CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2006

DateRun: 08/20/2006

Experimenters: Jason Marshall

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Cold Rolled Steel

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: To evaluate the five previously tested products on the fourth supplied oil.

Experimental Procedure: Five successful products from the first three oil removal trials were evaluated on the fourth oil. The products were diluted to 5% in 600 ml beakers using DI water and heated to 130 F on a hot plate.

Fifteen pre-weighed coupons were coated with Lamson Oil Co Heavy Draw 1290 using a hand held swab. Coupons were weighed a second time to determine the amount of oil added. Three coupons were cleaned in each solution for five minutes using minimal stir bar agitation. Coupons were rinsed for 15 seconds in a tap water bath at 120 F and dried using a Master Appliance Heat gun at 500 F for 30 seconds. Once dry coupons were weighed a final time and product efficiencies were calculated.

Results: Three of the five products removed over 85% of the oil within five minutes of immersion cleaning. The follow table lists the amount of oil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Surface Cleanse 930	0.4016	0.0895	77.71
	0.1608	0.0579	63.99
	0.3613	0.0569	84.25
Aquavantage 1400	0.3448	0.0495	85.64
	0.3903	0.0375	90.39
	0.3466	0.0472	86.38
Inproclean 3800	0.3646	0.0308	91.55
	0.3517	0.0369	89.51
	0.4353	0.0311	92.86
Sea Wash Blue	0.3426	0.0252	92.64
	0.4904	0.0376	92.33
	0.3251	0.0267	91.79
Mirachem 500	0.3579	0.0603	83.15
	0.5035	0.0531	89.45
	0.3635	0.0732	79.86

Summary:

Substrates:	Cold Rolled Steel
Contaminants:	Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
International Products Corporation	Surface Cleanse Concentrated Neutral 930	5	75.32	☐	
Magnaflux	Daraclean 283	5	87.47	☑	
Oakite Products	Inproclean 3800	5	91.31	☑	
Warren Chemical Company	Sea Wash Blue	5	92.25	☑	
Mirachem Corporation	Mirachem 500	5	84.16	☐	

Conclusion: The three products, Aquavantage 1400, Inproclean 3800 and Sea Wash Blue, will be used on the fifth supplied oil.