

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009  
 DateRun: 10/28/2009  
 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 products from previous trial on second supplied contaminant.

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 24 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 85% 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
Shopmaster RC 100%			
	0.0603	0.0035	94.2
	0.0573	0.0094	83.6
	0.046	0.0067	85.43
SC Aircraft metal cleaner 5%			
	0.0308	0.0021	93.18
	0.0317	0.0017	94.64
	0.0295	0.0023	92.2
Solsafe 245 100%			
	0.0604	0.0023	96.19
	0.0343	0.0017	95.04
	0.0253	0.0000	100.00
Detergent 8 5%			
	0.0331	0.0014	95.77
	0.0277	0.0015	94.58
	0.0259	0.0015	94.21
Activeion			
	0.0433	0.0018	95.84
	0.0378	0.0034	91.01
	0.0315	0.0026	91.75

Summary:

<b>Substrates:</b>	Aluminum				
<b>Contaminants:</b>	Oil				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Buckeye International	Shopmaster RC	100	87.74	<input checked="" type="checkbox"/>	

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Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	93.34	<input checked="" type="checkbox"/>	
Bio Chem Systems	Solsafe 245	100	97.08	<input checked="" type="checkbox"/>	
Alconox Inc	Detergent 8	5	94.85	<input checked="" type="checkbox"/>	
Activeion Cleaning Solutions LLC	Activeion Pro	100	92.86	<input checked="" type="checkbox"/>	

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