CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2001

DateRun: 08/27/2001

Experimenters: Jason Marshall

ClientType: Electronics Manufacturer

ProjectNumber: Project #1

Substrates: Ceramics

PartType: Coupon

Contaminants: Adhesive, Waxes

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: Evaluating additional cleaners for removal of reed wax.

Experimental Procedure: One cleaner was tested based on client request. The solution was used at full strength. Uni-Clear, was heated to 100F in a heated water bath (due to its low flash point of 140 F). Six preweighed coupons were coated with the supplied Stacking wax (3) and the Crystalbond 590 (3). The wax and the 590 were heated with a hot air gun and a moderate layer was added to the coupon. These coupons were then allowed to cool to room temperature and weighed again. Three coupons were immersed in the cleaner. Observations were made at 5, 10, 15, 20, 30 and 45 minutes. After the final observation, the coupons were rinsed in DI water and dried using air blow off. Coupons were then weighed a final time and percent efficiencies were calculated for each cleaner.

Results: Of the two contaminants evaluated, only the wax was removed from the coupons. The wax was removed within 30 minutes, which was very consistent with the reed wax removal of 25 minutes. The Crystalbond 590 should no visual signs of being removed by Uni-Clear. Table 1 lists the calculated efficiencies for the two contaminants cleaned.

Table 1. Cleaning Efficiencies

Uni-Clear	Wax	590	
Coupon 1	100.05	16.99	no change
Coupon 2	100.00	-0.17	no change
Coupon 3	99.98	0.32	no change
Average	100.01	5.71	n/a

Summary:

Substrates:	Ceramics				
Contaminants:	Adhesive, Waxes				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Universal Photonics	Uni Clear	100	100.01	☑	wax
Universal Photonics	Uni Clear	100	5.71	☐	crystalbond 590

Conclusion: Uni-Clear was found to be an excellent cleaner for both the Reed wax and the Stacking. The cleaner was in effective in removing the Crystalbond 590.