CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2007

DateRun: 01/28/2007

Experimenters: Jason Marshall

ClientType: Jewelry Mfr

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Coupon

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate selected products for buffing compound removal.

Experimental Procedure: Eight products were selected from the lab's database, www.cleanersolutions.org, based on past testing effectiveness and compatibility with substrates and equipment. Each product was diluted to 5% using DI water in 600 ml beakers. Each solution was heated to 130 F on a hot plate.

Twenty-four preweighed coupons were coated with Jackonslea Grey Color 305 A (1344-28-1) by heating the buffing compound to facilitate transfer to the stainless steel coupons. Once cooled, coupons were weighed again to determine the amount of buffing compound applied. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation. Coupons were rinsed for 15 seconds in 120 F tap water and dried using compressed air at room temperature for 30 seconds. Coupons were weighed a third time to determine the amount of soil remaining and efficiencies were calculated for each coupon cleaned.

Results: One product removed over 85% of the buffing compound, while two others removed over 60%. The remaining five products were ineffective. The table lists the amount of buffing compound applied, the amount remaining after cleaning and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Detergent 8	0.9292	0.0783	91.57
	1.6028	0.1919	88.03
	0.5659	0.1031	81.78
Aquavantage 1400	0.6621	0.4283	35.31
	0.7262	0.3950	45.61
	1.4141	1.0237	27.61
Daraclean 282	2.3762	2.1793	8.29
	1.2552	1.0451	16.74
	1.1316	0.9164	19.02
MC 580	1.5959	0.4462	72.04
	1.0749	0.3701	65.57
	1.3125	0.6624	49.53
Inproclean 3800	1.4757	1.0490	28.92
	1.5726	1.1722	25.46
	1.6410	0.8603	47.57
Simple Green D	1.7128	1.6800	1.91
	1.9191	1.7418	9.24
	1.8235	1.7951	1.56
Polyspray Jet 790 XS	2.4825	0.8410	66.12
	2.2844	0.3599	84.25
	1.5807	0.3858	75.59
Micro 90	2.0014	1.7702	11.55
	1.7589	1.5263	13.22
	1.7386	1.5315	11.91

Summary:

Substrates:	Stainless Steel
Contaminants:	Buffing/Polishing Compounds

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Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Alconox Inc	Detergent 8	5	87.13	☑	
Brulin Corporation	Aquavantage 1400	5	36.18	☐	
Magnaflux	Daraclean 282	5	14.68	☐	
Matchless Metal Polish Company	MC 580	5	62.38	☑	
Oakite Products	Inproclean 3800	5	33.98	☐	
Simple Green	Simple Green D	5	4.24	☐	
US Polychem Corporation	Polyspray Jet 790 XS	5	75.32	☑	
International Products Corporation	Micro 90 Conc.	5	12.23	☐	

Conclusion: The three products, Detergent 8, MC 530 and Polyspray Jet 790 XS, will be used again with the addition of ultrasonic cleaning.