



Overview

VT90BK51 is Canyon's Anti-Explosive Decompression, Extreme Low Temperature, 90 shore A durometer, black FKM Type XLT. Other FKM types are available: A, B, F, GF, GLT, GFLT, ULT, ETP. Compare to Parker VG109-90.

Features & Benefits

- Extreme low temperature performance
- Anti-Explosive Decompression to NACE TM0297, NORSOK M-710, & ISO 23936-2
- Excellent chemical resistance

Service Temperature

- -48°C to 225°C (-55°F to 437°F)

Specification

- ASTM D2000 M3HK910 A1-10 B37 B38 E078 Z1 Z2

Test Data

Table 1. Physical Properties

Test	Requirements	Results
Color	Black	Black
Hardness, Shore A	90+/-5	90
Tensile Strength, psi (MPa)	1450 min	2410 (16.6)
Elongation	100% min	125%

NORSOK

NACE

ISO
23936-2



Table 2. A1-10 - Heat Aging - 70 hrs at 250°C

Test (Change)	Requirements	Results
Hardness, Shore A	+10 max	+2
Tensile Strength, %	-25 max	-18
Elongation, %	-25 max	-23

Table 3. B37 - Compression Set - 22 hrs at 175°C

Test (Change)	Requirements	Results
Permanent Set, %	30 max	10

Table 4. B38 - Compression Set - 22 hrs at 200°C

Test (Change)	Requirements	Results
Permanent Set, %	50 max	12

Table 5. E078 - ASTM Oil 101 Resistance - 70 hrs at 200°C

Test (Change)	Requirements	Results
Hardness, Shore A	-15 to +5	-7
Tensile Strength, %	-40 max	-28
Elongation, %	-20 max	+3
Volume, %	0 to +15	+8

Table 6. Z2 - Low Temp Retraction

Test (Change)	Requirements	Results
TR-10, °C		-40

**Table 7. NORSOK M-710 Rapid Gas Decompression Resistance**

Condition	Tolerances	Value
Test Temperature, °C	-2 to +2	100
Pressure, MPa	0 to +2	15
Cycle Count		8
Decompression Rate, MPa/min		2
Gas Type, mol%		90/10 CH ₄ /CO ₂
O-Ring Size, AS568		-325
Test (Change)	Requirements	Results
Results	Pass	Pass (0000)

Looking for specific chemical compatibilities or desire more material information? [Please Contact Us!](#)

Table 8. API 6A Sour Fluid Resistance

Condition		Value
Test Temperature, °C		177
Pressure, MPa		6.9
Gas Phase (35%)	FF/HH: 10/80/10mol% H2S/CO2/CH4	
Liquid Phases (65%)	60% vessel volume	
	NORSOK oil (mixture of	
	70% Heptane, 20%	
	Cyclohexane and 10%	
	Toluene)	
	5% vessel volume	
	deionized water	
Test (Change)	Requirements	Results
Volume, %	-5 to +25	+6
Hardness, Shore A	-20 to +10	-9
Modulus @ 50%, %	-50 to +50	-17
Tensile Strength, %	-50 to +50	-22
Elongation, %	-50 to +50	-7