SHELL GLOBAL SOLUTIONS

CERTIFICATE OF ACCEPTANCE

This is to certify that a gasket design approval has been awarded to:

Company: James Walker
Manufacturing Location: James Walker Moorflex Ltd, John Escritt Road, Bingley
Brand: James Walker Insolion G11
Technical Qualification Result: Successful Type Acceptance Test

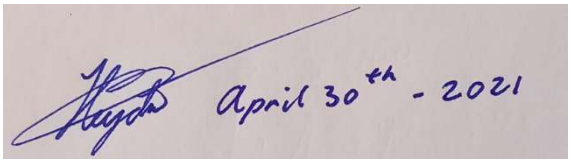
Based on the Shell Global Solutions Technical Qualification, the performed Type Acceptance Testing (TAT) in accordance with testing procedure SPE 85/300 (dated February 2019) and the compliance with the flange insulation set requirements according testing procedure SPE 85/201 (dated February 2017) has been accepted on April 13 - 2021 by Shell Global solutions International B.V. The successful TAT is based on:

Gasket Type	Pressure Class	Allow. Operating Temp Range	Size	Emission class Ambient	Emission class 200°C
Electrical insulation	150 # - 2500 #	-150° up to 200 °C	½" – 24"	AH	BH

Gasket material	Stainless steel 316L core with G11B (woven glass fibre reinforced epoxy) laminated to either face. Into both gasket faces concentric grooves house a spring energized PTFE seal. Spring material: UNS 30003 / AMS 5833 / AMS 5834. (NACE MR0175 / ISO 15156-3.) See page 2 for gasket summary sheet.

Shell GSI Report No: N.A. (Not Applicable)	**Original acceptance**: October 27, 2015
Shell GSI contract no: N.A.	**Current Certificate**: April 30, 2021
Certificate Revision: 0	**Certificate Expiry**: April 30, 2026
Issued By: Shell Global Solutions International B.V. GSNL-PTP – Bas van der Heijden Bas.vanderHeijden@shell.com	**Suppliers Report Numbers:** - Amtec 3rd Party test report, Oct.30 -2020, report No. 304 459 1/a. - James Walker inhouse test report, Sept.16 -2020, prepared by M. Coulthard. - James Walker inhouse test report, June 2- 2015, prepared by M. Coulthard.
	Suppliers Contact: Gary Briggs - gary.briggs@jameswalker.biz

Signature & Date:



James Walker

Company:	**James Walker**
Manufacturing Location:	James Walker Moorflex Ltd, John Escritt Road, Bingley, BD16 2BS, United Kingdom
Product Description:	Tested in Accordance with:
James Walker InsoLion® G11, electrical isolating gasket consisting of a stainless steel 316L core, with G11B (woven glass fibre reinforced epoxy) laminated to either face. Into both gasket faces concentric grooves house a phynox spring energised PTFE seal. Designed to: SPE 85/201 (dated February 2017) and SPE 85/300 (dated February 2019)	TA Testing in accordance to Shell MESC SPE 85/300 (*dated February 2019)* , original testing carried out by James Walker Test Laboratories in period February 2015; with reapproval 3rd party witness testing carried out by AMTEC labs October 2020.

3rd Party Witness Testing in accordance with specification Shell MESC SPE 85/300 - Crucial Tests Identified by Shell to be Witnessed

Final Testing Carried out at AMTEC Test Laboratories using the TEMES Amtec F1.Ai1 test rig; under report reference 3044591a

	Specification	Result	
- Shell Leakage test at ambient temperature (MESC SPE 85/300 – 3.3.2)	CLASS A (H)	8.2 E-9 Pa.m³/s/mm	**PASS**
- Shell Leakage test at 200°C temperature (MESC SPE 85/300 – 3.3.2)	CLASS B (H)	3.8 E-8 Pa.m³/s/mm	**PASS**
- Shell Leakage test – High Operational Tightness Test- HOTT, (MESC SPE 85/300 – 3.3.5)	<1.0 Bar	-0.1 Bar	**PASS**
- Shell Electrical Isolation Testing 1500V DC, Flange to Bolt- MESC SPE 85/300-3.3.15	>100MΩ	26.6GΩ	**PASS**
- Shell Electrical Isolation Testing 1500V DC, Flange to Flange- MESC SPE 85/300-3.3.15	>100MΩ	39.5GΩ	**PASS**

James Walker Internal Type Acceptance Testing in accordance with specification Shell MESC SPE 85/300

	Specification	Result	
- Shell Leakage test – Hot Blowout Test - HOBT-1, (MESC SPE 85/300 – 3.3.6)	No Blowout at 1.5 x rated pressure	<0.4 Bar pressure loss (No Blowout)	**PASS**
- Compression test at ambient temperature (MESC SPE 85/300 – 3.3.4: EN13555)	Gasket Characteristic Properties	Q_{smax} 162MPa	*N/A*
- Compression test at 200°C (MESC SPE 85/300 – 3.3.4: EN13555)		Q_{smax} 162MPa	
- Relaxation test at ambient temperature (MESC SPE 85/300 – 3.3.4: EN13555)		P_{QR} 1.0 at 52MPa	
- Relaxation test at 200°C (MESC SPE 85/300 – 3.3.4: EN13555)		P_{QR} 0.99 at 52MPa	
- Leakage test (MESC SPE 85/300 – 3.3.4: EN13555)		$Q_{smin(0.00001)}$ 23MPa	
- Visual Examination		*Minor Grammophone*	**PASS**

Product Group Description:	Flange insulation kits, consisting of flange insulation gasket, insulating sleeves, insulating and metal washers
Pressure Class Range:	ASME Classes 150, 300, 600, 900, 1500 & 2500
Size Range:	DN 15 (1/2") to DN 600 (24")
Temperature Range	**Min** Cryogenic, **Max** 200°C
Brand Name & Model Designation:	James Walker InsoLion® G11
Reference Drawings:	CEQ2796-13