CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 10/15/2006

Experimenters: Jason Marshall

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Brass

PartType: Part

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To evaluate selected product for cleaning supplied parts using ultrasonic energy

Experimental Procedure: One product was selected based on the results of the previous testing. The product was diluted to 5 and 10% solutions by volume in 600 ml beakers using DI water. Both dilutions were first heated to 130 F while being immersed in a water bath. The solutions were degassed for at least 5 minutes using a Branson 3510 ultrasonic unit operating at 40 kHz. Two part types were cleaned in each solution at the 130 F temperature, rinsed in tap water at 120 for 15 seconds and dried using dry compressed air at room temperature for 30 seconds. Observations were made on the level of cleanliness.

The same to dilutions were then heated to 150 F in the water bath. Three part types were cleaned following the above-described method.

Results: The table below lists the observations made for the various parts that were cleaned at 130 and 150 F in the 40 kHz ultrasonic tank.

Conc.	Temp	Part	Observation
5	130	Rifles	Not all clean. Buffing compound in small holes
10	130	Rifles	Cleaner than the 5% but still had problem with holes
5	130	Bracket	Almost completely cleaned after 5 minutes
10	130	Bracket	Completely cleaned after 4 minutes
5	150	Rifles	Not all clean. Buffing compound in small holes
10	150	Rifles	Completely cleaned
5	150	Bracket	Completely cleaned after 3.5 minutes
10	150	Bracket	Completely cleaned after 2 minutes
5	150	Buckle	Back had a white appearance
10	150	Buckle	Back had a white appearance

Summary:

Substrates:	Brass
Contaminants:	Buffing/Polishing Compounds

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
US Polychem Corporation	Polyspray Jet 790 XS	5	0.00	☐	
US Polychem Corporation	Polyspray Jet 790 XS	10	0.00	☐	
US Polychem Corporation	Polyspray Jet 790 XS	5	0.00	☐	
US Polychem Corporation	Polyspray Jet 790 XS	10	0.00	☑	

Conclusion: The 10% solution of Polyspray Jet 790 XS at the 150 F was the only combination that was successful in cleaning the three part types supplied for cleaning.