

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 Kester Solder Flux 1544 (64-17-5, 78-92-2, 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: Two products removed over 85% of the flux. Two others removed over 80% and the final product removed just over 70%. Many of the products could be improved with higher pressure drying to remove cleaner residue from the coupons.

Summary:

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|----------------------|---------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Aluminum | | | | |
| Contaminants: | Fluxes | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| AW Chesterton | 278 Super Solv | 100 | 83.01 | <input type="checkbox"/> | |
| Bio Chem Systems | Bio T Foam Plus | 100 | 73.74 | <input type="checkbox"/> | |
| Invista S.a.r.l | Flexisolv DBE Ester | 100 | 88.20 | <input checked="" type="checkbox"/> | |
| Invista S.a.r.l | Flexisolv DBE 3 ester | 100 | 86.68 | <input checked="" type="checkbox"/> | |
| Gemtek Products | SC EZ Solv Safety Solvent | 100 | 83.68 | <input type="checkbox"/> | |

Conclusion: Two products, both dibasic esters, were effective in removing the flux from the coupons within five minutes.