CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 07/21/2023

Experimenters: Alexander Symko, Amelia Wagner, Siddhant Trivedi

ClientType:

ProjectNumber: Project #6

Substrates: Aluminum, Glass/Quartz, Plastic, Stainless Steel

PartType: Coupon

Contaminants: Adhesive

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: Efficacy testing of Case Medical cleaner against M.D. Stetson EPS at removing Duct tape adhesive from aluminum, plastic, glass, and stainless steel.

Experimental Procedure: Twelve coupons per cleaner, three of each substrate (aluminum, plastic, glass, stainless steel), had initial weights recorded before soiling. Each coupon then had a piece of duct tape placed on them. Each coupon with duct tape was then heated with the heat gun for 1 minute each in order to adhere the adhesive to the coupon while also detaching the adhesive from the duct tape itself. After drying, dirty weights were recorded. Three coupons of the same substrate were placed onto the Gardner-scrub Abrasion Tester machine (SLW). Wypall cleaning cloths were attached to the cleaning block used for the test. Each Wypall cloth and all coupons received two sprays of the cleaner, and the Gardner-scrub Abrasion Tester was run for 20 cycles (Equivalent to 30 seconds of cleaning). After air drying for 24 hours, final weights were taken.

Results:

Cleaner	Soil	Substrate	Initial wt	Dirty wt	Clean wt.	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Case Medical Ink Remover 100%	Duct Tape Adhesive	Aluminum	45.6494	45.7442	45.7442	0.0948	0.0948	0.00	0.00	0.16
			43.7472	43.866	43.866	0.1188	0.1188	0.00		
			45.6099	45.7521	45.7521	0.1422	0.1422	0.00		
		Glass	19.8342	19.9316	19.9314	0.0974	0.0972	0.21	0.64	
			19.9028	20.0252	20.0252	0.1224	0.1224	0.00		
			19.5438	19.6541	19.6522	0.1103	0.1084	1.72		
		Plastic	18.0107	18.1065	18.1065	0.0958	0.0958	0.00	0.00	
			17.9907	18.1503	18.1503	0.1596	0.1596	0.00		
			18.0489	18.1512	18.1512	0.1023	0.1023	0.00		
		Stainless Steel	61.3025	61.4522	61.4522	0.1497	0.1497	0.00	0.00	
			61.2852	61.4648	61.4648	0.1796	0.1796	0.00		
			61.5048	61.6692	61.6692	0.1644	0.1644	0.00		
MD Stetson EPS 1:10		Aluminum	35.7129	35.8138	35.8138	0.1009	0.1009	0.00	0.00	0.53
			39.7086	39.8679	39.8679	0.1593	0.1593	0.00		
			47.3473	47.5118	47.5118	0.1645	0.1645	0.00		
		Glass	19.9464	20.0999	20.0999	0.1535	0.1535	0.00	1.03	
			19.7847	19.9295	19.9295	0.1448	0.1448	0.00		
			19.9274	19.9989	19.9967	0.0715	0.0693	3.08		
		Plastic	18.0488	18.1461	18.1461	0.0973	0.0973	0.00	0.00	
			18.0401	18.1503	18.1503	0.1102	0.1102	0.00		
			19.0197	18.092	18.092	-0.9277	-0.9277	0.00		
		Stainless Steel	61.2635	61.3737	61.3737	0.1102	0.1102	0.00	0.02	
			61.4094	61.5559	61.5558	0.1465	0.1464	0.07		
			61.2219	61.3749	61.3749	0.1530	0.1530	0.00		

Summary:

Conclusion: Neither the Case Medical Ink remover or the comparative product MD Stetson EPS are effective in removing duct tape adhesive from any coupons.