

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2015

DateRun: 08/29/2015

Experimenters: George Liang, Luis Raudales

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: White Board

PartType: Coupon

Contaminants: Inks

Cleaning Methods: Manual Wipe

Analytical Methods: Gloss-Color Meter

Purpose: To evaluate supplied equipment for white board cleaning as compared to conventional products.

Experimental Procedure: A black dry erase marker was used to color in three sections of the white board with 4 by 18.5 inches rectangles. The surface of the white board was not aged but used immediately after soiling.

Each marked region was wiped once with a single pass using a dry bounty paper towel. An intermediate, light contrast and color reading were done on the surface to assess if there was any change from its initial dirty. Then the cleaning product was applied to the contaminated surface with 4 sprays across the whole surface. Thereafter the wet surface was wiped using a fresh bounty paper towel from left to right and in reverse until the whole board is visually clean with most to no black dry eraser mark left on the white board. A second application of cleaner was delivered only if the surface becomes dry during the wipe. Light contrast and color observations were made on the white board to determine how effective the cleaning product was after manual wiping. The procedure was repeated for a total of three sections of the white board. A recorded number of wipes from left to right and in reverse was counted for with the time it took to finish the whole cleaning process.

Chemistries Evaluated: Newell Rubbermaid; Quartet Whiteboard; G and O Cleaner

Results:

Cleaner	Initial L	Intermediate L	Final L	Intermediate % Change L	Final % Change L	Intermediate % Avg. Change L	Final % Average Change L
Newell Rubbermaid	-32.81	-16.66	-3.6	49.22	89.03		
	-30.22	-21.67	-3.33	28.29	88.98		
	-31.55	-22.22	-2.47	29.57	92.17	35.7	90.06
Quartet Whiteboard	-24.19	-26.93	-2.66	-11.33	89		
	-23.63	-27.08	-3.01	-14.6	87.26		
	-28.37	-27.86	-3.44	1.8	87.87	-8.04	88.05
G and O Cleaner	-34.8	-31.09	-1.97	10.66	94.34		
	-33.17	-27.13	-3.09	18.21	90.68		
	-30.08	-27.23	-4.7	9.47	84.38	12.78	89.8
Cleaner	Initial a	Intermediate a	Final a	Intermediate % Change a	Final % Change a	Intermediate % Avg. Change a	Final % Average Change a
Newell Rubbermaid	1.71	1.36	0.38	20.47	77.78		
	1.94	1.38	0.28	28.87	85.57		
	2.08	1.52	0.27	26.92	87.02	25.42	83.45
Quartet Whiteboard	2.27	1.89	0.17	16.74	92.51		
	2.11	1.78	0.11	15.64	94.79		

## CLEANING LABORATORY EVALUATION SUMMARY

	1.88	1.87	0.26	0.53	86.17	10.97	91.16
G and O Cleaner	2.23	1.83	0.16	17.94	92.83		
	2.1	1.74	0.21	17.14	90		
	2.02	1.32	0.33	34.65	83.66	23.24	88.83
Cleaner	Initial b	Intermediate b	Final b	Intermediate % Change b	Final % Change b	Intermediate % Avg. Change b	Final % Average Change b
Newell Rubbermaid	2.21	2.33	0.38	-5.43	82.81		
	2.75	1.75	0.47	36.36	82.91		
	3.2	1.96	0.15	38.75	95.31	23.23	87.01
Quartet Whiteboard	3.36	3.14	0.33	6.55	90.18		
	3.32	2.95	0.46	11.14	86.14		
	2.43	2.19	0.27	9.88	88.89	9.19	88.4
G and O Cleaner	3.5	3.58	0.35	-2.29	90		
	3.2	-2.54	0.21	179.38	93.44		
	3.03	-2.51	0.34	182.84	88.78	119.98	90.74

### Summary

Cleaner	Trial 1	Trial 2	Trial 3	Average
Newell Rubbermaid	9 wipes	11 wipes	7 wipes	9 Wipes
	23.28 seconds	20.36 seconds	11.59 seconds	18.41 seconds
Quartet Whiteboard	7 wipes	4 wipes	4 wipes	5 wipes
	13.04 seconds	10.28 seconds	7.35 seconds	10.22 seconds
G and O Cleaner	5 wipes	4 wipes	4 wipes	4.33 wipes
	11.49 seconds	7.64 seconds	6.37 seconds	8.5 seconds

### Summary:

<b>Substrates:</b>	White Board					
<b>Contaminants:</b>	Inks					
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>	
Newell Rubbermaid	Expo White Board Cleaner	100		<input checked="" type="checkbox"/>	Effective at removing the ink from the white board.	
J. Penner Corporation/GBC Group.	Quartet Board Gear Marker Board Cleaner	100		<input checked="" type="checkbox"/>	Effective at removing the ink from the white board.	
G and O Cleaner	G and O Cleaner	100		<input checked="" type="checkbox"/>	Effective at removing the ink from the white board.	

### Conclusion:

The average difference in light contrast (L) and color was through consistent after the wiping process with the cleaning agent. This shows that the end results are consistently stopped at the same time for each cleaning agent. Overall, the most effective cleaning agent would be G and O Cleaner and then Quartet Whiteboard. Both cleaners had the least number of wipes required to remove most to none of the black dry erase marker from the surface. It took around 5 wipes whereas the whiteboard cleaned with Newell Rubbermaid had an average of 9 wipes.