CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2005
DateRun:	08/14/2005
Experimenters:	Jason Marshall
ClientType:	Metal
ProjectNumber:	Project #1
Substrates:	Aluminum
PartType:	Coupon
Contaminants:	Mold Releases, Graphite
Cleaning Methods:	Ultrasonics
Analytical Methods:	Gravimetric
Purpose:	To evaluate new product on graphite mold release agent using ultrasonic cleaning.

Experimental Procedure:

One product was selected based on similar product make up to successful product in previous trial. The product was diluted to 10% using DI water in 600 ml beakers based on vendor recommended concentration. The product was heated to 130 F on a hot plate.

Three preweighed aluminum coupons were coated with the Acheson Colloids Co Aquadag M mold release agent (CAS#: 7782-42-5, 84122-50-6, 70131-67-8, 1333-86-4, 107-21-1, 9002-84-0). The mold release was initially dried for 5 minutes using a Master Appliance Heat Gun at 500 F. The coupons were then subjected to another 10 minutes of drying. Coupons were not allowed to sit overnight but were heated for 2 hours in an oven at 500 F. After the drying, coupons were allowed to cool to room temperature and weighed a second time to determine the amount of soil added to the coupons.

Three coupons were cleaned in the solution for 5 minutes using ultrasonic agitation. Coupons were rinsed in a tap water bath for 15 seconds at 120 F and dried using compressed air blow off at room temperature for 30 seconds. Final weights were recorded and efficiencies were calculated.

Results:

The Metal Bright removed nearly 80% of the graphite mold release from the aluminum coupons. The table lists the amount of soil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Metal Bright	0.0062	0.0017	72.58
	0.0096	0.0014	85.42
	0.0108	0.0020	81.48

Summary:

Substrates:	Aluminum
Contaminants:	Mold Releases, Graphite

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Green Power	Metal Bright	10	79.83	☑	

Conclusion:

The Metal Bright will be used to clean supplied aluminum parts using ultrasonics.