

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002  
 DateRun: 04/09/2002  
 Experimenters: Jason Marshall, Purav Dave  
 ClientType: Cleaning Equipment Mfr  
 ProjectNumber: Project #2  
 Substrates: Stainless Steel  
 PartType: Coupon  
 Contaminants: Cutting/Tapping Fluids  
 Cleaning Methods: Ultrasonics  
 Analytical Methods:  
 Purpose: 3rd contaminant cleaning

**Experimental Procedure:** Eighteen preweighed coupons were coated with C.A. Wood C-Eblis Cutting Fluid (64742-53-6, 64742-52-5), using a hand held swab. Coupons were reweighed. Nine coupons were clipped to wire racks and immersed into the Flow-Matic machine and cleaned for 1 minutes using ultrasonics at 92 F, removed and rinsed in a tap water spray and re-immersed into the ultrasonics for an additional 1 minute followed by a second 5 second rinse. The nine coupons were then dried using an air knife for 15 seconds. The second set of nine coupons followed the same cleaning cycle except they were hung on a wire stand and immersed into a Crest 40 kHz ultrasonic tank.

**Results:** Comparison of the two processes revealed that the Flow-Matic system was more effective than the traditional ultrasonic equipment. The following table lists the results obtained during the evaluation.

Table 1. Cleaning Efficiencies

Process	Flow-Matic	Traditional
	99.17	99.24
	98.87	98.54
	98.71	99.08
	98.64	99.14
	99.74	99.00
	98.97	97.68
	98.69	98.45
	99.70	98.53
	98.74	97.52
Average	99.03	98.57
Std Dev	0.43	0.63

**Summary:**

<b>Substrates:</b>		Stainless Steel			
<b>Contaminants:</b>		Cutting/Tapping Fluids			
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Water	Water	100	98.57	<input checked="" type="checkbox"/>	Traditional
Water	Water	100	99.03	<input checked="" type="checkbox"/>	Flow-Matic

**Conclusion:** The Flow-Matic system was more effective than the traditional ultrasonic method.