

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006
 DateRun: 10/16/2006
 Experimenters: Jason Marshall
 ClientType: Metal Finishing
 ProjectNumber: Project #1
 Substrates: Brass
 PartType: Coupon
 Contaminants: Buffing/Polishing Compounds
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Gravimetric
 Purpose: To reevaluate three products at higher temperatures.

Experimental Procedure: Three alternative products were selected from the previous trial based on effectiveness. Each product was diluted to 5% in 250 ml beakers using DI water and heated to 150 F on a hot plate. Nine preweighed coupons were heavily coated with the Matchless Metal Polishing TSX Tripoli (1317-95-9) buffing compound u by heating the buffing compound and rubbing it onto the surface of the coupons. Coupons were weighed a second time to determine the amount of buffing compound added. Three coupons were cleaned in each solution for five minutes using minimal stir bar agitation. Coupons were rinsed for 15 seconds in a tap water bath at 120 F and dried using a dry compressed air for 30 seconds. Once dry coupons were weighed a final time and product efficiencies were calculated.

Results: One product removed over 80% of the buffing compound from the brass coupons after five minutes of immersion cleaning. Two other products removed under 60%. The following table lists the amount of buffing compound applied, the amount remaining and the efficiency for each coupon cleaned.

| Cleaner | Initial wt | Final wt | % Removed |
|----------------------|------------|----------|-----------|
| Polyspray Jet 790 XS | 0.2563 | 0.1179 | 54.00 |
| | 0.3234 | 0.0922 | 71.49 |
| | 0.5825 | 0.3573 | 38.66 |
| Detergent 8 | 0.3588 | 0.0740 | 79.38 |
| | 0.1170 | 0.0098 | 91.62 |
| | 0.2716 | 0.0530 | 80.49 |
| Micro 90 | 0.3388 | 0.3178 | 6.20 |
| | 0.2448 | 0.1932 | 21.08 |
| | 0.3815 | 0.3023 | 20.76 |

Summary:

| | | | | | |
|------------------------------------|-----------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Brass | | | | |
| Contaminants: | Buffing/Polishing Compounds | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| US Polychem Corporation | Polyspray Jet 790 XS | 5 | 54.72 | <input type="checkbox"/> | |
| Alconox Inc | Detergent 8 | 5 | 83.83 | <input checked="" type="checkbox"/> | |
| International Products Corporation | Micro 90 Conc. | 5 | 16.01 | <input type="checkbox"/> | |

Conclusion: The effectiveness of the products was not improved through the increase in temperature. A follow test will be conducted using the products at a higher concentration.