CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2008
DateRun:	03/04/2008
Experimenters:	Jason Marshall
ClientType:	Aluminum Anodizing Job Shop
ProjectNumber:	Project #2
Substrates:	Aluminum
PartType:	Part
Contaminants:	Coatings
Cleaning Methods:	Ultrasonics
Analytical Methods:	Visual
Purpose:	To evaluate two products on supplied parts using ultrasonic cleaning
Experimental Procedure:	The top two products, Shopmaster RC and SC Actisolv, from the previous trials were heated to 130 F in a 40 kHz Branson 2510 ultrasonic unit and degassed for 5 minutes. One supplied dirty part coated with the Stan Chem Inc Red Stop Off (78-93-3, 108-88-3) was immersed in each solution and cleaned at 10-minute intervals until completely cleaned. Observations were made and estimated removal was recorded at each interval. Once clean, parts were rinsed in tap water for 15 seconds at 120 F and dried using compressed at room temperature for 30 seconds.
Results:	Both products showed signs of removing the lacquer from the parts after 10 minutes of cleaning with Shopmaster RC having more success than the SC Actisolv. After 20 minutes, the SC Actisolv completely removed the lacquer but the Shopmaster RC had a small area of lacquer remaining in the outer thread area. The remaining lacquer was removed within 3 more minutes. The SC Actisolv was easier to rinse from the cleaned part than the Shopmaster RC was. The table below lists the observations made for each time interval for the two products.

Ultrasonic Cleaning				
Cleaner		10 min	20 min	23 min
Shopmaster RC	Estimated % clean	85	99	100
	Observations	outer ridges nearly clean	one small spot in threads	none on outside
		little on inside	none on inside	
SC Actisolv	Estimated % clean	80	100	
	Observations	outer ridges nearly clean	none on outside	
		some on inside	none on inside	

Summary:

Substrates:	Aluminum				
Contaminants:	Coatings				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	Shopmaster RC	100	0.00	☑	23 minutes
Gemtek Products	SC Actisolv Safety Solvent	100	0.00	☑	Under 20 minutes

Conclusion: Both products were effective in removing the lacquer in about 20 minutes of ultrasonic cleaning. Cleaned parts will be returned for client inspection. The next experiment will evaluate the same two products using immersion cleaning only at room temperature.