CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2015

DateRun: 12/16/2015

Experimenters: Luis Raudales

ClientType: Cleaner Manufacturer

ProjectNumber: Project #3

Substrates: Aluminum, Ceramics, Fiberglass

PartType: Coupon

Contaminants: Greases

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate supplied products for grease removal from various surfaces found on a boat.

Experimental Procedure: The two cleaning products were used at the requested dilutions at room temperature during the test. Nine pre-weighed coupons per cleaner (three Ceramic, three Fiber-glasses and three Aluminum) were coated with one gram of lithium grease (Super White, multi-purpose Lithium grease by CRC Industries Inc.) at room temperature using a hand-held swab. The contaminated coupons were weighed again to determine the amount of soil added.

The three coupons of each substrate were placed in the SLW equipment, and a KC Wypal reinforced paper towel was attached to the cleaning sled and soaked with two sprays of cleaning solution. Each coupon was sprayed twice with the same cleaning solution. The cleaning unit was run for 30 cycles (45 sec). At the end of the cleaning cycle, the coupons were wiped once with a dry paper towel. Coupons dried overnight and final weights were recorded the next day. Efficiencies were calculated and recorded. Two additional rounds of cleaning, 30 cycles each, were conducted until the coupons were free of lithium grease.

Cleaners evaluated: (1) Booyah Cleaner-Degresaser 2X (50%); (2) Grignard Direct Power Blue (1.5%)

Results:

Cleaner	Soil added	% removed for after each run			Ave % Removal	Overall Ave
Substrates	(grams)	45 sec	90 sec	135 sec		substrate
Booyah Cleaner 2X						
Ceramic						
	1.04	53.48	89.11	96.68		
	1.01	23.86	78.02	95.69	96.37	
	0.97	58.60	89.38	96.75		
Aluminum						
	0.98	64.45	92.68	98.84		
	1.04	32.03	79.66	98.48	98.68	98.24
	1.06	57.54	87.34	98.72		
Fiberglass						
	1.03	66.62	95.05	99.42		
	0.97	17.26	75.99	99.82	99.67	
	1.02	69.81	88.55	99.78		
Grignard DPB						
Ceramic						
	1.04	59.94	93.99	96.45		
	0.98	34.34	55.35	98.52	97.74	
	1.07	58.57	95.93	98.25		
Aluminum						
	1.04	58.10	74.37	98.77		
	1.1	18.50	47.18	75.19	80.43	88.30
	1.05	40.28	60.84	67.32		
Fiberglass						
	1.02	62.78	77.69	90.48		
	1.02	17.67	55.22	82.97	86.73	

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	1.05	51.45	73.20	86.73		

Summary:

Substrates:	Aluminum, Ceramics, Fiberglass				
Contaminants:	Greases				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Wechem Inc.	Booyah Cleaner Degresaser 2X	50	98.24	☑	
Grignard	Grignard Direct Power Blue	1.5	88.30	☑	

Conclusion:

At the end of the third cycle (135 sec), the WeChem Booyah 2X was capable to remove up to 98.24% of the lithium grease. The other cleaner, Grignard DPB, removed up to 88.30%.