

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002  
DateRun: 02/27/2002  
Experimenters: Jason Marshall  
ClientType: Plating Job Shop  
ProjectNumber: Project #1  
Substrates: Stainless Steel  
PartType: Coupon  
Contaminants: Lubricating/Lapping Oils  
Cleaning Methods: Immersion/Soak  
Analytical Methods: Gravimetric

Purpose: To evaluate successful cleaner from previous trial on second contaminant.

Experimental Procedure: The Gemtek product was diluted to 10% using DI water in a 600 ml beaker and heated to 130 F on a hot plate. Six preweighed coupons were coated with Mobil Oil Corp Mobilarma 245 (64742-88-7) using a hand held swab. Coupons were weighed again. Three coupons were cleaned for 5 minutes and the other three were cleaned for 10 minutes. Both cleaning utilized stir-bar agitation. Coupons were rinsed in tap water at 120 F for 30 seconds and dried using a Master Appliance heat gun at 500 F for 1 minute. Final weights were measured and efficiencies were calculated for the two cleaning times.

Results: Both cleaning times resulted in complete removal of the Mobilarma 245. The table lists the efficiencies for both cleaning times.

| Cleaner    | Coupon 1 | Coupon 2 | Coupon 3 | Average | Std Dev |
|------------|----------|----------|----------|---------|---------|
| 5 Minutes  | 99.00    | 102.41   | 100.00   | 100.47  | 1.75    |
| 10 Minutes | 104.44   | 102.50   | 102.44   | 103.13  | 1.14    |

Summary:

| <b>Substrates:</b>   |   | Stainless Steel          |             |                                     |               |
|----------------------|---|--------------------------|-------------|-------------------------------------|---------------|
| <b>Contaminants:</b> |   | Lubricating/Lapping Oils |             |                                     |               |
| Company Name:        | Product Name:                                 | Conc.:                   | Efficiency: | Effective:                          | Observations: |
| Gemtek Products      | SC Aircraft & Metal Cleaner Super Concentrate | 10                       | 100.47      | <input checked="" type="checkbox"/> | 5 minute      |
| Gemtek Products      | SC Aircraft & Metal Cleaner Super Concentrate | 10                       | 103.13      | <input checked="" type="checkbox"/> | 10 minute     |

Conclusion: The next phase of testing will focus on cleaning supplied parts using the Gemtek SC Aircraft & Metal Cleaner.