



TEST CERTIFICATE: APT-TC-220119-01

NORSOK M710 Qualified

Standard: NORSOK M710 Edition 3 & ISO 23936-1:2009

Material: Avalon 89

Issued To: Greene, Tweed & Co.

2075 Detwiler Road, Kulpville, PA 19443

June 29, 2022

Qualification Statement: The Avalon 89 compound is "Qualified" to NORSOK M-710, Edition 3 & ISO 23936-1:2009 for sour aging of plastics in 10% H₂S and aromatic multi-phase fluids. Aging was conducted at three temperatures and life estimations were performed. Refer to test report "APT-TR-220119-RevC."

Immersion Parameters		
Volume%	Phase	Composition
30	Gas	10% H ₂ S, 5% CO ₂ , 85% CH ₄
10	Water	Distilled H ₂ O
60	Hydrocarbon	70% Heptane, 20% Cyclohexane, 10% Toluene
Temperature		Durations (Days)
Low	195°C	7, 14, 28, 42
Medium	210°C	2, 7, 14, 21
High	225°C	2, 7, 14
Pressure		6 ± .5 MPA (870 ± 72 psi) at ambient
Specimen Type		ASTM D638 Type IV Tensile Bars
Measurements		Tensile, Volume, and Visual Inspection

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Accredited to: ISO/IEC 17025:2017, Field of Accreditation: Mechanical Testing