

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008  
DateRun: 12/16/2008  
Experimenters: Johanna Oviedo  
ClientType: Lab  
ProjectNumber: Project #1  
Substrates: Stainless Steel  
PartType: Coupon  
Contaminants: Buffing/Polishing Compounds  
Cleaning Methods: Immersion/Soak  
Analytical Methods: Gravimetric  
Purpose: To remove silver polish from surface using immersion cleaning

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Products were selected based on the compatibility of substrate and for removal of the contaminant. Five percent concentrations were used and heated the samples at 130F. The coupons were immersed in a product for 5 minutes, rinsed in tap water at 120 F and dried using compressed air at room temperature. Coupons were coated with silver polish using a handheld swab and allowed to dry for 120 minutes at room temperature. The contaminated coupons were weighed again to determine the amount of soil added. After cleaning process, the final weights were recorded, efficiencies were calculated and recorded.

## Results:

| Cleaner                               | Initial wt | Final wt | % Removed |
|---------------------------------------|------------|----------|-----------|
| Warren Chemical Company, Sea Wash 77  |            |          |           |
|                                       | 0.1794     | 0.0646   | 63.99     |
|                                       | 0.5656     | 0.0870   | 84.62     |
|                                       | 0.5122     | 0.1731   | 66.20     |
| A 1 Hydro Parke Hill, SW Wash 10      |            |          |           |
|                                       | 0.3957     | 0.0245   | 93.81     |
|                                       | 0.4295     | 0.0714   | 83.38     |
|                                       | 0.4371     | 0.0775   | 82.27     |
| Kyzen Company, Metalnox CP30          |            |          |           |
|                                       | 0.3151     | 0.0837   | 73.44     |
|                                       | 0.4564     | 0.0590   | 87.07     |
|                                       | 0.1348     | 0.0213   | 84.20     |
| Kyzen Company, Lonox 1 3302           |            |          |           |
|                                       | 0.7258     | 0.3062   | 57.81     |
|                                       | 0.9183     | 0.0998   | 89.13     |
|                                       | -2.0812    | 0.0427   | 102.05    |
| Brulin Corporation, Nonsilicated H TP |            |          |           |
|                                       | 2.3856     | 0.0393   | 98.35     |
|                                       | 1.4773     | 0.0232   | 98.43     |
|                                       | 0.0939     | 0.0378   | 59.74     |
| Brulin Corporation, Safety Strip 58   |            |          | 98.00     |
|                                       | 0.2490     | 0.0050   | 97.99     |
|                                       | 0.4646     | 0.1548   | 66.68     |
|                                       | 0.0256     | 0.0052   | 79.69     |

## Summary:

|                      |                             |
|----------------------|-----------------------------|
| <b>Substrates:</b>   | Stainless Steel             |
| <b>Contaminants:</b> | Buffing/Polishing Compounds |

## CLEANING LABORATORY EVALUATION SUMMARY

| Company Name:                 | Product Name:                | Conc.: | Efficiency: | Effective:                          | Observations: |
|-------------------------------|------------------------------|--------|-------------|-------------------------------------|---------------|
| Warren Chemical Company       | Sea Wash 77                  | 5      | 71.60       | <input type="checkbox"/>            |               |
| A 1 Hydro Parke Hill Chemical | SW Wash 10 Aircraft Cleaner  | 5      | 86.48       | <input checked="" type="checkbox"/> |               |
| Kyzen Corporation             | Metalnox CP 30               | 5      | 81.57       | <input type="checkbox"/>            |               |
| Kyzen Corporation             | Ionox 13302                  | 5      | 83.00       | <input type="checkbox"/>            |               |
| Brulin Corporation            | Non Silicated HTD            | 5      | 85.51       | <input checked="" type="checkbox"/> |               |
| Brulin Corporation            | Safety Strip 5896 B Oil Seal | 5      | 81.45       | <input type="checkbox"/>            |               |

Conclusion: Two products were effective in removing over 85% of the polish using immersion cleaning.