

Corrosion Abatement Test

Performed on ACF-50 as requested by Bombardier Aerospace/Learjet, Inc.
All 2024-T3 Aluminum coupons fogged in a sulfurous acid/salt fog for 192 hours.

Coupons pre-treated with ACF-50 showed an average weight loss of only 1.9 mg



Untreated coupons showed an average weight loss of 150.1 mg



Conclusion:
ACF-50 prevents the formation of new corrosion cells

Conclusion:
Untreated metals corrode rapidly without a protective coating

Untreated coupons exposed for 96 hours, treated with ACF-50 then exposed for an additional 96 hours, showed an average weight loss of only 69.8mg



Conclusion:
ACF-50 effectively stops the corrosion process

SMI, Inc.

12219 SW 131 Avenue
Miami, Florida 33186-6401 USA

Phone: (305) 971-7047
Fax: (305) 971-7048

Attn: Lear Chemical Research Corp
PO Box 1040 Station B
Mississauga, Ontario
L4Y 3W3 Canada

Date: 23-Jul-2001
SMI/REF: 01MAY437

Product: ACF-50 (received 01-Jun-2001)
Dilution: As received

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Corrosion Abatement Procedure Performed on ACF-50 as requested by
BOMBARDIER AEROSPACE/Learjet Inc.

- Specimens Used: 2"x 4" AMS 4037 Aluminum (2024-T3)
- ACF-50 was sprayed on to specimens #1 and #2 prior to initial exposure.
- All 8 panels were exposed to sulfurous acid/salt fog for 96 hours per ASTM B117.
- After 96 hours, specimens #3, #4 and #5 were removed and sprayed with ACF-50. (No rinse or cleaning of any kind) and put back in with all the other panels to continue being fogged.
- Test was continued for a further 96 hours
- After a total 192 hours of sulfurous acid/salt fog, all specimens were removed from fog, cleaned with solvent, acid etched per ASTM F 482, annex A1 to remove corrosion products, and re-weighed.

Specimen	Initial Weight (g)	Weight After Etch (g)	Weight Loss (mg)
#1	18.3256	18.3227	2.9
#2	18.2851	18.2843	0.8
#3	18.2759	18.2017	74.2
#4	18.3012	18.2427	58.5
#5	18.2822	18.2056	76.6
#6	18.3297	18.2105	119.2
#7	18.2735	18.1178	155.7
#8	18.4299	18.2545	175.5

Specimens	Average Weights
#1 and #2: (Initially coated with ACF-50)	1.9 mg average weight loss after 192 hour fog
#3, #4, #5 (Coated after first 96 hrs of fog):	69.8 mg average weight loss after 192 hour fog
#6, #7, #8 (uncoated panels):	150.1 mg average weight loss after 192 hour fog

Conclusion: As evidenced by the reduction in average weight loss for specimens #3, 4 and 5 (compared to specimens # 6, 7 and 8), once applied to corroded specimens, ACF-50 appears to successfully inhibit further corrosion of 2024-T3 aluminum.

Respectfully submitted,

Patricia D. Viani, SMI Inc.