

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003
 DateRun: 09/19/2003
 Experimenters: Jason Marshall
 ClientType: Lab
 ProjectNumber: Project #1
 Substrates: Aluminum
 PartType: Coupon
 Contaminants: Fluxes
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Five products were used at full strength, heated to 120 F on a hot plate. Fifteen preweighed coupons were coated with Alpha 615 RMA flux (67-63-0, 8052-41-3, 8050-09-7) and allowed to dry for two hours and reweighed. Three coupons were cleaned in each solution for 5 minutes using stir-bar-agitation, rinsed in a tap water bath for 15 seconds at 120 F and dried using air blow off for 30 seconds at 68 F. Coupons were allowed to dry overnight and then reweighed a final time. Efficiencies were calculated.
 Note: Bio T Foam Plus was sprayed onto coupons at room temperature and allowed to sit for 5 minutes. The cleaner was then rinsed.

Results: Only one product removed over 85% of this flux from the coupons. Two others removed just under 85%. The remaining two removed under 80%. Visual inspection revealed that most of the flux was removed, and the final weights could be improved with better rinsing and or drying in order to remove cleaning residue films.

Summary:

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|----------------------|---------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Aluminum | | | | |
| Contaminants: | Fluxes | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| AW Chesterton | 278 Super Solv | 100 | 78.73 | <input type="checkbox"/> | |
| Bio Chem Systems | Bio T Foam Plus | 100 | 84.21 | <input type="checkbox"/> | |
| Invista S.a.r.l | Flexisolv DBE Ester | 100 | 88.40 | <input checked="" type="checkbox"/> | |
| Invista S.a.r.l | Flexisolv DBE 3 ester | 100 | 83.14 | <input type="checkbox"/> | |
| Gemtek Products | SC EZ Solv Safety Solvent | 100 | 65.05 | <input type="checkbox"/> | |

Conclusion: The DuPont DBE was the only effective product.