CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009

DateRun: 03/22/2009

Experimenters: Jason Marshall, Junhee Cho

ClientType: Chemical Company

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Cutting/Tapping Fluids

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate supplied product for light oil removal as compared to acetone.

Experimental Procedure: One supplied product and acetone were used at full strength and room temperature. Six preweighed 6061 H6 aluminum coupons were coated with the Steco Corporation Tap Magic cutting fluid using a handheld swab. Coupons were weighed a second time to determine the amount of fluid added to the surface.

Three coupons were placed in the Gardner Straight Line Washability unit. Cleaning solution was applied to the surface using a plastic squeeze bulb. A reinforced Kimberly Clark Wypall X60 paper towel was attached to the cleaning sled and soaked with the same cleaning product. Cleaning was conducted for 20 cycles. Final weights were recorded, and efficiencies calculated for each coupon cleaned.

Results:

Cleaner	Initial wt	Final wt	% Removed
SWC 100			
	0.4207	0.0195	95.36
	0.3519	0.0289	91.79
	0.3202	0.0183	94.28
Acetone			
	0.3033	0.0175	94.23
	0.2289	0.0124	94.58
	0.2245	0.0156	93.05

Summary:

Substrates:	Aluminum
Contaminants:	Cutting/Tapping Fluids

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Environmental Solution Products Inc	SWC 100	100	93.81	☑	
Fisher Scientific	Acetone (CAS: 67-64-1)	100	93.95	☑	

Conclusion: The next step will be to record the time required to remove all of the cutting fluid from the aluminum surface.