

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006
DateRun: 09/06/2006
Experimenters: Jason Marshall
ClientType: Metal Working
ProjectNumber: Project #1
Substrates: Brass
PartType: Part
Contaminants: Buffing/Polishing Compounds, Fingerprints
Cleaning Methods: Ultrasonics
Analytical Methods: Visual

Purpose: To evaluate selected cleaners on supplied brass belt buckles using ultrasonic cleaning.

Experimental Procedure: Three products from the lab's database were selected based on client supplied information. The products were diluted to 5% in 250 ml beakers using DI water and immersed in a hot water bath at 130 and degassed for five minutes in a Branson 3510 ultrasonic 40 kHz unit.

One supplied dirty buckle was cleaned in each solution for five minutes using 40 kHz ultrasonic agitation. Buckles were rinsed for 15 seconds in a tap water bath at 120 F and dried using a dry compressed air for 30 seconds. Buckles were visually inspected for cleanliness.

Results:

| Cleaner | Observation |
|----------------------|---|
| MC 132 | Solution turned red from buffing compound. Initially, buckle looked clean and free of contamination. After sitting for a few hours, brown marks began showing up. |
| Polyspray Jet 790 XS | Solution turned a light brown from buffing compound. Part looked clean and no spots showed up. |
| Detergent 8 | Solution turned a milky pink from buffing compound. Part looked very clean and no spots showed up. |

Summary:

| Substrates: | | Brass | | | |
|--------------------------------|----------------------|---|-------------|-------------------------------------|---------------------------|
| Contaminants: | | Buffing/Polishing Compounds, Fingerprints | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Matchless Metal Polish Company | MC 132 | 5 | | <input type="checkbox"/> | Some brown spots appeared |
| US Polychem Corporation | Polyspray Jet 790 XS | 5 | | <input checked="" type="checkbox"/> | Clean looking |
| Alconox Inc | Detergent 8 | 5 | | <input checked="" type="checkbox"/> | Very clean looking |

Conclusion:

Two products were found to work on the supplied brass buckles using ultrasonic energy. With the products successful on the buffing compound, the next step will be to evaluate these cleaners on supplied additional parts at or after workshop.