# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2000

DateRun: 03/28/2000

Experimenters: Jason Marshall, John Brunelle

ClientType:

ProjectNumber: Project #1

Substrates: Brass

PartType: Part

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To evaluate ultrasonic energy in the cleaning of supplied parts using.

Experimental Procedure: Four cleaners were selected based on the results of the previous trial. The chemistries were diluted to 5% in 600 ml beakers using DI water and then heated to 130 F on a hot plate. Beakers were then suspended in an ultrasonic tank filled with DI water heated to 130 F and degassed for five minutes. Table 1 lists the cleaner used. Three small round pars and one long thin part were cleaned in one solution for five minutes, rinsed in tap water at 120 F for 30 seconds and dried using a Master Appliance Corp, Hot-air gun model HG-301A at 500 F for one minute. After coupons returned to room temperature, final clean appearances were observed.

SUBSTRATE MATERIAL: Brass Parts
CONTAMINANTS: Buffing compound
CONTAMINATING PROCESS USED: Parts received contaminated

Results: Using ultrasonic energy was moderately successful in removing large amounts of the buffing compound inside the round parts. It was noted that the remaining contaminant was situated at the bottom of the parts as well as in the threaded portion of the long thin parts. Table 2 lists the cleaner specific observations.

Table 2. Cleaning Comments

| Cleaner | Observation |
|---|---|
| MICRO 90 | One end of the long thin part had buffing compound in the threads. Two of the small balls had buffing compound inside. |
| InproClean 3800 | One end of the long thin part had buffing compound in the threads. Two of the small balls had buffing compound inside. |
| Polyspray Jet 790 P | Long thin part had no buffing compound in the threads. The round parts had less buffing compound than the other cleaners. Best cleaner evaluated. |
| Daraclean 282 GF | One end of the long thin part had buffing compound in the threads. Three of the small balls had buffing compound inside. |

Summary:

| **Substrates:** | Brass | | | | |
|---|---|---|---|---|---|
| **Contaminants:** | Buffing/Polishing Compounds | | | | |
| **Company Name:** | **Product Name:** | **Conc.:** | **Efficiency:** | **Effective:** | **Observations:** |
| International Products Corporation | Micro 90 Conc. | 5 | 0.00 | ☐ | |
| Oakite Products | Inproclean 3800 | 5 | 0.00 | ☐ | |
| US Polychem Corporation | Polyspray Jet 790 P | 5 | 0.00 | ☑ | |
| Magnaflux | Daraclean 282 GF | 5 | 0.00 | ☐ | |

Conclusion: Having observed a trend in the location of the buffing compound in the round parts, cleaning results may be improved by adding rotational energy to the ultrasonic bath. An additional test will be performed using the U.S. Polychem product utilizing this proposed cleaning method.