CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	1995
DateRun:	07/10/1995
Experimenters:	Donald Garlotta, Jay Jankauskas
ClientType:	Adhesive Manufacturer
ProjectNumber:	Project #1
Substrates:	Stainless Steel
PartType:	Part
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Metal fines, Oil
Cleaning Methods:	Ultrasonics
Analytical Methods:	Visual, microscopic
Purpose:	To remove microscopic metal fines
Experimental Procedure:	The purpose of this trial is to find a viable way for Adhesive Manufacturer to remove microscopic metal fines from a variety of stainless steel pump seals. Because of the blind holes in the seals, we feel it is necessary to use Ultrasonics. Part orientation in the bath is the variable which will be looked into closely. WR Grace Daraclean 283 at 10% will be used at 150 F for 15 minutes. The parts will then be rinsed in Tap water and then DI water, both for 5 minutes at 150 F. The parts will then be dried under air knives for two minutes and then in a convection oven for 60 minutes at 140 F. After drying, the parts will be examined under a microscope. Trial #1 will have the part's blind holes facing the side of the tank, perpendicular to the ultrasonic waves. SUBSTRATE MATERIAL:Stainless Steel pump seals CONTAMINANTS:light oils and metal fines
Results:	Trial #1- Visually it looks like very good removal except for a few of the blind holes. Upon inspection with the microscope, very small fines were in most the holes, and a few were on the surface of the part. The screw holes appear free of fines.

Summary:

Substrates:	Stainless Steel				
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Metal fines, Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Magnaflux	Daraclean 283	10	0.00	☑	

Conclusion: Keeping the blind holes facing down dramatically improves the fine removal. If a slight amount of fines is acceptable in the blind holes, spray washing will probably suffice.