

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008
 DateRun: 12/14/2008
 Experimenters: Jason Marshall
 ClientType: Electrical Manufacturer
 ProjectNumber: Project #1
 Substrates: Steel
 PartType: Coupon
 Contaminants: Inks
 Cleaning Methods: Manual Wipe
 Analytical Methods: Gravimetric

Purpose: To identify additional alternatives for ink removal using manual wiping

Experimental Procedure: An additional eleven product were selected from the lab's on-line database, www.cleansolutions.org, based on first trial results. All eleven of the products were used at full strength as recommended by the vendor and at room temperature.

Peweighed steel coupons were coated with the Dykem Black Staining Color ink (123-86-4, 64-17-5, 71-36-3, 9004-70-0, 141-78-6, 109-60-4, 67-63-0, 1333-86-4) contaminant using a handheld swab. The contaminant was allowed to dry for about an hour. Once dry, the coupons were weighed a second time to determine the amount of ink applied.

One coupon was manually cleaned using a soaked Kimberly Clark Wypall X60 reinforced paper towel. Cleaning lasted for one minute. Coupons were briefly wiped dry with a fresh towel. The final coupon weights were measured, and preliminary efficiencies were calculated for each coupon cleaned.

Results: The quick screening of the additional eleven products resulted in six potential alternatives, two of which were found to remove over 90% of the ink in the modified wiping process. The more effective products needed less than the full minute of cleaning time to achieve their results. The table lists the initial weight of the ink, the final weight and the cleaning efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Canola Gold CE 110	0.0246	0.0189	23.17
Soygold 1000	0.0280	0.0234	16.43
Shopmaster RC	0.0183	0.0014	92.35
Bean-e-doo	0.0365	0.0275	24.66
Solsafe 245	0.0415	0.0129	68.92
Harvest Gold 2001	0.0105	0.0095	9.52
SC SoyEster	0.0448	0.0126	71.87
Maxisolv	0.0542	0.0076	85.98
Green Works Glass Cleaner	0.0213	0.0139	34.74
Green Force Ultra	0.0467	0.0173	62.96
Safety Prep HT	0.0520	0.0023	95.58

Summary:

Substrates:	Steel				
Contaminants:	Inks				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
AG Environmental Products	Canola Gold CE110	100	23.17	<input type="checkbox"/>	
AG Environmental Products	Soy Gold 1000	100	16.45	<input type="checkbox"/>	
Buckeye International	Shopmaster RC	100	92.35	<input checked="" type="checkbox"/>	20 seconds
Franmar Chemical	Bean-e-doo (Parts Washer Solvent)	100	24.66	<input type="checkbox"/>	
Bio Chem Systems	Solsafe 245	100	68.92	<input checked="" type="checkbox"/>	
United Laboratories International	United 2002 Harvest Gold	100	9.52	<input type="checkbox"/>	
Gemtek Products	SC Soyester	100	71.57	<input checked="" type="checkbox"/>	
Gemtek Products	Safe Care (SC) Maxi Solv	100	85.98	<input checked="" type="checkbox"/>	20 seconds

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Clorox Company	Green Works Natural Glass Cleaner	100	34.74	<input type="checkbox"/>	
Alex C Ferguson Inc	Green Force Ultra	100	62.96	<input checked="" type="checkbox"/>	
Brulin Corporation	Safety Strip HT	100	95.58	<input checked="" type="checkbox"/>	20 seconds

Conclusion:

The six successful products from this trial and the four from the previous trial will be evaluated next on the supplied grease.