CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 07/09/2008

Experimenters: Jason Marshall, Heidi Wilcox, Shweta Bansal

ClientType: Chemical Company

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Resins/Rosins

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate different cleaning parameters for resin cleaning

Experimental Procedure: The top six products from the previous trials were selected based on successful removal of the resin were used at full strength in 300 ml glass beakers. Solutions were used at room temperature. Twenty-four preweighed aluminum coupons were coated with the Mereco ECN 809 Base Black resin using a swab. Coupons were weighed a second time to determine the amount of soil added. Three coupons were immersed into each product and cleaned for 60 minutes using no agitation. The coupons were rinsed with tap water for 15 seconds at 68 F and were allowed to air dry for one hour at room temperature. Final weights were recorded, and efficiencies were calculated. Coupons also were visually analyzed to determine the level of residue left on the coupons.

Results: All of the products removed more than 98% of the resin from the aluminum coupons. The Green Solutions floor stripper removed over 100% which could signify that the product was damaging the aluminum coupons. No visual damage was noted however. The table lists the amount of soil added, the amount remaining after cleaning and the calculated efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed	Visual Residue Rank
EZ Solv	2.5759	0.0242	99.06	1 best
	1.8430	0.0307	98.33	
	1.9669	0.0336	98.29	
Maxi Solv	1.8140	0.0118	99.35	5
	1.7501	0.0373	97.87	
	1.4985	0.0352	97.65	
Graffiti Remover SAC	1.8031	0.0137	99.24	2
	2.0562	0.0125	99.39	
	1.6080	0.0105	99.35	
Green Solutions	3.1035	-0.1226	103.95	6
	2.2383	-0.1207	105.39	
	1.4439	-0.1328	109.2	
Bio T Max	3.4519	0.0074	99.79	3
	3.4223	0.0297	99.13	
	3.0610	0.0080	99.74	
Smart Solve 605	2.3706	0.0396	98.33	4
	2.4653	0.0312	98.73	
	3.0237	0.0458	98.49	

Summary:

Substrates:	Aluminum
Contaminants:	Resins/Rosins

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Gemtek Products	SC EZ Solv Safety Solvent	100	98.56	☑	
Gemtek Products	Safe Care (SC) Maxi Solv	100	98.09	☑	
Spartan Chemical Company	Graffiti Remover SAC	100	99.33	☑	

CLEANING LABORATORY EVALUATION SUMMARY

Spartan Chemical Company	Green Solutions Floor Stripper	100	106.18	☐	
Bio Chem Systems	Bio T Max	100	99.55	☑	
United Laboratories International	Smart Solve 605	100	98.52	☑	

Conclusion: All six products will be tested again using no rinse, but air blow off drying.