CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 08/31/2005

Experimenters: Jason Marshall

ClientType: Metal

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Part

Contaminants: Graphite

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric, Photography

Purpose: To evaluate products at various dilutions to improve brightening of parts.

Experimental Procedure: Two formulations of one product were selected for testing based on past testing and vendor recommendation. DFC 30 Mold Release was tested at 10% and 100% concentrations in an attempt to improve the brightening of the cleaned part. DFC 30 was included based on vendor information to help improve cleaning.

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: The DFC 30 Mold Release formulation had trouble removing the graphite. When used with the original DFC 30 formulation, DFC 30 Mold Release did provide some brightening of the aluminum parts. Parts were still not as clean as the parts that had been cleaned with Coil Bright. Photographs of the parts are included below

Summary:

Substrates:	Aluminum				
Contaminants:	Graphite				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Cogent Environmental Solutions	DFC 30 Mold Release	10	0.00	☐	Trouble removing graphite.
Cogent Environmental Solutions	DFC 30	10	0.00	☑	Removed graphite but no brightening
Cogent Environmental Solutions	DFC 30 Mold Release	100	0.00	☑	Provide Some brightening after cleaning with DFC 30

Conclusion: Parts were still not as clean as the parts that had been cleaned with Coil Bright. More testing will be conducted with additional concentration combinations.