CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2001
DateRun:	12/12/2001
Experimenters:	Jason Marshall
ClientType:	Electronics Manufacturer
ProjectNumber:	Project #1
Substrates:	Steel
PartType:	Part
Contaminants:	Mold Releases, Rust/Scale, Oxides, Salts
Cleaning Methods:	Immersion/Soak
Analytical Methods:	Visual
Purpose:	To evaluate additional cleaners for the removal of the chemical vapor deposition
Experimental Procedure:	Five solutions were selected based on meeting the following parameters: System Requirements, high and low pressure spray wash Contaminants: Salts or silicones Four solutions were diluted to 20% with DI water in 1000 ml beakers. The fifth product was used at full strength. All five were heated to 140 F on a hot plate. One part was immersed in each solution and cleaned 20 minutes. Observations were made at 5 minute intervals. At the end of cleaning, the parts were rinsed in a tap water spray for 1 minute at 120 F. Parts were wiped dry and observed visually for cleanliness.
Results:	The Buckeye Shopmaster LpH worked very well on the grey, black contaminant as well as the rust. The product was also moderately effective removing the white powders. The MacDermid ND LF Supreme worked very well on removing the rust but not very well on the white powders. The other three products were not effective on the white powders. The following table lists the observations made at 5 minute intervals.

Table 1. Observations

Cleaner	Observations		
1	0-	some dissolving	fair
	5-	cloudy	fair/okay
	10-	more removal	okay
	15-	very cloudy	okay/good
	20-	wipe off black	okay/good
2	0-	little/no dissolving	poor/fair
	5-	some dissolving	fair
	10-	removing rust film	fair/okay
	15-		okay
	20-	wipe off rust	okay
3	0-	little/no dissolving	poor/fair
	5-	some dissolving	fair
	10-	no change	fair
	15-	no change	fair
	20-	no change	fair
4	0-	little/no dissolving	poor/fair
	5-	teflon coming off	fair
	10-	rust color in solution	fair/okay
	15-	still has white on	fair/okay
	20-		fair/okay
5	0-	little/no dissolving	poor/fair
	5-	little/some dissolving	poor/fair
	10-	little/some dissolving	poor/fair
	15-	no change	poor/fair
	20-	no change	poor/fair

Summary:

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Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Buckeye International	Shopmaster LPH	20		☑	
MacDermid Industrial Products	New Dimensions LF Supreme	20		☑	
Today & Beyond	Beyond 2006	20		☐	
US Polychem Corporation	Polyspray Jet 790 XS	20		☐	
Transene Company, Inc.	D Greeze 500 LO	100		☐	

Conclusion: Due to the design of the parts and the difficult nature of the contamination, ultrasonic cleaning should provide the extra cleaning that the spray cleaning is not achieving. A quick check of the Shopmaster LpH in an ultrasonic cleaner showed improved cleaning effectiveness in less time.