

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 36

DateRun: 12/05/2024

Experimenters: Alexander Symko

ClientType: Manufacturing

ProjectNumber: Project #1

Substrates: Laminate

PartType: Coupon

Contaminants: Adhesive

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric, Tactile

Purpose: Evaluate HSP mixture options for removing both the Jowat hot-melt adhesive and wilsonart adhesive from laminate coupons

Experimental Procedure: Two sets of 9 coupons were weighed and soiled with the Jowat Hot-melt adhesive and wilsonart banding adhesive and then weighed again. The coupons were then scrubbed for 30 seconds with a rag that had been soaked in one of the three solvent mixtures. The first being a mixture (by weight) of Acetone (34%) and Ethyl Acetate (66%), the second being anisole (21%) and 1,3-dioxolane (79%), and the last being acetone (20%) and anisole (80%). After being wiped, the coupons were allowed to air dry overnight and weighed a final time to evaluate how much of the soil was removed.

Cleaner	Adhesive	Coupon #	Initial	Dirty	Clean	%Cont. Removed	Average % Removal
1	Jowat Hot-Melt Adhesive	1	4.135	4.5492	4.4950	13.09	66.75
		2	4.7450	4.7887	4.7382	115.56	
		3	4.7172	4.7623	4.7300	71.62	
		4	4.6853	4.7348	4.6922	86.06	86.07
		5	4.8106	7.8404	4.8139	99.89	
		6	4.5663	4.6117	4.5789	72.25	
		7	4.6290	4.6712	4.6267	105.45	135.73
		8	4.8045	4.8485	4.7847	145.00	
		9	4.6141	4.6423	4.5981	156.74	
2	Wilsonart 3000	10	4.3508	4.3841	4.3458	115.02	115.36
		11	4.9470	4.9759	4.9449	107.27	
		12	4.7400	4.7652	4.7340	123.81	
		13	5.0428	5.0749	5.0432	98.75	67.69
		14	4.9769	5.0441	5.0035	60.42	
		15	4.8471	4.9020	4.8779	43.90	
		16	4.1546	4.1920	4.1586	89.30	76.44
		17	4.5026	4.5514	4.5153	73.98	
		18	4.4584	4.5014	4.4730	66.05	

Summary:

Conclusion: The results of this test were less than promising, the range of percent removal was incredibly broad, with 7 of the 18 trial coupons reporting removal percentages significantly over 100%. This could be due to a variety of factors, it could be due to the solvent mixtures attacking the substrate, inaccuracies in analytical equipment, or some other confounding variable. A re-test is necessary.