CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2010
DateRun:	03/15/2010
Experimenters:	Jason Marshall, Junhee Cho, Scott Nadolna
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Glass/Quartz
PartType:	Coupon
Contaminants:	Films, Soaps
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric, Visual
Purpose:	To evaluate supplied products for glass cleaning using manual cleaning
Experimental Procedure:	Preweighed chrome and three glass coupons were coated with SSL Soil 2 (Glass soap scum: Water 51.5%, Hair gel 25.6%, Toothpaste 10.4%, Shaving cream 5.3%, Hair spray 3.7% and Spray deodorant 3.5%) using a handheld 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 supplied products removed over 98% of the glass soap scum using manual cleaning. One product had filming and spotting levels below the acceptable level from Green Seal. The other two products had better results than the conventional product for filming and streaking. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
PC 101 glass	0.0512	-0.0010	101.95
	0.0457	0.0009	98.03
	0.0395	0.0005	98.73
PC 101 mirror	0.0678	0.0011	98.38
	0.0527	0.0008	98.48
	0.0601	0.0030	95.01
PC 120 glass	0.0415	0.0001	99.76
	0.0345	-0.0005	101.45
	0.0299	0.0005	98.33
PC 120 mirror	0.0683	0.0012	98.24
	0.0403	0.0009	97.77
	0.0436	0.0003	99.31
PC 220 glass	0.0188	-0.0001	100.53
	0.0205	0.0004	98.05
	0.0270	0.0007	97.41
PC 220 mirror	0.0327	0.0003	99.08
	0.0339	0.0004	98.82
	0.0356	0.0011	96.91
Vision glass	0.0417	0.0002	99.52
	0.0335	0.0001	99.70
	0.0291	0.0008	97.25
Vision mirror	0.0511	0.0007	98.63

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	0.0333	0.0004	98.80
	0.0383	0.0012	96.89

Visual

Cleaner	Film 1	Film 2	Film ave	Spot 1	Spot 2	Spot Ave
PC 101 glass	3	3	4.8	2	2	3.5
	5	4		5	4	
	6	5		5	5	
PC 101 mirror	7	4		3	4	
	6	5		4	3	
	5	5		3	2	
PC 120 glass	2	2	3.5	4	3	3.2
	3	2		4	3	
	2	3		2	3	
PC 120 mirror	4	3		4	3	
	6	5		3	2	
	6	4		4	3	
PC 220 glass	2	1	2.6	1	1	2.3
	1	1		1	1	
	1	2		1	2	
PC 220 mirror	4	3		3	3	
	6	4		4	2	
	3	3		5	4	
Vision glass	6	3	5.3	2	2	3.6
	5	4		2	2	
	6	5		4	3	
Vision mirror	6	5		4	4	
	6	6		4	3	
	7	5		7	6	

Summary:

Substrates:	Glass/Quartz				
Contaminants:	Films, Soaps				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Next-Gen Supply Group	PC 101 Neutral and Glass Cleaner	0.5	98.43	☑	
Next-Gen Supply Group	PC 120 Peroxide Mulitsurface Cleaner	1.6	99.14	☑	
Next-Gen Supply Group	PC 220 Peroxide Multipurpose Cleaner	0.39	98.47	☑	
Next-Gen Supply Group	Vision Glass Cleaner	100	98.47	☑	

Conclusion:

The three products had an overall average removal efficiency greater than 85% and as well as the conventional cleaning product. Only one product PC 200 had acceptable filming and streaking levels. However, all three supplied products had better results than the conventional product.