



**CORROSION OF ALUMINIUM ALLOYS**  
**DETERMINATION OF RESISTANCE TO STRESS CORROSION CRACKING**

Customer:  
Customer ID.: MYE001  
Order Number: RGPO19-000515

Report Number: TSSCC2020001  
Date: 2020.04.07

**Basic Test Information**

Test Method: ISO 9591:2004  
Test Duration.: 30 Days  
Stress Level: 75% of specific yield stress  
Stress Designation: 4 points bending  
Solution: 3.5% NaCl

Immersion: Alternate immersion  
Start Date/Time: 2020.03.06 19:00  
End Date/Time: 2020.04.04 19:00  
Specimen Dimension: Bar, 55.0 x 4.5 x 1.5mm

**Alloy Materials**

- Test Material 01: ALGI, joint
- Test Material 02: ALGI, non-joint
- Test Material 03: ALGE, joint
- Test Material 04: ALGE, non-joint
- Test Material 05: AL8, joint
- Test Material 05: AL8, non-joint

Material	Young Modulus (GPa)	Yield Strength (MPa)
ALGI	68.9	350
ALGE	71	414
AL8	71	414

Mechanical Properties of Materials

**Surface Condition**

Degreased using acetone then etched in a 1.4% sodium hydroxide solution at a temperature of 55 ° C for 5 min, rinsed in running water, cleaned in a 30% solution of nitric acid, rinsed in running water, rinsed in distilled water at 80 ° C and dried.



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**Test Configuration**

Specimens were exposed to a 3.5% saline solution. Solution was replaced once two weeks and maintained the pH between 6.4 – 7.2.

Room temperature was maintained between 18 ° C to 28 ° C, and the relative humidity was kept from 40% to 50%. Specimens were examined daily for evidence of SCC.

**Test Result**

ALGE (Joint)	#1	#2	#3	#4	#5
	Pass	Failure	Failure	Failure	Pass
ALGE (Non-Joint)	#11	#12	#13	#14	#15
	Pass	Pass	Pass	Pass	Pass
AL8 7046 (Joint)	#21	#22	#23	#24	#25
	Failure	Pass	Failure	Failure	Failure
AL8 7046 (Non-Joint)	#31	#32	#33	#34	#35
	Pass	Pass	Pass	Pass	Pass
ALGI (Joint)	#41	#42	#43	#44	#45
	Pass	Pass	Pass	Pass	Pass
ALGI (Non-Joint)	#51	#52	#53	#54	#55
	Pass	Pass	Pass	Pass	Pass

Remarks: None

Advance Instrument Inc. is an equipment manufacturer and assumes no responsibility of any form for the accuracy and adequacy of any test results, data, or conclusions, which may result from the use of these materials. Data's of this report reflects only to the samples as make and provided by the customer.

CERTIFIED By:

