

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 09/05/2006

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 successful cleaners on second supplied buffing compound using immersion cleaning

Experimental Procedure: Four products from the previous trial and two more products from the lab's database of testing results were selected for testing. Products were picked based on buffing compound and compatibility with 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 red buffing compound that was heated to melting so that a handheld swab could be used to spread the compound onto the coupons. 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: Only one product, Detergent 8, removed over 70% of the red buffing compound using immersion cleaning. All of the other products removed under 35%. 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
MC 132	0.5879	0.4225	28.13
	0.3628	0.3183	12.27
	0.4664	0.3273	29.82
Polyspray Jet 790 XS	0.4193	0.3582	14.57
	0.3493	0.2877	17.64
	0.2147	0.1709	20.40
Daraclean 283	0.3050	0.2392	21.57
	0.3068	0.2545	17.05
	0.7183	0.6629	7.71
Gillite 0650 CI	0.8201	0.3093	62.29
	0.3430	0.2662	22.39
	0.5508	0.4572	16.99
Detergent 8	0.2666	0.0451	83.08
	0.4128	0.1148	72.19
	0.6847	0.2401	64.93
Beyond 2003	0.3229	0.2901	10.16
	0.6991	0.6882	1.56
	0.3170	0.2827	10.82

Summary:

<b>Substrates:</b>	Brass				
<b>Contaminants:</b>	Buffing/Polishing Compounds				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Matchless Metal Polish Company	MC 132	5	23.41	<input type="checkbox"/>	
US Polychem Corporation	Polyspray Jet 790 XS	5	17.54	<input type="checkbox"/>	
Magnaflux	Daraclean 283	5	15.44	<input type="checkbox"/>	
Man Gill Chemical Company	Gillite 0650 CI	5	33.89	<input type="checkbox"/>	

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Alconox Inc	Detergent 8	5	73.40	<input checked="" type="checkbox"/>	
Today & Beyond	Beyond 2003	5	7.51	<input type="checkbox"/>	

Conclusion:

The one effective product and the four from the previous trial will be retested using ultrasonic cleaning in attempt to improve the effectiveness of the products.