CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 08/16/2006

Experimenters: Jason Marshall

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Copper

PartType: Coupon

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: To reevaluate selected products using ultrasonics and higher temperatures.

Experimental Procedure: Three products from the previous trial were diluted to 5% in 250 ml beakers using DI water and heated to 130 F in a Branson 3510 ultrasonic tank and degassed for 5 minutes.

Nine preweighed coupons were coated with the red buffing compound using a hand held swab after heating to its melting point with a heat gun. 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 40 kHz ultrasonic 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: Two of the three products removed over 90% of the buffing compound within five minutes of cleaning at 150 F with ultrasonic energy. The table below lists the amount of buffing compound added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Daraclean 283	0.8928	0.1450	83.76
	0.6233	0.0646	89.64
	0.7572	0.0131	98.27
Polyspray Jet 790 XS	0.3948	0.0023	99.42
	0.5594	0.0002	99.96
	1.2716	0.3426	73.06
XL 100	0.8591	0.1165	86.44
	0.8020	0.1768	77.96
	0.8656	0.1842	78.72

Summary:

Substrates:	Copper				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Magnaflux	Daraclean 283	5	90.55	☑	
US Polychem Corporation	Polyspray Jet 790 XS	5	90.81	☑	
Buckeye International	XL 100 Cleaner & Degreaser	5	81.04	☐	

Conclusion: The elevated temperature and ultrasonic energy improved the effectiveness of both the Daraclean 283 and the Polyspray Jet 790 XS. These products will be tested on the supplied oil.