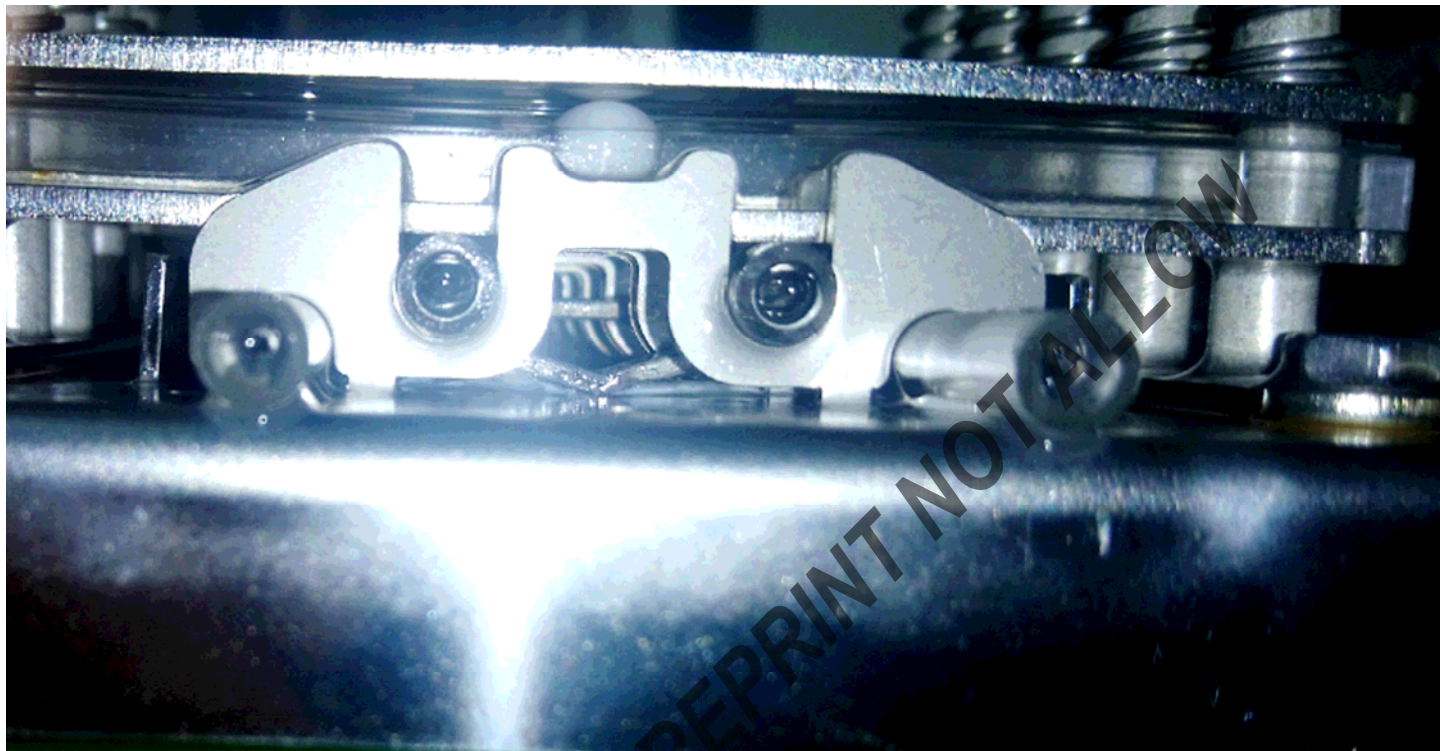
*Nelson Wu*

Test Report Manager

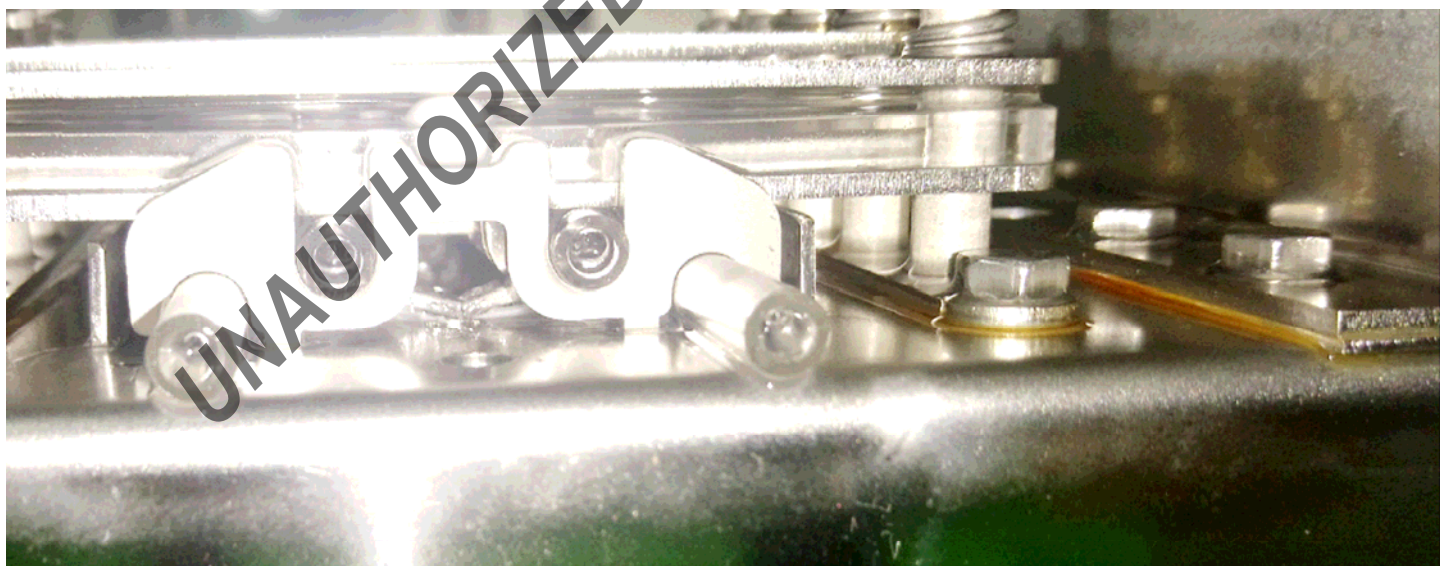
2020/04/08

Date

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Close view 1



Close view 2