CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002

DateRun: 03/31/2002

Experimenters: Jason Marshall

ClientType: Optical Manufacturer

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Waxes

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: Evaluate effectiveness for three products at increased time and concentrations

Experimental Procedure: The three products that showed improvement in the previous trial were diluted to 10% using DI water in 600 ml beakers. Each solution was heated to 110 F and degassed for 5 minutes in a Crest 40 kHz Ultrasonic unit. Nine preweighed coupons were coated with the beeswax and weighed again. Three coupons were cleaned for 10 minutes followed by a tap water rinse at 120 F for 15 seconds and a heat gun drying at 300 F for 1 minute. Final weights were recorded and efficiencies were calculated.

Results: Increasing the cleaning time and concentrations increased the efficiency for the three products tested. Inproclean and Texolite removed over 95% of the wax in the 10 minutes. The Polyspray product increased from 73% to 80%.

Cleaner	Coupon 1	Coupon 2	Coupon 3	Average	Std Dev
Inproclean	97.74	101.01	98.73	99.16	1.68
Texolite	98.23	98.47	94.07	96.92	2.47
Polyspray	83.29	74.56	83.16	80.33	5.00

Summary:

Substrates:	Aluminum				
Contaminants:	Waxes				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Oakite Products	Inproclean 3800	10	99.16	☑	
Texo Corporation	Texolite 1734 XL	10	96.92	☑	
US Polychem Corporation	Polyspray Jet 790 P	10	80.33	☐	

Conclusion: The effective cleaners will be tested on wax removal from glass coupons using ultrasonic energy. Cleaners to evaluated are: Inproclean 3800, Texolite 1734 XL, Bio T 200 A, Histo Clear and Opti Clear.