

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 10/21/2004

Experimenters: Jason Marshall

ClientType: General

ProjectNumber: Project #1

Substrates: Brass, Copper, Steel

PartType: Coupon

Contaminants: Oxides

Cleaning Methods: Manual Wipe

Analytical Methods: Light Meter

Purpose: To evaluate alternative metal polishes

Experimental Procedure: Two biobased alternatives were selected to compare to the current metal polishing product. Three metal types were used. Light meter readings were taken for nine tarnished coupons of brass, copper and steel. Three coupons were placed into the BYK Gardner Abrasion tester. Each coupon was sprayed five times with one product and allowed to sit for 2 minutes. A cotton rag was placed into the cleaning sled and soaked with the same product. The abrasion tester was run for 30 cycles (50 seconds). At the end of the polishing cycle, a second set of light meter readings was taken for each coupon. Coupons with higher light meter readings will be considered to be polished.

Results: Only one product, Soy Cream, was shown to improve the light meter readings on all three surfaces. The other two improved readings on the brass only. The table lists the light meter readings for each coupon before and after application of the products.

Product	Initial Reading	Final Reading	Difference	Average
Brass Flush It	5.21	6.49	1.28	0.82
	5.13	5.83	0.70	
	5.28	5.77	0.49	
Brass Quick Shine	5.15	5.93	0.78	0.73
	4.81	5.43	0.62	
	4.75	5.53	0.78	
Brass Soy Cream	4.56	6.09	1.53	0.78
	6.29	6.52	0.23	
	5.86	6.44	0.58	
Copper Flush It	5.27	5.16	-0.11	-0.14
	5.64	5.64	0.00	
	5.81	5.49	-0.32	
Copper Quick Shine	5.82	5.43	-0.39	-0.31
	5.65	6.13	0.48	
	5.51	4.49	-1.02	
Copper Soy Cream	5.08	4.86	-0.22	0.28
	6.06	6.14	0.08	
	4.92	5.91	0.99	
Zinc Flush It	5.51	4.59	-0.92	-1.16
	5.93	4.04	-1.89	
	4.84	4.16	-0.68	

## CLEANING LABORATORY EVALUATION SUMMARY

Zinc Quick Shine	4.34	3.83	-0.51	-0.62
	5.06	4.57	-0.49	
	4.91	4.04	-0.87	
Zinc Soy Cream	4.98	6.17	1.19	1.21
	4.72	6.31	1.59	
	5.46	6.3	0.84	

Summary:

<b>Substrates:</b>		Brass, Copper, Steel			
<b>Contaminants:</b>		Oxides			
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Mishua Industries Inc	Royal Flush It	100		<input checked="" type="checkbox"/>	Effective on Brass only
1st Envirosafety Inc. - No Longer Exists	Quick Shine Wash & Polish - For Comparison Purposes Only	7		<input checked="" type="checkbox"/>	Effective on Brass only
Bi-O-Kleen Industries	Soy Cream Cleaner	100		<input checked="" type="checkbox"/>	Effective on all three

Conclusion:

Both alternatives performed as well as or better than the current polish product.