CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2001

DateRun: 11/26/2001

Experimenters: Jason Marshall

ClientType: Electronics Manufacturer

ProjectNumber: Project #1

Substrates: Steel

PartType: Part

Contaminants: Films, Salts

Cleaning Methods: Ultrasonics

Analytical Methods: Visual

Purpose: To evaluate successful cleaners using ultrasonic energy

Experimental Procedure: The three cleaners were used at the same strength (20%) and temperature (140 F). Solutions were degassed in the Crest 40 kHz ultrasonic tank for 5 minutes prior to submersing parts. One part from the previous trial was cleaned in each of the solutions for 3 minutes. Parts were rinsed in a tap water spray for 1 minute at 120 F and dried with a heat gun at 500 F to decrease rusting. Observations were made after parts were dry.

Contaminant: White powders (SiO2, NHCl, (NH4)2SiF6, or NH4HF2)

Results: The additional 3 minutes of ultrasonic energy was enough to remove nearly all of the white powders from the steel parts. The Amberclean 527 L was the most successful cleaner used. The other two products were equally to each other in their cleaning results.

Table 1. Ultrasonic Cleaning

Cleaner	Observations
Shopmaster	Good/excellent cleaning
Amberclean	Excellent Cleaning
Beyond 2001	Good/excellent cleaning

Summary:

Substrates:	Steel
Contaminants:	Films, Salts

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Buckeye International	Shopmaster	20	0.00	☑	
Innovative Organics Inc	Amberclean 527 L	20	0.00	☑	
Today & Beyond	Beyond 2001	20	0.00	☑	

Conclusion: A longer ultrasonic cleaning time would improve the results of removing the different white powders from the parts. Little of the green paint was removed during the immersion and ultrasonic cleaning.