CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2011
DateRun:	06/01/2011
Experimenters:	Jason Marshall, Junhee Cho, Johnny Le
ClientType:	General
ProjectNumber:	Project #1
Substrates:	Glass/Quartz, Chrome
PartType:	Coupon
Contaminants:	Films, Soaps
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate three supplied products for glass cleaning as part of three part experiment to evaluate product
Experimental Procedure:	Supplied products were used at the recommended dilution (2.4%). Pre-weighed mirror, glass, and chrome plated aluminum coupons were coated with SSL Soil 2 (Glass soap scum: Water, hair gel, toothpaste, shaving cream, hair spray and spray deodorant) 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 5 cycles (~10 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel. Final weights were recorded and efficiencies recorded.
Results:	All three products were effective for glass cleaning, removing more than 85%. The DFE 401 indicated low cleaning effectiveness on mirror surface than other cleaners. 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 PC 220 mirror			
	0.0229	0.0024	89.52
	0.0162	0.0018	88.89
	0.0205	0.0019	90.73
MD Stetson PC 220 glass			
	0.0216	0.0020	90.74
	0.0372	0.0024	93.55
	0.0388	0.0024	93.81
MD Stetson PC 220 chrome			
	0.0220	0.0018	91.82
	0.0350	0.0014	96.00
	0.0365	0.0028	92.33
DFE 401 mirror			
	0.0092	0.0017	81.52
	0.0074	0.0018	75.68
	0.0115	0.0027	76.52
DFE 401 glass			
	0.0112	0.0022	80.36
	0.0271	0.0017	93.73
	0.0199	0.0020	89.95
DFE 401 chrome			
	0.0253	0.0022	91.30
	0.0335	0.0019	94.33
	0.0143	0.0020	86.01
MD Stetson PC 101 mirror			
	0.0561	0.0012	97.86
	0.0719	0.0006	99.17
	0.0141	0.0001	99.29
MD Stetson PC 101 glass			
	0.0317	0.0023	92.74

CLEANING LABORATORY EVALUATION SUMMARY

	0.0619	0.0027	95.64
	0.0483	0.0032	93.37
MD Stetson PC 101 chrome			
	0.0804	0.0026	96.77
	0.0692	0.0022	96.82
	0.0349	0.0042	87.97

Summary:

Substrates:	Glass/Quartz, Chrome
Contaminants:	Films, Soaps

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Next-Gen Supply Group	PC 101 Neutral and Glass Cleaner	2.4	95.51	☑	
Next-Gen Supply Group	PC 220 Peroxide Multipurpose Cleaner	2.4	91.93	☑	
Rochester Midland Corporation	DFE 401	2.4	85.49	☑	

Conclusion:

All of the supplied products removed over 85% of the soil. The PC 101 had the highest removal efficiency and was the only product to be effective on all three soils for the three cleaning tasks.