CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 05/13/2004

Experimenters: Jason Marshall

ClientType: Capacitor Manufacturer

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Vapor Degreasing

Analytical Methods: Gravimetric

Purpose: To evaluate one cleaner on all four contaminants using vapor degreasing

Experimental Procedure: One product was selected base on client input from previous testing. The product was heated to boiling (160 F) in a vapor degreasing chamber on a hot plate. Twelve preweighed aluminum coupons were coated four different contaminates, thee coupons per contaminant. Coupons were reweighed to determine the amount of soil added. The coupons were cleaned for 5 minutes in the vapor zone, then removed and allowed to cool to room temperature outside the chamber. Final weights were recorded and efficiencies were calculated.

The contaminants removed were: Soltex Polybutene 32 (9003-29-6)
Cargill, Inc Canola Oil (120962-03-0)
Nisseki SAS 40 oil (27776-01-8, 612-00-0, 103-29-7, 101-81-5)
C.P. Hall Co. Plasthall ESO oil (8013-07-8)

Results: All four contaminants were removed using Ensolv in a vapor degreaser for five minutes. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Contaminant	Initial wt	Final wt	% Removed
Soltex	0.7328	0.0000	100.00
	0.6829	0.0003	99.96
	0.8973	0.0001	99.99
Cargill	0.1078	-0.0002	100.19
	0.1655	0.0010	99.40
	0.1887	-0.0001	100.05
Nisseki	0.0501	0.0008	98.40
	0.0873	0.0002	99.77
	0.0968	-0.0001	100.10
CP Hall	0.4715	-0.0001	100.02
	0.5001	0.0002	99.96
	0.2575	0.0001	99.96

Summary:

Substrates:	Aluminum				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Enviro Tech International Inc	Ensolv	100	99.98	☑	Soltex
Enviro Tech International Inc	Ensolv	100	99.88	☑	Cargill
Enviro Tech International Inc	Ensolv	100	99.43	☑	Nisseki
Enviro Tech International Inc	Ensolv	100	99.98	☑	CP Hall

Conclusion: Vapor degreasing with Ensolv appears to work very well on the four supplied soils. Piloting on actual parts should be performed at this time.