CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008

DateRun: 06/25/2008

Experimenters: Jason Marshall, Shweta Bansal

ClientType: Tool Manufacturer

ProjectNumber: Project #1

Substrates: Steel

PartType: Part

Contaminants: Metal fines

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To evaluate top products on supplied parts coated with metal fines and dust.

Experimental Procedure: The top five products were selected from the previous lab trial. Products were diluted to 5% using DI water in 300 ml glass beakers. Water also was used. Solutions were used at room temperature. The beakers were immersed in a water bath in a Branson 40 kHz ultrasonic tank. Products were degassed for five minutes.

A set of three soiled steel parts (with metal grit/fines) were immersed into each product and cleaned for 5 minutes and another set for 10 minutes using ultrasonic agitation. Following cleaning, coupons were observed for cleanliness.

Results: Daraclean 282 GF cleaned parts at both 5 and 10 minutes were visually the cleanest. At five minutes Polyspray Jet 790 XS was the second best, but after 10 minutes of cleaning, M Aero provided the second most clean parts. Metalnox M6310 was the third most effective cleaner at both 5 and 10 minutes. Water alone was ineffective at cleaning the metal grit from the surface. Parts cleaned with water started to show signs of rusting. The table lists the rankings for each product at both cleaning times.

Product	5 Min Rank	10 Min Rank
Micro 90	4	5
790xs	2	4
282 GF	1	1
M6310	3	3
M Aero	5	2
Water	6	6

Summary:

Substrates:	Steel				
Contaminants:	Metal fines				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
International Products Corporation	Micro 90 Conc.	5	0.00	☐	
US Polychem Corporation	Polyspray Jet 790 XS	5	0.00	☑	
Magnaflux	Daraclean 282 GF	5	0.00	☑	
Kyzen Corporation	Metalnox M6310 (For Comparison Only)	5	0.00	☑	
Church & Dwight Co Inc.	Armakleen M Aero	5	0.00	☑	
Water	Water	100	0.00	☐	

Conclusion: Parts were cleaner after 10 minutes of ultrasonic cleaning. Daraclean 282 GF was the most effective cleaner. Another parts cleaning trial will be conducted using higher concentrations for the cleaning products. Water will not be tested in the next trial. Photos of parts are included below for 5 and 10 minute cleaning at 5%.