CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2007

DateRun: 03/08/2007

Experimenters: Jason Marshall, Shweta Bansal

ClientType: Jewelry Mfr

ProjectNumber: Project #1

Substrates: Stainless Steel

PartType: Part

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To evaluate five products on supplied parts using ultrasonic cleaning

Experimental Procedure: Five products were selected from previous trial based on effectiveness. One product was diluted to 10% using DI water and the other four were used at full strength in 600 ml beakers. Each solution was heated to 130 F in a Crest 40 kHz ultrasonic tanked filled with water. The solutions were degassed for 5 minutes.

Five stainless steel rings with lacquer finish and coated with Jackonslea Grey Color 305 A (1344-28-1) were cleaned in each solution at 1-minute intervals using 40 kHz ultrasonic cleaning. Rings were rinsed for 15 seconds in 120 F tap water and dried using compressed air at room temperature for 30 seconds. If the rings were not completely clean after the initial 1 minute, the rings would be cleaned for another 1 minute. In addition, if the rings were not completely cleaned after 5 minutes, cleaning would be stopped.

Results: All five products need more than 1 minute to clean. No cleaner needed more than 4 minutes. The table lists the observations for each ring cleaned at the various time intervals.
Order of observations from worst to best: Not clean<Almost clean<Nearly clean<Clean

Cleaner	Observation
Bio T Max	Nearly clean at 1 minute
	All clean after 2 minutes
Solsafe 245	Nearly clean at 1 minute
	All clean after 2 minutes
DS 104	Not clean after 1 minute
	Not clean after 2 minutes
	All clean after 3 minutes
Optisolv OP 7168	Not clean after 1 minute
	Almost clean after 2 minutes
	All clean after 3 minutes
D Greeze 500 Lo	Not clean after 1 minute
	Not clean after 2 minutes
	Not clean after 3 minutes
	All clean after 4 minutes

Summary:

Substrates:	Stainless Steel				
Contaminants:	Buffing/Polishing Compounds				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Bio Chem Systems	Bio T Max	100	0.00	☑	2 minutes
Bio Chem Systems	Solsafe 245	100	0.00	☑	2 minutes
Dysol	DS 104 Wipe Solvent	100	0.00	☑	3 minutes
Kyzen Corporation	Optisolv OP7168	10	0.00	☑	3 minutes
Transene Company, Inc.	D Greeze 500 LO	100	0.00	☑	4 minutes

Conclusion: All five products will be tested on the un-lacquered/dirty rings under the same conditions.