



materials engineering research
laboratory

TEST CERTIFICATE

This document certifies that
F227 FKM AED -25°C compound in O-ring form, supplied by

GAPI GROUP

met the requirements of

**NORSOK M710 [Rev. 2, October 2001] in respect of rapid
gas decompression resistance in 10% carbon dioxide at
150 bar and 100°C**

Test gas:	90/10 mol% CH ₄ / CO ₂
Test temperature:	100 °C
Test pressure:	150 bar
Average de-pressurization rate:	20 bar/minute
Passed by:	Keyur Somani and Mike Lewan
Date:	08/09/2010

MERL verify that O-rings supplied by Gapi Group, in compound **F227 FKM AED -25°C**, have been subjected to a multi-cycle RGD test under the conditions detailed below.

Test seals

O-rings details:-	Compound	F227 FKM AED -25°C
	Size	BS 1806 size 312
	Section diameter	5.33 mm, nominal
	Groove fill	65%, nominal

Test Gas

10% CO₂ in methane; certified.

Procedure and Test Conditions

For each test cycle the following procedure and conditions applied:

- 1) the assembly was heated to 100 °C and this temperature maintained throughout.
- 2) a pressure of 150 bar, using the test gas, was applied.
- 3) this pressure was maintained for 72 hours minimum initially.
- 4) a rapid decompression in 7.5 minutes from 150 bar to ambient was performed.
- 5) ambient pressure was maintained for one hour and pressure cycled every 24 hours.

After 10 cycles, each of the four replicate test O-rings was quartered and the exposed surfaces rated according to the standard (Table B.2).

NORSOK Ratings for Gapi test seal

Compound	Summary rating (average of four)	PASS/FAIL
F227 FKM AED -25°C	1000	PASS

Summary

The F227 FKM AED -25°C O-rings meet the RGD acceptance requirements given in the NORSOK M-710 standard [Rev. 2, October 2001]. This acceptance applies at all pressure and temperature combinations up to the test limits.