

# 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:**

<b>Substrates:</b>		Stainless Steel				
<b>Contaminants:</b>		Cutting/Tapping Fluids, Lubricating/Lapping Oils, Metal fines, Oil				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>	
Magnaflux	Daraclean 283	10		<input checked="" type="checkbox"/>		

**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.