

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008  
 DateRun: 03/28/2008  
 Experimenters: Jason Marshall, Shweta Bansal  
 ClientType: Machining Company  
 ProjectNumber: Project #1  
 Substrates: Aluminum  
 PartType: Coupon  
 Contaminants: Inks  
 Cleaning Methods: Manual Wipe  
 Analytical Methods: Visual, Timing

Purpose: To evaluate selected products on fourth supplied ink using manual wiping.

Experimental Procedure: The top ten successful products from the previous trial were used at full strength and room temperature. Twenty preweighed coupons were coated with the supplied Sharpie permanent marker (blue). Once dry, a second weight was recorded to determine the amount of ink added to the coupon. As in the last trial, two coupons were used per cleaning alternative. A handheld swab was immersed into the cleaning product and then manual wiped across the coupon for up to one minute. Following the cleaning, the coupons were wiped dry for 5 seconds. Observations were made, final coupon weights recorded, and the average efficiencies were calculated.

Results: Due to the limited weight added by the blue sharpie, gravimetric analysis yielded inconclusive results and therefore, analysis was performed based on visual rankings and length of time needed to clean the coupons. Products were considered successful in they removed the ink in under one minute of cleaning. Six of the ten products required under one minute. The table lists the time needed to clean the ink from the coupons and the rankings for each coupon.

Cleaner	Time (sec)	Visual Rank
Soy Clear 1500	>60	10
Ink Zapper	10	4
Methyl Ester 1618	>60	9
Citrus Soy Solvent Cleaner & Degreaser	>60	8
Graffiti Remover SAC	12	6
BioRenewables Industrial Degreaser	>60	7
EP 921	10	3
BG Solv 717 Ink & Graffiti Cleaner	7	1
Graffiti remover	7	2
Smart Solve 605	25	5

Summary:

<b>Substrates:</b>	Aluminum				
<b>Contaminants:</b>	Inks				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
AG Environmental Products	Soy Clear 1500	100		<input type="checkbox"/>	
Vertec BioSolvents	Ink Zapper	100		<input checked="" type="checkbox"/>	
Twin Rivers Technologies	Methyl Ester 1618	100		<input type="checkbox"/>	
Bi-O-Kleen Industries	Citrus Soy Solvent Cleaner & Degreaser	100		<input type="checkbox"/>	
Spartan Chemical Company	Graffiti Remover SAC	100		<input checked="" type="checkbox"/>	
Spartan Chemical Company	BioRenewables - Restroom Cleaner	100		<input type="checkbox"/>	
Inland Technologies Inc	EP 921	100		<input checked="" type="checkbox"/>	
BioGenesis Enterprises Inc	BG Solv 717 Ink & Graffiti Cleaner	100		<input checked="" type="checkbox"/>	

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Finger Lakes Chemical	Graffiti remover	100		<input checked="" type="checkbox"/>	
United Laboratories International	Smart Solve 605	100		<input checked="" type="checkbox"/>	

Conclusion:

The same set of products will be evaluated on the fifth supplied ink despite the limited success on the Sharpie marker.