CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 08/03/2005

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 selected products for buffing compound removal.

Experimental Procedure: Nine products were selected from the lab's database of test results based on supplied information from the client. Each product was used at full strength at room temperature. A 250 ml beaker was filled with each product and placed on a stir plate.

Twenty-seven preweighed 260 Brass coupons were coated with the Mocha 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 allowed to air dry for 10 minutes at room temperature. Once dry, final weights were recorded and efficiencies were calculated for each product.

Results: Several of the products were found to remove over 60% of the buffing compound while cleaning at room temperature. A couple of products removed about half of the buffing compound and a couple more removed about a third. Only two products had little success removing the buffing compound. The table below lists the amount of buffing compound applied, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
AK 225	0.1535	0.0854	44.36
	0.1898	0.1431	24.60
	0.2192	0.1247	43.11
Ensolv	0.2621	0.1601	38.92
	0.1724	0.1033	40.08
	0.2993	0.1187	60.34
CCA	0.2908	0.0666	77.10
	0.2646	0.0879	66.78
	0.2099	0.1300	38.07
MCA	0.2015	0.1084	46.20
	0.2607	0.1737	33.37
	0.2321	0.1606	30.81
Lenium CP	0.2009	0.1650	17.87
	0.3606	0.3219	10.73
	0.2959	0.2606	11.93
Lenium ES	0.3102	0.0800	74.21
	0.3855	0.1383	64.12
	0.1317	0.0601	54.37
Solvon IP	0.1674	0.0757	54.78
	0.3607	0.1225	66.04
	0.2899	0.0873	69.89
Solvon PB	0.2702	0.0563	79.16
	0.1220	0.0829	32.05
	0.0919	0.0580	36.89
HFE 7100	0.1499	0.1360	9.27
	0.0798	0.0862	-8.02
	0.1928	0.2286	-18.57

Summary:

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Substrates:	Brass
Contaminants:	Buffing/Polishing Compounds

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
AGA Chemical	AK 225	100	37.36	☑	
Enviro Tech International Inc	Ensolv	100	46.45	☑	
DuPont	Vertrel CCA	100	60.65	☑	
DuPont	Vertrel MCA	100	36.79	☑	
Petroferm Inc	Lenium CP (no longer available)	100	13.51	☐	
Petroferm Inc	Lenium ES	100	64.23	☑	
Poly Systems USA Inc	Solvon Kreussler IP	100	63.57	☑	
Poly Systems USA Inc	Solvon Kreussler PB	100	49.37	☑	
3M	HFE 7100	100	-5.77	☐	

Conclusion: Seven of the nine product will be used on the second supplied buffing compound under the same conditions.