CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009

DateRun: 11/02/2009

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 fourth 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: Four of the products removed more than 90% of the oil from the aluminum coupons using simulated manual cleaning. The fifth removed less than 80%. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Shopmater RC 100%			
	0.0428	0.0129	69.86
	0.0439	0.0085	80.64
	0.0346	0.0091	73.70
SC Aircraft metal cleaner 5%			
	0.0178	0.0010	94.38
	0.0165	0.0026	84.24
	0.0199	0.0008	95.98
Solsafe 245 100%			
	0.0302	0.0021	93.05
	0.0295	0.0022	92.54
	0.0211	0.0014	93.36
Detergent 8 5%			
	0.0151	0.0016	89.40
	0.0148	0.0009	93.92
	0.0179	0.0015	91.62
Activion			
	0.0421	0.0022	94.77
	0.0290	0.0008	97.24
	0.0341	0.0019	94.43

Summary:

Substrates:	Aluminum				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	Shopmaster RC	100	74.73	☐	

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Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	91.53	☑	
Bio Chem Systems	Solsafe 245	100	92.98	☑	
Alconox Inc	Detergent 8	5	91.65	☑	
Activeion Cleaning Solutions LLC	Activeion Pro	100	95.48	☑	

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