

CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1997							
DateRun:	10/01/1997							
Experimenters:	Jason Marshall, Prashant Trivedi							
ClientType:	Manufacturer of Computer Parts							
ProjectNumber:	Project #1							
Substrates:	Stainless Steel							
PartType:	Part							
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil							
Cleaning Methods:	Immersion/Soak							
Analytical Methods:	Visual							
Purpose:	Find safer cleaning alternatives for oil removal							
Experimental Procedure:	Five aqueous cleaners were selected based on previous laboratory trials. Five percent solution were made for each of the cleaners in beakers using DI water. The solutions were then heated to 130 F on a hot plate. Two parts were submerged into the solutions and stir bar agitation was used. The parts were cleaned for two minutes. At the end of the cleaning cycle, the parts were rinsed in DI water at 130 F in beakers. After rinsing, an infrared heat lamp was used to dry the parts for three minutes. After the parts were dried, they were inspected visually for cleanliness. SUBSTRATE MATERIAL: Stainless steel CONTAMINANTS: Client supplied oil							
Results:	Each of the cleaners left a substantial amount of oil on the parts under these experimental conditions. Despite the incomplete removal of the oil, the cleaners were ranked according to the amount that they did remove. The rankings were based using the following range: excellent > good > okay > fair > poor. Table-1 shows the rankings for the test. Table 1 Cleaner Rankings							
	LPS		FAIR					
	FINE ORGANICS		OKAY					
			OOR					
	From the test, the best two cleaners were selected to be run in the next trial; W.R. Grace Daraclean 282GF and Fine Organics F020805M.							
Summary:	Substrates:	Stair	nless Steel					
	Contaminants:	Cutti	ng/Tapping Fluids, Lub	pricating	J/Lappin	g Oils, Oil		
	Company Name:		Product Name:		Conc.:	Efficiency:	Effective:	Observations:
	LPS Laboratories		Precision Clean Concentrate		5			
	Fine Organic Corporation		FO 2085 M		5		\checkmark	
	Oakite Products		Inproclean 2500		5			
	US Polychem Corporation		Polyspray Jet 790 P		5			
	Magnaflux		Daraclean 282 GF		5		\checkmark	
Conclusion:	After cleaning the pa	rts us	sing only stir bar agitat	tion, two	cleaner	rs were selec	ted to be tes	sted in the next

After cleaning the parts using only stir bar agitation, two cleaners were selected to be tested in the nex step of cleaning. This next phase will employ Ultrasonic cleaning at 40 KHz in place of the stir bar agitation. This will determine if the cleaner(s) can be used to clean the oil from the parts completely.