CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009

DateRun: 11/03/2009

Experimenters: Junhee Cho, Johnny Le

ClientType: Ceramic Coating Company

ProjectNumber: Project #2

Substrates: Aluminum

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate top five products on seventh supplied contaminant using manual cleaning

Experimental Procedure: Five products from the previous trials were selected based on performance. All were used at room temperature. Two alkaline aqueous cleaners were diluted to 5% using DI water in 300 ml beakers. Three cleaners were used at full strength. Fifteen preweighed aluminum coupons were coated with Texaca Rando HD22-88 oil using a handheld swab. The contaminated coupons were weighed again to determine the amount of soil added.

Each cleaner tested with three coupons. Three coupons were placed into a Gardner Straight Line Washability unit. A Kimberly Clark Reinforced paper towel was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 3 times with the same cleaning solution. First, Coupon was cleaned for 15 cycles two times; after coupon was cleaned for 15 cycles, experimenter changed the paper towel and soaked with 5 spray of same cleaning solution. At the end of the cleaning, coupons were dried at room temperature naturally. Final weights were recorded and efficiencies were calculated and recorded.

Results: All five worked well on the oil, removing more than 85%. The table lists the amount of oil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Shopmater RC 100%			
	0.0509	0.0095	81.34
	0.0307	0.0021	93.16
	0.0373	0.0024	93.57
SC Aircraft metal cleaner 5%			
	0.0255	0.0092	63.92
	0.0276	0.0013	95.29
	0.0126	0.0008	93.65
Solsafe 245 100%			
	0.1292	0.0047	96.36
	0.0506	0.0065	87.15
	0.0438	0.0021	95.21
Detergent 8 5%			
	0.0403	0.0050	87.59
	0.0539	0.0027	94.99
	0.0217	0.0021	90.32
Activeion			
	0.0537	0.0060	88.83
	0.0559	0.0039	93.02
	0.0322	0.0064	80.12

Summary:

Substrates:	Aluminum				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	Shopmaster RC	100	89.35	☑	
Gemtek Products		5	84.29		

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	SC Aircraft & Metal Cleaner Super Concentrate			☑	
Bio Chem Systems	Solsafe 245	100	92.91	☑	
Alconox Inc	Detergent 8	5	90.97	☑	
Activeion Cleaning Solutions LLC	Activeion Pro	100	87.32	☑	

Conclusion: Based on past performance on the previous contaminants, all five products will be tested on the next supplied contaminant under the same conditions.