CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2001

DateRun: 09/19/2001

Experimenters: Jason Marshall

ClientType: Metal

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Lubricating/Lapping Oils

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: Evaluating previously tested effective products on third supplied contaminant

Experimental Procedure: Three successful cleaners and the two client supplied cleaners were selected from the previous trial. Each product was diluted to 5% with DI water in a 600 ml beaker. Fifteen preweighed steel coupons were coated with a 5:1 dilution of Power Stamp II using plastic eye dropper. The rust preventative was allowed to sit on the coupons for two hours prior to being reweighed. Following the second weighing, three coupons were immersed into each solution and allowed to soak for 3 minutes at 130 F. At the end of the 3 minutes, each coupon was rinsed in a tap water bath at 120 F for 30 seconds and dried with a heat gun at 500 F for 1 minute. After the coupons cooled to room temperature, a final weight was recorded and cleaning efficiencies were calculated.

Lubricant; ITW Fluid Products Power Stamp II (diluted 5:1 with water)

Results: Even though the contaminant was diluted 5:1 with water, the cleaning efficiencies went down for two of the products. Inproclean had the greatest decrease, dropping from 95% in the previous trial to 89% in this trial. Certa Clean also dropped from 92.5% to 92%. Multikleen remained the same at 98%. Dasco Clean increased slightly from 96.5% to 97.5%. Beyond 2001 went up the most, 90% to 96%. The following table lists the calculated efficiencies for each cleaner.

Table 1. Cleaning Efficiencies

Cleaner	Coupon 1	Coupon 2	Coupon 3	Average	Std Dev	Rank
Multikleen	97.25	97.62	98.41	97.76	0.59	1
Dasco	96.68	98.08	97.29	97.35	0.70	2
Inproclean	91.57	86.58	89.83	89.33	2.53	5
Certa Clean	90.57	93.08	92.29	91.98	1.28	4
Beyond	96.58	93.35	98.45	96.13	2.58	3

Summary:

Substrates:	Steel				
Contaminants:	Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Heatbath Corporation	Multi-Kleen 1568	5	97.76	☑	
Oakite Products	Inproclean 3800	5	89.33	☐	
Today & Beyond	Beyond 2001	5	96.13	☑	
DA Stuart Company	Dasco Kleen 3250		97.35	☑	
Houghton International	Cerfa Kleen 5387		91.98	☐	

Conclusion: The dilution of the stamping lubricant caused two cleaners to be less effective, two cleaners to be more effective and one remained the same. This one product, Multikleen 1568 was the most successful product at either dilution, removing just under 98% of the lubricant from the steel coupons.