

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1999

DateRun: 07/12/1999

Experimenters: Jason Marshall

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Part

Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate vendor recommended cleaner for all three contaminants.

Experimental Procedure: The client supplied cleaner was made into a 5% solution by volume using DI water in 400 mL Pyrex beakers and heated to 130 F on a hot plate. Three preweighed coupons were contaminated with the each of the three contaminants and weighed again. Coupons were cleaned using the client supplied cleaner using stir-bar-agitation for five minutes. Coupons were rinsed in 120 F tap water for 30 seconds and dried using a Master Appliance Corp, Hot-air gun model HG-301A for one minute at 500 F. After cooling to room temperature, final weights were recorded and cleaning efficiencies were calculated.

SUBSTRATE MATERIAL: Aluminum Coupons (5052)

CONTAMINANTS: Tuf Draw Vanishing Film 2889 (CAS #: 64741-65-7); Lubricant Mix [Hydroil AW-3 9petroleum hydrocarbon), Express Gear Lubricant F]; Tower Oil & Technology Company LS-H-213 (CAS #: 8052-41-3)

Results: The Ultra Blue 100 cleaning solution was effective in removing the two drawing compounds, yet it could not clean the lubricant mix very well. Table 2 lists the calculated cleaning efficiencies for the three contaminants.

Table 2. Cleaning Results

	Tuff Draw	Lub Mix	Tower
Coupon 1	100.06	74.77	100.11
Coupon 2	100.1	73.37	100.09
Coupon 3	100	72.9	100.04
Average	100.05	73.68	100.08

Summary:	Substrates: Aluminum					
	Contaminants: Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil					
	Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
	BCS Company	Ultra Blue 100	5	100.05	<input checked="" type="checkbox"/>	

Conclusion: The Ultra Blue 100 cleaning solution was effective.