CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2012
DateRun:	10/30/2012
Experimenters:	Jason Marshall, Loc Nguyen
ClientType:	Cleaner Manufacturer
ProjectNumber:	Project #1
Substrates:	Stainless Steel
PartType:	Coupon
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	Degreasing evaluation following ASTM G122 or DCC 17 methods
Experimental Procedure:	Production soil as described in Green Seal GS 34 was made by mixing 200 ml Quench Oil and 200 ml cutting oil for 20 minutes at room temperature using a magnetic stirrer in a second 750 ml beaker. Approximately 100 mg of each soil was applied to a precleaned and preweighed (initial mass = A) stainless steel coupon onto one side only with a handheld swab. The production soil on the coupons was baked in an oven for thirty minutes at 105° C (220 F). The coupons were then allowed to cool to room temperature and weigh a second time (soiled mass = B). Three soiled coupons were placed in the tray of the Gardner Straight Line washability unit. Cleaning products were sprayed onto the coated surfaces using 1-3 sprays from manual spray pump and 1-3 sprays onto the reinforced Wypal X60 paper towel attached to the cleaning instrument. The cleaning was performed using Gardner Straight-line washability unit and conducted for the prescribed 5 cycles (10 strokes). The coupons were then weighed to determine amount of soil removed/remaining. A dry Wypal towel was used to remove excess cleaning product from surface if needed). A final dry/clean weight (clean weight = C) was recorded, and soil removal rates were calculated.
Results:	Only one product, Misty Painless Stainless, was very effective when no dry towel wipe was employed, removing more than 90% of the soil. The other three removed less than 85% of the soil. However, when using a single dry wipe of the surface, all four removed more than 95% of the soil. Observations made after the initial cleaning revealed that nearly all of the soil was removed and that each cleaning solution left behind residue. This residue resulted in the low efficiencies. The dry wipe was used to only remove the cleaning product residue.

Cleaner	Initial wt	Final wt	% Removed
EZ Finishes Wow	0.0851	0.0267	68.63
	0.0876	0.0220	74.89
	0.0891	0.0132	85.19
Bryson Industries Citrushine	0.0906	0.0235	74.06
	0.0926	0.0150	83.80
	0.0883	0.0094	89.35
3M Stainless Steel Polish & Cleaner	0.0918	0.0205	77.67
	0.0908	0.0146	83.92
	0.0910	0.0125	86.26
Misty Painless Stainless	0.0915	0.0066	92.79
	0.0915	0.0080	91.26
	0.0917	0.0066	92.80
With Wipe			
EZ Finishes Wow	0.0851	0.0038	95.53
	0.0876	0.0042	95.21
	0.0891	0.0022	97.53
Bryson Industries Citrushine	0.0906	0.0021	97.68
	0.0926	0.0024	97.41
	0.0883	0.0019	97.85
3M Stainless Steel Polish & Cleaner	0.0918	0.0014	98.47

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	0.0908	0.0027	97.03
	0.0910	0.0023	97.47
Misty Painless Stainless	0.0915	0.0015	98.36
	0.0915	0.0021	97.70
	0.0917	0.0017	98.15

Summary:

Substrates:	Stainless Steel
Contaminants:	Cutting/Tapping Fluids, Lubricating/Lapping Oils, Oil

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
3M	Stainless Steel Cleaner & Polish Aerosol	100	97.66	☑	w/o wipe 82.62
Amrep Inc	Misty Painless Stainless A00142 Aerosol	100	98.07	☑	w/o wipe 92.28
EZ Finishes Inc.	WOW Stainless Steel Cleaner	100	96.09	☑	w/o wipe 76.23
Bryson Industries	Bryson Citrishine SS Polish	100	97.65	☑	w/o wipe 82.41

Conclusion:

The supplied product was effective at removing the oil mixture from stainless steel using manual wiping and drying.