

TEST CERTIFICATE: APT-TC-220730-01

Standard: API 6A 21st Edition Annex F.1.13.5.2

Material: GTS-2309E Status: Qualified

Issued To: Greene Tweed & Co.

2075 Detwiler Road, Kulpsville, PA 19443

November 3, 2022

Qualification Statement:

The GTS-2309E compound is qualified to API 6A 21st Edition according to Annex F.1.13.5.2 immersion testing for material class FF/HH 10% H2S design validation procedures meeting NORSOK M-710 Ed. 3 and ISO 23936-2:2011 sour aging acceptance criteria.

Qualification Parameters		
35% Gas	10% H2S / 80% CO2 / 10% CH4	
60% Hydrocarbon	Kerosene (Diesel #1)	
5% Water	Distilled Water	
Exposure	To the liquid hydrocarbon phase	
Pressure	1000 ± 100 psi	
Duration	160 hours	
Temperature	392°F (200°C)	

Acceptance Criteria		
Property	Criteria	Result
Hardness	+10 / -20 points	Met
Volume	+5% /-1%	Met
Tensile Strength	± 50%	Met
Elongation at Break	± 50%	Met
Young's Modulus	± 50%	Met
Visual Inspection	No Visible Degredation	Met

Prepared By: kevin Hallard

Kevin Ballard

Principal Scientist

Approved By: __/

Nick Plasket

Staff Technologist



Alpine Polytech

1325 Ranchers Legacy Trail, Fort Worth, TX 76126

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