

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2012  
 DateRun: 03/26/2012  
 Experimenters: Jason Marshall, Johnny Le  
 ClientType: Cleaner Manufacturer  
 ProjectNumber: Project #1  
 Substrates: Glass/Quartz, Chrome  
 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:** The supplied product was diluted with room temperature water to the requested dilution (2.3%). 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. Visual observations were made on the coupons for spotting and filming following the general guidelines set forth in the CSPA DCC 09A. Filming is best recognized as "haziness" or overall "miliness", while streaking is best identified as dried droplets or "spotting", usually found strung together into thin white lines. Each coupon was evaluated separately for filming and streaking, (i.e., product residues without added soil), according to a scale of "1" to "7" where:

Filming Streaking  
 7 = high filming 7 = high streaking poor (performance)  
 1 = no visible filming 1 = no visible streaking (excellent performance)

**Results:** The supplied product removed more than 90% of the glass soap scum using manual cleaning. The product had filming and spotting levels above the acceptable level. The product had better result 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	Filming	Streaking	Ave F	Ave S
Horizon glass	0.0050	0.0001	102.00	1	1	1.5	1.3
	0.0105	0.0002	98.10	1	1		
	0.0142	0.0005	96.48	1	1		
Horizon chrome	0.0127	0.0020	84.25				
	0.0213	0.0010	95.31				
	0.0224	0.0025	88.84				
Horizon mirror	0.0237	0.0016	93.25	2	1		
	0.0176	0.0026	85.23	2	1		
	0.0124	0.0008	93.55	2	3		
Windex glass	0.0327	0.0070	78.59	3	1	3	2.2
	0.0262	0.0035	86.64	3	1		
	0.0139	0.0028	79.86	3	4		
Windex chrome							

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	0.0238	0.0034	85.71				
	0.0165	0.0016	90.30				
	0.0253	0.0006	97.63				
Windex mirror							
	0.0227	0.0022	90.31	3	3		
	0.0148	0.0001	99.32	3	1		
	0.0163	0.0014	91.41	3	3		

Summary:

<b>Substrates:</b>	Glass/Quartz, Chrome					
<b>Contaminants:</b>	Films, Soaps					
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>	
SC Johnson & Son Inc	Windex Glass & More Cleaner (Spray)	100	88.86	<input checked="" type="checkbox"/>		

Conclusion:

The supplied product had an overall average removal efficiency greater than 85% and performed better than the conventional cleaning product. The product had acceptable filming and streaking levels.