CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 09/20/2005

Experimenters: Jason Marshall

ClientType: Metal Finishing

ProjectNumber: Project #1

Substrates: Brass

PartType: Coupon

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate effective aqueous products on third buffing compound.

Experimental Procedure: Three products were selected from the lab's previous test results based on performance. Each product was used at 5% diluted with DI water and heated to 130 F on a hot plate. A 600 ml beaker was filled with each product and placed on a stir plate.

Nine preweighed 260 Brass coupons were coated with the Buffing - Jacksonlea ET-31A (1317-95-9) buffing compound. The compound was applied by heating the coupons and the buffing compound with a Master Appliance Heat Gun. The hot buffing compound was rubbed across the surface. Coupons were allowed to cool to room temperature and weighed a second time to determine the amount of contaminant applied. Three coupons were cleaned in each product for 5 minutes using stir-bar agitation. After cleaning, the parts were rinsed for 15 seconds in 120 F tap water bath and then dried for 30 seconds using dry, compressed air at room temperature. Once dry, final weights were recorded and efficiencies were calculated for each product.

Results: One product removed over 90% of the third buffing compound. The other two only removed around half of the contaminant. The lower efficiencies were recorded on coupons that had large clumps of the buffing compound. When the buffing compounds were applied in a thin layer, efficiencies were much higher.

Cleaner	Initial wt	Final wt	% Removed
Fomula 815 GD	0.1602	0.0711	55.62
	0.2267	0.1133	50.02
	0.0615	0.0221	64.07
MC 132	0.1551	0.0096	93.81
	0.1240	0.0287	76.85
	0.1432	0.0006	99.58
Texolite 1740 XL	0.1643	0.1188	27.69
	0.1172	0.0647	44.80
	0.0271	0.0041	84.87

The drop-in solvents worked better than the aqueous cleaners. The table below lists the efficiencies for the drop-in solvents from the previous tests.

Product	Efficiency
Ensolv	94.66
CCA	91.74
MCA	81.60
Lenium ES	98.33
Solvon IP	79.47
Solvon PB	71.18

Summary:

Substrates:	Brass				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Brulin Corporation	Formula 815 GD	5	56.57	☐	
Matchless Metal Polish Company	MC 132	5	90.08	☑	
Texo Corporation	Texolite 1734 XL	5	52.45	☐	

Conclusion:

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The next step of testing will be to evaluate the aqueous products using ultrasonic energy and to compare results to current aqueous cleaning product. Additional testing would be to clean client supplied parts.