



**TECHNICAL
DATA SHEET**

M77 REV.00

Compound Code: FFKM90PE	Revision: 01	
Compound Description: HPSealing® [900] Black 90 ±8 m IRHD Norsok M-710		
Specification: NORSOK M-710 ED3 ISO 23936-2 (rapid gas decompression resistance) FFKM90 AED BLACK CHEMICAL (Chemical Resistance)		Date: 23/01/2019
		Person Responsible: Valerio Vezzoli

Samples Curing Conditions

	Temperature	Unit	Time	Unit	Note
Curing	180	°C	7	min	Test slabs thickness mm 2
Postcuring	200	°C	12	h	

Original Properties

Properties	Tested Value	Unit	Test Method	Limit	Note
Hardness Shore A 3 Sec.	86,7	punti	DIN ISO 7619-1		90± 8 m IRHD on finished products
Density	1,97	g/cm ³	DIN EN ISO 1183-1 A	1,97±0,05 g/cm ³	
Tensile Strength	22,4	MPa	DIN 53504 S2		
Elongation at break	156,6	%	DIN 53504 S2		

Compression Set

Deformation: 25%

Temperature °C	Time H	Tested Value	Unit	Test Method	Limit	Note
175 in air	24	35,5	%	ASTM D 395-B		

Value Change After Treatment

Treatment	Method	Time / Temperature		Hardness Shore A		Tensile strength %		Elongation %		Volume %		Weight %	
		hours	°C	requested	measured	requested	measured	requested	measured	requested	measured	requested	measured
AIR	DIN 53508	70	200		1,00		2,20		11,60				

Note	Compression set performed on 3 layers of 2mm
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Storage periods for unassembled components	Initial storage period 10 years, Extension storage period 5 years
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DISCLAIMER NOTE

This information is to the best of our knowledge accurate to the date indicated. However, BER-PA make no warranty, expressed or implied, that parts manufactured from this material will perform satisfactorily in the customer's application. It is the customer's responsibility to evaluate parts prior to use, especially in applications where their failure may result in injury and/or damage. It should also be noted that all elastomeric parts have a finite life, therefore a regular program of inspection and replacement is strongly recommended. TGA, infrared and other types of analysis must be agreed, fixed and approved by both parties with specifications and tolerances; on the contrary results can neither confirmed nor guaranteed. Nothing herein shall be construed as a recommendation to infringe any existing patent or violate any applicable law. The distribution of this document is not monitored. This data sheet is not subject to an automatic update. HPSealing® is trademark of BER-PA SRL.



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Revision:

01



Compound Description:

**HPSealing® [900] Black
90 ±8 m IRHD Norsok M-710**

Date:

23/01/2019

Specification:

**NORSOK M-710 ED3 ISO 23936-2
(rapid gas decompression resistance)
FFKM90 AED BLACK CHEMICAL
(Chemical Resistance)**

Person Responsible:

Valerio Vezzoli



O-rings in compound

FFKM90PE

supplied by

BER-PA SRL

have been tested according to the requirements of

**NORSOK M-710 Edition 3 and ISO 23936-2
(Rapid gas decompression resistance)**

PASSED

Test gas: 90/10 mol% CH₄ / CO₂
Test temperature: 100 ±2 °C
Test pressure: 150 bar (15 MPa)
Number of cycles: 8
Decompression rate: 19.4 bar/minute
Seal Size: 312 (ISO 3601-1/AS 568)

Allen Madamombe
Scientist

19th December 2018
Date

Element Hitchin has been assessed to BS EN ISO 9001 by the British Standards Institution (BSI) and is a registered firm under the BSI Quality Assurance scheme for the provision of professional and technical services.



Element Materials Technology

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Element Hitchin verify that O-rings in compound FFKM90PE supplied by Ber-Pa SRL have been subjected to a multi-cycle RGD test under the conditions detailed below.

RGD TEST COMMISSIONED BY		
Ber-Pa SRL		
SEAL COMPOUND DETAILS		
Seal Manufacture	Ber-Pa SRL	
Supplied by	Ber-Pa SRL	
Compound name/number/reference	FFKM90PE	
Elastomer type to ASTM D1418	FFKM	
Lot/Batch No.	Not disclosed	
Seal type	O-ring	
Manufacturing method	Not disclosed	
Seal size (ISO3601-1/AS 568)	312	
CSD (nominal)	mm	5.33
Mean CSD (actual, radial)	mm	5.32
RGD TEST CONDITIONS		
Temperature	°C	100 ±2
Pressure	MPa (bar)	15 +2/-0 (150 +10/-5)
No. of cycles		8
Dwell between cycles	hour	1
Decompression rate (average)	MPa/min (bar/minute)	2.0 (20)
Gas type	mol%	90/10 CH ₄ /CO ₂
SEAL HOUSING DETAILS CONDITIONS		
Seal compression direction	Radial	
Groove ID	mm	25.4
Groove OD	mm	16.0
Groove width	mm	5.68
Squeeze (average)	%	11.1
Groove fill (area basis)	%	83
Number of seals tested	4	
ISO TEST SEAL RATINGS		
SEAL REPLICATE	RATING	PASS/FAIL
1	3220	Pass
2	3200	Pass
3	3221	Pass
4	0000	Pass
OVERALL RATING	PASS	
GENERAL		
Test laboratory	Element Materials Technology, Hitchin, U.K.	
Test date	16 th November – 22 nd November 2018	
Test gas certified and available	YES/NO	YES
Transducer calibration available	YES/NO	YES
P/T log available	YES/NO	YES
TEST LABORATORY STAMP/SIGNATURE	 Element Hitchin, UK	

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