CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2017

DateRun: 07/11/2017

Experimenters: Alicia McCarthy, Hayley Byra

ClientType: General

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Lubricating/Lapping Oils

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate the effectiveness of five drop-in solvents at removing lubricant from aluminum alloys.

Experimental Procedure: Preweighed aluminum coupons were tested for each cleaner. Coupons were soiled with Rustlick EDM30 lubricant (CAS:64742-47-8; 8042-47-5) using a swab to cover the bottom third of the substrate and dirty weights were recorded. Coupons were immersed, three at a time, in a beaker with 200ml of the chosen cleaner at room temperature (68 F) for five minutes. Visual observations were taken during this time, and final weights were recorded after cleaning. This process was repeated for each cleaner.

Results:

Cleaner	Initial wt.	Final wt.	% Removed	Average % Removed
Fluosolv CX				
	0.0511	0.0154	69.86	70.86
	0.0446	0.0139	68.83	
	0.0559	0.0146	73.88	
Fluosolv NC				
	0.0665	-0.0001	100.15	95.54
	0.0711	0.0113	84.11	
	0.0637	-0.0015	102.35	
Solstice PF				
	0.0369	-0.0007	101.9	101.39
	0.0531	-0.001	101.88	
	0.0515	-0.0002	100.39	
Solstice PF-2A				
	0.0706	-0.0001	100.14	100.28
	0.0601	0	100	
	0.058	-0.0004	100.69	
Vertrel Sion				
	0.0479	-0.001	102.09	101.31
	0.0541	-0.0006	101.11	
	0.0809	-0.0006	100.74	

Residue was observed on coupons cleaned with Fluosolv CX after five minutes. No substrate damage was observed on coupons with above 100% removal. High percentage removal could potentially be due to contaminants on coupons prior to testing.

Summary:

Substrates:	Aluminum				
Contaminants:	Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
NuGeneration Technologies, LLC	FluoSolv CX	100	70.86	☐	
NuGeneration Technologies, LLC	FluoSolv NC 786	100	95.54	☑	
Honeywell	Solstice PF with N2	100	101.39	☑	
Honeywell	Solstice PF-2A with N2	100	100.28	☑	

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DuPont	Vertrel Sion	100	101.31	☑	

Conclusion: Three of the five drop-in solvents were effective at removing Rustlick EDM30 from aluminum. Next step will be to repeat the procedure on Lube Tube Wax.