CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 12/20/2023

Experimenters: Amelia Wagner

ClientType: Brass Instrument Manufacturer

ProjectNumber: Project #2

Substrates: Brass

PartType: Coupon

Contaminants: Greases, Lubricating/Lapping Oils, Oil

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: To evaluate the effectiveness of aqueous and non aqueous cleaners in removing a variety of oil and grease soils from brass.

Experimental Procedure: Eighteenr brass coupons, three per soil per cleaner, were weighed to record their initial weights. The coupons were then soiled with their respective soils; LMKT lapping compound, Honing oil, and slide gel lubricant. About 0.5 grams of each soil was spread on the bottom third of each coupon with a swab. The dirty weights of the coupons were then recorded. The coupons were then subjected to 15 minutes of heated ultrasonics at 140 F in their respective cleaners. Once cleaned, the coupons were left the air dry over night. The next day, the final weights of the coupons were recorded.

Results:

Cleaner	soil	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Surface Cleanse 930 10%	LMKT Lapping Compound	0.0173	0.0148	14.45	-25.43	-154.90
		0.0160	0.0367	-129.38		
		0.0189	0.0116	38.62		
	Honing Oil	0.0103	0.0135	-31.07	-345.12	
		0.0053	0.0346	-552.83		
		0.0068	0.0375	-451.47		
	Slide Gel	0.0188	0.0282	-50.00	-44.91	
		0.0312	0.0508	-62.82		
		0.0210	0.0256	-21.90		
Shopmaster LPH 10%	LMKT Lapping Compound	0.0093	0.0374	-302.15	-204.12	-84.62
		0.0074	0.0258	-248.65		
		0.0216	0.0349	-61.57		
	Honing Oil	0.0335	0.0212	36.72	50.58	
		0.0557	0.0252	54.76		
		0.0506	0.0201	60.28		
	Slide Gel	0.0155	0.0349	-125.16	-100.32	
		0.0278	0.0455	-63.67		
		0.0206	0.0437	-112.14		

It is important to note that the cleaners did not evaporate off the coupons over night. The clean weights thus include the weight of the cleaner.

Summary:

Conclusion: It would be worthwhile to test these cleaners again with the addition of a post cleaning drying step to get more accurate data.