CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2005
DateRun:	08/25/2005
Experimenters:	Jason Marshall
ClientType:	Metal
ProjectNumber:	Project #1
Substrates:	Aluminum
PartType:	Part
Contaminants:	Mold Releases, Graphite
Cleaning Methods:	Ultrasonics
Analytical Methods:	Photography, Visual
Purpose:	To evaluate two products for removal of graphite from supplied parts

Experimental Procedure:

Two products were selected for testing based on past testing and vendor recommendation. Metal Bright was retested at a higher concentration in an attempt to improve the brightening of the cleaned part. DFC 30 was included based on vendor information.

Metal Bright product was diluted to 20% and the DFC 30 was used at 10%. Each solution was suspended in water heated to 130 in a Crest Ultrasonic 40 kHz tank. The solutions were degassed for five minutes.

Two presoiled baked coupons 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) were suspended in each solution and cleaned for 10 minutes using ultrasonic energy. Parts were then rinsed with tap water at 120 F for 15 seconds and dried using compressed air at room temperature for 30 seconds. Cleaned parts were then visually inspected and compared to each other. In addition, the parts were also compared to the client supplied cleaned parts.

Results:

Both products removed the graphite from the aluminum parts. The Metal Bright resulted in parts that were almost as clean and bright as the final parts. The DFC 30 cleaned the parts to the level of the acid washed samples but did not brighten the parts. In each case, the larger parts were cleaner looking than the smaller parts.

Cleaner	Observations
Metal Bright	Good removal of graphite
	Better than acid wash samples
	Close to final products
	One part had black (dark) area on the back side
DFC 30	Okay-good removal of graphite
	About as clean as the acid washed samples
	Not bright

Summary:

Substrates:	Aluminum				
Contaminants:	Mold Releases, Graphite				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Green Power	Metal Bright	20	0.00	☑	
Cogent Environmental Solutions	DFC 30	10	0.00	☑	Not bight

Conclusion:

The increased concentration for Metal Bright resulted in brighter parts, but not to the level of Coil Bright. DFC 30 was capable of cleaning the graphite but provided no brightening. Vendor of DFC 30 will be sending modified product to address the brightening. Parts will be sent back after follow up test with new formulation is tested.