

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:

| Substrates: | | Stainless Steel | | | |
|----------------------|---|--------------------------|-------------|-------------------------------------|---------------|
| Contaminants: | | 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.