CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2011
DateRun:	06/02/2011
Experimenters:	Jason Marshall, Junhee Cho, Johnny Le
ClientType:	General
ProjectNumber:	Project #1
Substrates:	Ceramics, Fiberglass, Chrome
PartType:	Coupon
Contaminants:	Films, Soaps
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate three supplied products for bathroom cleaning as part of three part experiment to evaluate product at one concentration for multiple cleaning tasks.
Experimental Procedure:	The selected cleaning products were used at the recommended concentration (2.4%). Pre-weighed chrome, ceramic and fiberglass, coupons were coated with SSL Soil 2 (Bathroom soap scum: All-in-one shampoo and conditioner, Dry skin lotion, Liquid hand soap, Liquid body wash, Deodorant bar soap and water) using a hand held swab and allowed to dry for 24 hours at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. Three coupons were placed into a Gardner Straight Line Washability unit. A Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 7-10 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~33 seconds). In this test, coupon was not rinsing and wiped after cleaning process to represent the realistic cleaning performance. Final weights were recorded and efficiencies were calculated and recorded.
Results:	One of the selected product (MD Stetson 101) removed over 90% of the bathroom soap scum soil from the surfaces using manual cleaning. The other products removed 83% of the bathroom soap scum. Visually, all bathroom sumps were removed clearly, but some of the cleaner residue were remained on coupons. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
MD Stetson 220 chrome			
	0.0472	0.0016	96.61
	0.0488	0.0014	97.13
	0.1050	0.0012	98.86
MD Stetson 220 Ceramic			
	0.0888	0.0224	74.77
	0.0541	0.0008	98.52
	0.0411	0.0159	61.31
MD Stetson 220 Fiberglass			
	0.1938	0.0478	75.34
	0.1610	0.0470	70.81
	0.1992	0.0433	78.26
DFE 401 chrome			
	0.0515	0.0059	88.54
	0.0494	0.0043	91.30
	0.1169	0.0017	98.55
DFE 401 Ceramic			
	0.1388	0.0359	74.14
	0.1087	0.0278	74.43
	0.1518	0.0241	84.12
DFE 401 Fiberglass			
	0.2166	0.0456	78.95
	0.1825	0.0391	78.58
	0.1670	0.0437	73.83
MD Stetson 101			
	0.0606	0.0056	90.76
	0.0506	0.0040	92.09

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	0.1238	0.0044	96.45
MD Stetson 101 Ceramic			
	0.1245	0.0002	99.84
	0.0868	0.0001	99.88
	0.0582	0.0003	99.48
MD Stetson 101 Fiberglass			
	0.1904	0.0235	87.66
	0.0822	0.0291	64.60
	0.1645	0.0237	85.59

Summary:

Substrates:	Ceramics, Fiberglass, Chrome
Contaminants:	Films, Soaps

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Next-Gen Supply Group	PC 101 Neutral and Glass Cleaner	2.4	90.71	☑	
Next-Gen Supply Group	PC 220 Peroxide Multipurpose Cleaner	2.4	83.51	☐	
Rochester Midland Corporation	DFE 401	2.4	82.49	☑	

Conclusion:

The MD Stetson PC 101 Neutral & Glass Cleaner had an overall average efficiency over 90% and performed better than the both the comparative products. This product also was the most effective on the all purpose soil. Next phase will be to evaluate products on glass cleaning at the same concentration.