CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 08/23/2006

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 selected products for buffing compound removal from brass to replace TCE

Experimental Procedure: Six alternative products were selected from the lab's database of testing results based on supplied client information. Products were selected based on buffing compound and oil removal potential and compatibility with copper and brass metal substrates. Each product was diluted to 5% in 250 ml beakers using DI water and heated to 130 F on a hot plate.

Eighteen preweighed coupons were coated with the white buffing compound using a handheld 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 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: Four products removed over 70% of the buffing compound from the brass coupons after five minutes of immersion 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
XL 100	0.2107	0.0758	64.02
	0.1084	0.0189	82.56
	0.2070	0.0728	64.83
SC 1000	0.1418	0.0645	54.51
	0.1805	0.1121	37.89
	0.1476	0.0940	36.31
MC 132	0.1965	0.0484	75.37
	0.2903	0.0685	76.40
	0.1923	0.0386	79.93
Daraclean 283	0.2106	0.1664	20.99
	0.2942	0.2547	13.43
	0.2814	0.2700	4.05
Inproclean 3800	0.1617	0.0236	85.41
	0.1727	0.0233	86.51
	0.2242	0.0486	78.32
Polyspray Jet 790 XS	0.1295	0.0046	96.45
	0.2764	0.0133	95.19
	0.3045	0.0246	91.92

Summary:

Substrates:	Brass				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	XL 100 Cleaner & Degreaser	5	70.47	☑	
Gemtek Products	SC 1000 Aqueous Cleaner Concentrate	5	42.91	☐	
Matchless Metal Polish Company	MC 132	5	77.23	☑	
Magnaflux	Daraclean 283	5	12.82		

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Oakite Products	Inproclean 3800	5	83.41	☑	
US Polychem Corporation	Polyspray Jet 790 XS	5	94.52	☑	

Conclusion: The four successful products will be used on the next supplied buffing compound.