CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009

DateRun: 10/27/2009

Experimenters: Junhee Cho, Scott Nadolna, 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 third 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 Mobile DTE 25 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 products removed more than 90% of the oil from the aluminum coupons using simulated manual cleaning. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Buckerye_Shopmater RC 100%			
	0.1004	0.0128	87.25
	0.2172	0.0142	93.46
	0.2324	0.0156	93.29
Gemtek_SC Aircrafe metal cleaner 5%			
	0.2534	0.0128	94.95
	0.2249	0.0114	94.93
	0.2654	0.0067	97.48
Biochem_Solsafe 245 100%			
	0.2059	0.0139	93.25
	0.2127	0.0135	93.65
	0.2246	0.0093	95.86
Alconox_Detergent 8 5%			
	0.1148	0.0091	92.07
	0.2454	0.0083	96.62
	0.2292	0.0103	95.51
Activion			
	0.2715	0.0175	93.55
	0.2483	0.0103	95.85
	0.2557	0.0183	92.84

Summary:

Substrates:	Aluminum				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	Shopmaster RC	100	91.33	☑	

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Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	95.79	☑	
Bio Chem Systems	Solsafe 245	100	94.25	☑	
Alconox Inc	Detergent 8	5	94.73	☑	
Activeion Cleaning Solutions LLC	Activeion Pro	100	94.08	☑	

Conclusion: The same five products will be tested on the fourth supplied soil under the same conditions.