CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 09/05/2006

Experimenters: Jason Marshall

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Brass

PartType: Coupon

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate the three successful products on the third supplied buffing compound using immersion cleaning.

Experimental Procedure: Three products from the previous trial were selected for testing. Each product was diluted to 5% in 250 ml beakers using DI water and heated to 130 F on a hot plate.

Nine preweighed coupons were coated with the plumb buffing compound that was heated to melting so that a handheld swab could be used to spread the compound onto the coupons. Coupons were weighed a second time to determine the amount of buffing compound added. Three coupons were cleaned in each solution for five minutes using minimal stir bar agitation. Coupons were rinsed for 15 seconds in a tap water bath at 120 F and dried using a dry compressed air for 30 seconds. Once dry coupons were weighed a final time and product efficiencies were calculated.

Results: The three products removed over 70% of the buffing compound within 5 minutes. Detergent 8 removed over 98% and Polyspray Jet 790 XS removed over 85%. The Matchless MC 132 removed over 90% with an additional minute of cleaning. The following table lists the amount of buffing compound applied, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
MC 132	0.2915	0.0996	65.83
	0.3842	0.1449	62.29
	0.0590	0.0044	92.54
Polyspray Jet 790 XS	0.0697	0.0128	81.64
	0.1125	0.0172	84.71
	0.0474	0.0032	93.25
Detergent 8	0.2483	0.0014	99.44
	0.1411	0.0036	97.45

Summary:

Substrates:	Brass				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Matchless Metal Polish Company	MC 132	5	73.55	☑	90.75 +1 min
US Polychem Corporation	Polyspray Jet 790 XS	5	86.53	☑	
Alconox Inc	Detergent 8	5	98.19	☑	

Conclusion: Three products were found to work on the supplied buffing compounds. Cleaning with ultrasonics will increase the effectiveness of the products especially when dealing with intricate parts. With the products successful on the buffing compounds, the next steps will be to evaluate these cleaners on supplied parts at or after workshop.