CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003

DateRun: 09/21/2003

Experimenters: Jason Marshall

ClientType: Tool Manufacturer

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Paints

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric

Purpose: Reevaluate top three cleaners on supplied varnish.

Experimental Procedure: Three cleaners from the previous trial were selected based on varnish removal. All three cleaners were used at full strength in 250 ml beakers using immersion cleaning only. Cleaning lasted for 20 minutes and was followed by a 30 second air blow off at room temperature. Additionally, one product, AW Chesterton was also used at 120 F for 10 minutes. Twelve preweighed coupons were coated with the varnish mix and allowed to dry. Coupons were weighed again to determine the amount of paint applied to the coupons. Three coupons were cleaned in each solution. After the air blow off, final weights were recorded and cleaning efficiencies were calculated.

Contaminant: Varnish Mix - Cooper's Creek Chemicals, Cooper Black Tank Paint No 739 (64742-89-8, 8052-42-4, 108-88-3); Sherwin Williams Company, V74B2 Black Asphaltum coating (64742-89-8, 64742-88-7, 8052-42-4).

Results: The 278 Super Solv removed nearly all of the varnish in either method. The AK 225 had some improvement over the 10 minute cleaning times, increasing from 60% to 80%. The last cleaner had no improvement. The table below lists the amount of soil added, the amount removed and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
278 Super Solv Heated	0.0713	0.0019	97.34
	0.0305	0.0009	97.05
	0.0418	0.0018	95.69
D Greeze 1000 20 minutes	0.0580	0.0234	59.66
	0.0541	0.0252	53.42
	0.0486	0.0124	74.49
AK 225 20 min	0.0468	0.0010	97.86
	0.0989	0.0371	62.49
	0.0794	0.0138	82.62
278 Super Solv 20 min	0.0696	0.0030	95.69
	0.0804	0.0074	90.80
	0.0408	0.0013	96.81

Summary:

Substrates:	Steel				
Contaminants:	Paints				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
AW Chesterton	278 Super Solv	100	96.69	☑	10 minutes, heated
Transene Company, Inc.	D Greeze 1000	100	62.52	☐	
AGA Chemical	AK 225	100	80.99	☐	
AW Chesterton	278 Super Solv	100	94.43	☑	20 minutes at room temp

Conclusion: Both methodologies used with 278 Super Solv were effective in removing over 94% of the varnish from the coupons.