CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2010
DateRun:	09/19/2010
Experimenters:	Jason Marshall, Junhee Cho, Timothy Weil
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Stainless Steel, Wood
PartType:	Coupon
Contaminants:	Inks, Paints
Cleaning Methods:	Manual Wipe
Analytical Methods:	Visual
Purpose:	To evaluate selected products effectiveness to remove selected soils from selected substrates.
Experimental Procedure:	Three products (GPS 1, GPS 2 & GPS 3) that were provided by the client were evaluated for their effectiveness to remove soil from Painted Steel, Wood and Polyurethane coated wood substrates. Using materials provided by the client and in combination with a conventional product chosen by the client to determine the effectiveness of the clients' products to remove soil compared to a conventional product. For this evaluation a total of 18 Stainless Steel and 18 Wood coupons and 18 wood coupons coated with polyurethane were weighed and coated with the appropriate soil. Nine Stainless Steel, nine wood and nine polyurethane coated wood coupons were contaminated with Bowman Industrial Finish and nine Stainless Steel, nine wood and nine polyurethane coated wood coupons were contaminated with Daye Black Ink. After allowing time to dry, coupons were weighed a second time to determine the amount of soil added. Each set of three coupons were cleaned using abrasion testing using the following application and testing procedure. First the cleaning solution was applied to the coupon and the cleaning pad and allowed to set for 1 minute (60 seconds) followed by 20 cycles of abrasive cleaning. One minute setting (dwell) time was used while a new cleaning pad was placed in the machine and run for five cycles to simulate removal of the cleaning agent from the surface. Final weights were recorded and efficiencies were calculated.
Results:	Few products were very successful using abrasion to remove the soils utilizing client provided cleaning products. The nature of the products led to changes in the weights of the coupons, so a visual ranking was utilized to evaluate the ability of the cleaners provided to achieve a clean surface. Additional testing is recommended to provide more substantial quantitative data for the cleaners. The table lists the perceived ability of the cleaner as observed individually by different members of the SCL Laboratory and as a composite for both substrates.

			Cleaner Ranking			Wood
		Product	Team Member 1	Team Member 2	Team Member 3	Ave
Wood uncoated Ink	1	GPS1 (100%)	2	1	1	1.3
	2	GPS2 (100%)	1	2	2	1.7
	3	GPS3 (100%)	2	3	3	2.7
Wood coated Ink	1	GPS1 (100%)	1	1	1	1
	2	GPS2 (100%)	2	2	2	2
	3	GPS3 (100%)	3	3	2	2.7
Wood uncoated Spray Paint	1	GPS1 (100%)	3	1	2	2
	2	GPS2 (100%)	1	3	1	1.7
	3	GPS3 (100%)	2	2	2	2
Wood coated Spray paint	1	GPS1 (100%)	1	1	1	1
	2		2	2	2	2

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		GPS2 (100%)				
	3	GPS3 (100%)	3	3	2	2.7

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Cleaner	Initial wt	Final wt	% Removed	Average	Rank
Segeit_GPS1_Stainless coupon_Ink					
	0.3451	0.1288	62.68		2
	0.3636	0.148	59.30		
	0.215	0.1341	37.63	53.20	
Segeit_GPS2_Stainless coupon_Ink					
	0.3432	0.0057	98.34		1
	0.3661	0.0088	97.60		
	0.2084	0.0141	93.23	96.39	
Segeit_GPS3_Stainless coupon_Ink					
	0.3582	0.1629	54.52		3
	0.2212	0.1372	37.97		
	0.3272	0.2347	28.27	40.26	
Segeit_GPS1_Stainless coupon_Spray Paint					1
	0.0745	0.0231	68.99		
	0.0602	0.0217	63.95		
	0.0697	0.0377	45.91	59.62	
Segeit_GPS2_Stainless coupon_Spray Paint					2
	0.0729	0.0234	67.90		
	0.0724	0.0254	64.92		
	0.0678	0.0415	38.79	57.20	
Segeit_GPS3_Stainless coupon_Spray Paint					3
	0.0787	0.069	12.33		
	0.0648	0.0395	39.04		
	0.0686	0.0459	33.09	28.15	

Summary:

Substrates:	Stainless Steel, Wood				
Contaminants:	Inks, Paints				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Segetis	Segetis GPS 1	100	0.00	☑	Rank 1.47
Segetis	Segetis GPS 2	100	0.00	☑	Rank 1.58
Segetis	Segetis GPS 3	100	0.00	☐	Rank 2.83

Conclusion:

GPS 1 and GPS 2 both had a composite score of 1.5 when substrates were measured together while GPS 3 showed a clear inability to meet the same measure of efficiency. The cleaners, GPS 1 & 2 show very similar abilities between the substrates and deserve more attention in testing over a broader range of substrates.