

## CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002

DateRun: 07/24/2002

Experimenters: Jason Marshall

ClientType: Optical Manufacturer

ProjectNumber: Project #1

Substrates: Glass/Quartz

PartType: Coupon

Contaminants: Mold Releases

Cleaning Methods: Immersion/Soak

Analytical Methods: Microphotography

Purpose: To evaluate aqueous based cleaner on optics.

Experimental Procedure: A 1000 ml beaker was filled with a cleaning solution diluted to 10% using DI water. The solution was heated to 110 F in a Crest 40 kHz ultrasonic tank. The solution was degassed for 5 minutes. The supplied glass optic part was photographed 7 times using a digital camera and a microscope to establish how dirty part was. The part was immersed into the solutions and cleaned for 5 minutes using ultrasonic energy, then rinsed in a DI water spray at room temperature for 15 seconds, followed by drying with a heat gun at 300 F for 30 seconds. The part was then reanalyzed using the camera and microscope.

Results: All parts of the optics visually looked cleaner after using the Inproclean solution. Magnification of camera not enough to see fine detail. Part started to attract dust via static electricity. See pictures of before and after.

Summary:

<b>Substrates:</b>	Glass/Quartz				
<b>Contaminants:</b>	Mold Releases				
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Oakite Products	Inproclean 3800	10		<input checked="" type="checkbox"/>	

Conclusion: Part to be returned for further analysis by client.