CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 01/30/2020

Experimenters: Othon Pagounes, Tatyanna Moreland Junior

ClientType: Capacitor Manufacturer

ProjectNumber: Project #3

Substrates: Aluminum, Ceramics

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate the effectiveness of solvent and aqueous based cleaners on the removal of oil by heated immersion on aluminum and ceramic coupons.

Experimental Procedure: A set of 18 pre-weighed coupons, nine per substrate, were contaminated with either Canola Oil, Expoxidized Soybean Oil, or SAS-60E. Coupons were immersed into the cleaning solution heated to 140̊ F for one minute and then transferred into a deionized water bath also heated to 140̊ F for an additional minute. Afterwards, the coupons were dried with a heat gun, before final weights were recorded.

Results:

Cleaner	Substate	Soils	Initial wt of cont.	Final wt of cont.	%Cont Removed	% Average
Aquaease PL 732	Aluminum	Canola Oil	0.5061	0.4038	20.21	33.59
			0.4555	0.2607	42.77	
			0.4926	0.3065	37.78	
		Expoxidized Soybean Oil	0.5270	0.4751	9.85	5.62
			0.5124	0.5048	1.48	
			0.5071	0.4790	5.54	
		SAS-60E	0.4485	0.0074	98.35	96.51
			0.5310	0.0075	98.59	
			0.4756	0.0353	92.58	
	Ceramic	Canola Oil	0.4335	0.0195	95.50	95.97
			0.4304	0.0202	95.31	
			0.4505	0.0130	97.11	
		Expoxidized Soybean Oil	0.5057	0.1011	80.01	76.95
			0.5182	0.0737	85.78	
			0.4957	0.1732	65.06	
		SAS-60E	0.4611	0.0301	93.47	88.22
			0.4337	0.0706	83.72	
			0.4965	0.0622	87.47	

Summary Table

Contaminant	Substrate	Efficiency %	Effective
Canola Oil	Aluminum	33.59	No
	Ceramic	95.97	Yes
Expoxidized Soybean Oil	Aluminum	5.62	No
	Ceramic	76.95	No
SAS-60E	Aluminum	96.51	Yes
	Ceramic	88.21	Yes

Summary:

Substrates:	Aluminum, Ceramics				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Hubbard Hall Inc	Aquaease PL 732	10%	0.00	☑	

Conclusion: Aquaease PL 732 was effective on ceramic for canola oil and SAS-60E, and it was effective on aluminum with SAS-60E.