and analysis were the same as before.

Results: One of the two cleaners cleaned better and did not cause oxidation after sitting at room temperature following drying. Observations are listed in the table below.

Cleaner	Part Description	Rinse Method	Observations
Detergent 8	Brass and Steel lighter	No rinse	Residue, parts not clean
		1 rinse	Less residue than 0 rinse
		3 rinse	Free of residue; may have some oxidation occurring
Polyspray Jet	Steel Eagles	No rinse	No visible residue
		1 rinse	Clean and no residue
	Brass and Steel lighter	3 rinse	Looked clean, no residue, no oxidation

Summary:

Substrates:	Brass, Carbon Steel				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Alconox Inc	Detergent 8	5	0.00	☐	
US Polychem Corporation	Polyspray Jet 790 XS	5	0.00	☑	

Conclusion: The multi-stage rinsing with Polyspray Jet 790 XS looked to clean the best and leave the least residue behind.