

# Akron Rubber Development Laboratory, Inc.



## TEST CERTIFICATE

This document certifies Avalon® 89

From

**Greene, Tweed & Co.**

**PASSED**

the technical requirements for Fluid Aging

*In accordance with Annex B, ISO 23936-1, 2009 Edition and Norsok M-710, Rev.3*

Test Gas Classification	B.1.1 Table B.1 Multi-Phase High H <sub>2</sub> S Sour Gas Aromatic Fluid Mix
Test Temperature	195°C, 210°C, and 225°C
Initial Charge Pressure	6.0 +/- 0.5 MPa (870 +/- 72 psi)
Test Specimen	ASTM D638 Type IV dumbbell test specimens
Operational Service Temperature / Classification	180°C / ISO 10423 Service Classification "X"

Prepared By: Bob Zickefoose

Bob Zickefoose  
Staff Engineer  
ARDL Engineering

Approved By: John Meser

John Meser  
Manager  
ARDL Engineering



An A2LA Accredited Testing Laboratory — Certificate Numbers 255.01 & 255.02  
ISO 9001:2008 Registered

**ISO 9001:2008**  
Registered

\*Certificate Numbers 255.01 & 255.02

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ARDL verifies that Avalon® 89 ASTM D638 Type IV dumbbell test specimens, supplied by Greene, Tweed & Co., have been subjected to ISO 23936-1 Annex B and NORSOK M-710 Rev 3 test specifications with no failures during the 42 day aging test.

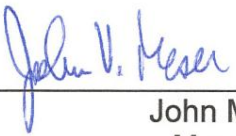
Property	Measured	Allowable Change	Source	Comment
% Change Volume min/max	+0.1%/+1.6%	-1%/+5%	ISO 23936-1 NORSOK M-710	No failures during aging test
Hardness min/max	-4.6/+4.6 (points)	Report	ISO 23936-1 NORSOK M-710	Data only to be reported
% Change 50% Modulus min/max	-16.9%/+9.7%	-50%/+50%	ISO 23936-1 NORSOK M-710	No failures during aging test
% Change Stress At Break min/max	-0.6%/+7.1%	-50%/+50%	ISO 23936-1 NORSOK M-710	No failures during aging test
% Change Elongation min/max	-22.8%/+13.0%	-50%/+50%	ISO 23936-1 NORSOK M-710	No failures during aging test

The results indicate that the material is resistant to the simulated fluid media specific herein. The Avalon® 89 Plastic **PASSED** the full requirements of Annex B per ISO 23936-1 and Norsok M710 Rev 3, under the stated conditions.




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Bob Zickefoose  
Staff Engineer  
ARDL Engineering




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John Meser  
Manager  
ARDL Engineering