

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004
DateRun: 05/27/2004
Experimenters: Jason Marshall
ClientType: Lab
ProjectNumber: Project #1
Substrates: Sterling/Silver
PartType: Coupon
Contaminants: Cutting/Tapping Fluids
Cleaning Methods: Immersion/Soak
Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Each product was used at full strength in a 250 ml beaker and heated to 96 F on a hot plate. Nine preweighed silver plated copper coupons were coated with the Houghton Chemical Cut-Max 135 (64742-52-5, 64741-96-4) using a handheld swab. Coupons were weighed a second time to determine the amount of soil added to each coupon. Three coupons were cleaned in each solution for 5 minutes using stir-bar agitation. After cleaning parts were weighed a final time and efficiencies were calculated.

Cleaner	Initial wt	Final wt	% Removed
Vertrel MCA	0.10830	0.0086	92.06
	0.15790	0.0062	96.07
	0.15120	0.0080	94.71
Heavy Duty Degreaser C	0.08780	0.0063	92.82
	0.12900	0.0063	95.12
	0.12270	0.0085	93.07
Flux Remover C	0.16710	0.0194	88.39
	0.18970	0.0318	83.24
	0.33620	0.0224	93.34

Summary:	Substrates: Sterling/Silver					
	Contaminants: Cutting/Tapping Fluids					
	Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
	DuPont	Vertrel MCA	100	94.28	<input checked="" type="checkbox"/>	
	Micro Care	Heavy Duty Degreaser C	100	93.67	<input checked="" type="checkbox"/>	
	Micro Care	Flux Remover C	100	88.32	<input checked="" type="checkbox"/>	

Conclusion: All three products removed over 85%.