

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2002
 DateRun: 08/07/2002
 Experimenters: Jason Marshall
 ClientType: Electronics Manufacturer
 ProjectNumber: Project #2
 Substrates: Aluminum
 PartType: Coupon
 Contaminants: Fluxes, Resins/Rosins, Solder
 Cleaning Methods: Ultrasonics
 Analytical Methods: Gravimetric

Purpose: Evaluation of successful products using ultrasonics

Experimental Procedure: Five products were selected from the previous trial based on their high efficiencies. The solutions were used at 68 F. The three semi-aqueous products were used at full strength and the two aqueous based products were diluted to 10% in 600 ml beakers using DI water. Fifteen preweighed coupons were coated with Alpha Metals 615 Flux (67-63-0, 8052-41-3, 8050-09-7) using a handheld swab and allowed to dry. Coupons were then reweighed. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation, then rinsed in tap water at 68 F for 15 seconds followed by an air knife drying for 30 seconds. Once dry, final weights were recorded and efficiencies were calculated.

Results: All five products were very effective using ultrasonics for two minutes. Table 1 lists the efficiencies for each coupon cleaned.

Table 1. Cleaning Efficiencies

Cleaner	Initial wt of cont.	Final wt of cont.	%Cont Removed
Bio T Max	0.0414	-0.0003	100.72
	0.1571	-0.0003	100.19
	0.1283	0.0004	99.69
DS 108	0.1235	0.0026	97.89
	0.0982	0.0003	99.69
	0.1142	-0.0005	100.44
Ionox HC 2	0.1354	-0.0001	100.07
	0.1060	-0.0003	100.28
	0.1274	-0.0008	100.63
SWR One	0.0916	-0.0002	100.22
	0.1154	-0.0009	100.78
	0.0942	-0.0006	100.64
Beyond 2005	0.0949	0.0061	93.57
	0.1050	0.0002	99.81
	0.1306	0.0015	98.85

Summary:

Substrates:	Aluminum				
Contaminants:	Fluxes, Resins/Rosins, Solder				
Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Bio Chem Systems	Bio T Max	100	100.20	<input checked="" type="checkbox"/>	
Dysol	DS 108 Wipe Solvent	100	99.34	<input checked="" type="checkbox"/>	
Kyzen Corporation	Ionox HC 2	100	100.33	<input checked="" type="checkbox"/>	
SWR Corporation	SWR One	10	100.55	<input checked="" type="checkbox"/>	
Today & Beyond	Beyond 2005	10	97.41	<input checked="" type="checkbox"/>	

Conclusion: These five products will be used on supplied parts from client.