CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2008
DateRun:	09/18/2008
Experimenters:	Jason Marshall
ClientType:	Electronics Manufacturer
ProjectNumber:	Project #1
Substrates:	Ceramics
PartType:	Part
Contaminants:	Carbon Deposits
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Visual
Purpose:	To screen potential alternative cleaning products
Experimental Procedure:	Sixteen products were selected from the lab's on-line database of testing results, www.cleanersolutions.org, based on client supplied information and past testing results. All products were used at room temperature and full strength. A 1 milliliter sample of fourteen of the products was applied onto the surface of the part and allowed to sit for about one minute and then was wiped off to determine if there was any effect on the carbon deposit. Observations were recorded on the effectiveness of the solutions. The last two products utilized media blasting using baking soda and carbon dioxide as the medium. A portion of the ceramic part was cleaned for under 1 minute to determine the potential cleaning of the blasting.
Results:	Five of the liquid products showed some to little signs of removing the oxide layer. The other 10 had no effect. The baking soda blasting was the only process that was effective in removing the contaminant. The table lists the observations made for each of the 16 products.

Manufacturer	Product	Concentration	Observations
Bi-o-kleen	Citrus Soy Solvent Cleaner & Degreaser	100	Possible - residue
Bi-o-kleen	Soy Cream Cleaner Kitchen & Bath	100	Possible
Gemtek	SC Omnibrite	100	Possible
Valtech Corp	Valtron SP 2700 KB	10	No
Alconox	Citranox	3	No
Clorox	Green Works All Purpose Cleaner	100	No
Chem Sciences	Green Power Metal Bright	100	Possible
Chemspec	Phosphoric Acid Cleaner #1	100	Possible
	CO2 Snow	100	No
Brulin	Aquavantage 1400	100	No
United Labs	Smart Solve 605	100	Possible - residue
Cogent	DFC 30 Mold Release	100	Possible
Church & Dwight	Armakleen M Aero NS	100	Possible
International Products Corp	Surface Cleanse 930	100	Possible
	The Natural Citric Acid	100	Possible

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Clean Environment Co	Bathroom Cleaner		
	Baking Soda	100	Yes

Summary:

Substrates:	Ceramics
Contaminants:	Carbon Deposits

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Bi-O-Kleen Industries	Citrus Soy Solvent Cleaner & Degreaser	100	0.00	☑	
Bi-O-Kleen Industries	Soy Cream Cleaner	100	0.00	☑	
Gemtek Products	SC OmniBrite Acid	100	0.00	☑	
Valtech Corporation	Valtron SP 2700 KB	100	0.00	☐	
Alconox Inc	Citranox	100	0.00	☐	
Clorox Company	Green Works Multi-Surface Cleaner	100	0.00	☐	
Green Power	Metal Bright	100	0.00	☑	
Chemspec	Phosphoric Acid Cleaner #1	100	0.00	☑	
Brulin Corporation	Aquavantage 1400	100	0.00	☐	
United Laboratories International	Smart Solve 605	100	0.00	☑	
Cogent Environmental Solutions	DFC 30 Mold Release	100	0.00	☑	
Church & Dwight Co Inc.	Armakleen M Aero	100	0.00	☐	
International Products Corporation	Surface Cleanse Concentrated Neutral 930	100	0.00	☐	
The Clean Environment Co	The Natural - Citric Acid Bathroom Cleaner	100	0.00	☐	
Applied Surface Technologies	CO2 Snowflakes, Medium Flow	100	0.00	☐	
Armex Cleaning and Coating Removal Systems	Sodium Bicarbonate	100	0.00	☑	

Conclusion:

Baking soda blasting was the only option found to have definite cleaning of the carbon deposit from the ceramic parts.