

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1999
 DateRun: 07/12/1999
 Experimenters: Jason Marshall
 ClientType: Consultant
 ProjectNumber: Project #1
 Substrates: Ceramics, Alumina
 PartType: Part
 Contaminants: Alcohol
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Gravimetric

Purpose: To evaluate the one cleaner not available for the first trials.

Experimental Procedure: The seventh cleaner selected based on vendor information and the lab's Effective Test Conditions Database was tested. The cleaning solution was made into 2% solutions using DI water in 600 mL beakers. Three coupons were weighed prior to cleaning. These coupons were cleaned in the solution for five minutes using stir-bar agitation. Parts were rinsed for two minutes in DI water at room temperature. The parts were dried in a convection oven at 212 F for 15 minutes. After allowing parts to cool to room temperature, final weights were recorded. If weights did not change, the cleaner would be retested at a 5% solution with new coupons. If weights went down, the cleaner would be used in the next phase of testing.

SUBSTRATE MATERIAL: Ceramic-Alumina parts

CONTAMINANTS: DuPont Evanol (Vinyl Alcohol Polymers & Copolymers CAS#s: 9002-89-5, 25213-24-5, 54626-91-4; Methanol Bulk/Packaged CAS #: 67-56-1; Sodium Acetate CAS#: 127-09-3)

Results: The product tested at the 2% concentration caused the weights of the parts to be decreased. Table 2 lists the weight loss from cleaning. No 5% testing was needed.

Table 2. Weight Changes

| Cleaner | Initial wt | Final wt | Weight Loss |
|---------|------------|----------|-------------|
| Gemtek | | | |
| | 6.0685 | 6.0419 | -0.0266 |
| | 6.066 | 6.0359 | -0.0301 |
| | 6.0243 | 5.9902 | -0.0341 |

Summary:

| | | | | | |
|----------------------|---|-------------------|--------------------|-------------------------------------|----------------------|
| Substrates: | | Ceramics, Alumina | | | |
| Contaminants: | | Alcohol | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Gemtek Products | SC Aircraft & Metal Cleaner Super Concentrate | 100 | | <input checked="" type="checkbox"/> | |

Conclusion: The solution tested decreased the weight of the parts. Further evaluation will proceed with all selected cleaners.