

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 10/02/2006

Experimenters: Jason Marshall

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Brass

PartType: Part

Contaminants: Buffing/Polishing Compounds

Cleaning Methods: Ultrasonics

Analytical Methods: Photography, Visual

Purpose: To evaluate successful cleaner at various operating conditions to meet the 2 minute cleaning time.

Experimental Procedure: One cleaning product was diluted to 5 and 10% using DI water in 250 ml beakers. Each beaker-solution was first heated to 130 F in a Branson 3510 ultrasonic unit immersed in water. The products were degassed for at least five minutes before cleaning.

Supplied brass parts that were received already contaminated were cleaned in each solution for up to two minutes. Four types of parts were cleaned using three of each type were cleaned. In addition, one brass buckle was cleaned. Following cleaning in the 40 kHz ultrasonic tank, parts were rinsed for 15 seconds in a tap water bath at 120 F and dried using dry compressed air at room temperature. Parts were analyzed visually and photographs were taken before and after cleaning for comparison. Cleaned parts were packaged and sent to the client.

Following the cleaning at 130 F, any unsuccessful concentration was then heated to 150 and more parts were cleaned, rinsed, dried and analyzed in the same manner.

Results: Alconox Detergent 8

| Concentration | Temperature | Part Description | Observation |
|---------------|-------------|------------------|---------------------------------|
| 10% | 130 | Three stripes | needed only 30 seconds |
| | | US circle | needed 60 seconds |
| | | Small bars | needed only 30 seconds |
| | | Large bars | took full 2 minutes |
| | | Brass buckle | cleaned for 2 minutes |
| 5% | 130 | Three stripes | needed 45 seconds |
| | | US circle | needed 60 seconds |
| | | Small bars | needed 45 seconds |
| | | Large bars | took full 2 min-not 100% clean |
| | | Brass buckle | cleaned for 2 min-not all clean |
| 5% | 150 | Three stripes | needed 30 seconds |
| | | US circle | needed 45 seconds |
| | | Small bars | needed 45 seconds |

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| | | | |
|--|--|--------------|--------------------------------|
| | | Large bars | took full 2 min-not 100% clean |
| | | Brass buckle | cleaned for 2 min |

Summary:

| | | | | | |
|----------------------|----------------------|-----------------------------|--------------------|-------------------------------------|----------------------|
| Substrates: | | Brass | | | |
| Contaminants: | | Buffing/Polishing Compounds | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Alconox Inc | Detergent 8 | 5 | | <input checked="" type="checkbox"/> | |
| Alconox Inc | Detergent 8 | 5 | | <input checked="" type="checkbox"/> | |
| Alconox Inc | Detergent 8 | 10 | | <input checked="" type="checkbox"/> | |

Conclusion:

The Detergent 8 worked very well at the 10% concentration and 130 F temperature. The lower concentration also worked fairly well at 130 but had better results at the 150 F temperature.