



**TECHNICAL
DATA SHEET**

M77 REV.00

<i>Compound Code:</i> VB90CMED	<i>Revision:</i> 00
<i>Compound Description:</i> FKM Nero / Black 90 ±5 m IRHD Norsok M-710 (COP)	<i>Date:</i> 21/12/2017
<i>Specification:</i> NORSOK M-710 ED3 ISO 23936-2 (rapid gas decompression resistance) FKM 90 AED BLACK TR10 -17°C (Vs Viton® A)	<i>Person Responsible:</i> Valerio Vezzoli

Samples Curing Conditions

	Temperature	Unit	Time	Unit	Note
Curing	170	°C	10	min	
Postcuring	230	°C	24	h	

Original Properties

Properties	Tested Value	Unit	Test Method	Limit	Note
Hardness Shore A 3 Sec.	92	PUNTI	ASTM D2240		90±5 m IRHD on finished products
Density	1,83	g/cm ³	ASTM D1817	1,83±0,10 g/cm ³	
Tensile Strength	18	N/mm ²	DIN 53504 S2		
Elongation at break	100	%	DIN 53504 S2		
Tear Strength	35	N/mm	ASTM D624B		

Low Temperature Properties

Properties	Tested Value	Unit	Test Method	Limit	Note
TR TEST TR10	-17	°C	ASTM D 1329		

Compression Set

Deformation: 25 %

Temperature °C	Time H	Tested Value	Unit	Test Method	Limit	Note
200	22	18	%	ASTM D395		

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	ASTM D-573	70	250		-1,00		+2,00		-3,00				
Fuel C	ASTM D-471	72	23		-4,00		-8,00		0		+3,00		1,40
ASTM 3	ASTM D-471	72	150		-4,00		-4,00		+11,00		+1,60		+1,00

Note: Application Anti Explosive Decompression

Storage periods for unassembled components Initial storage period 10 years,
Extension storage period 5 years

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.



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O-rings in compound

VB90CMED

supplied by

BER-PA S.R.L

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: 20.3 bar/minute
Seal Size: 312 (ISO 3601-1/AS 568)

Conor Raftery
Scientist

14th December 2017
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 VB90CMED supplied by BER-PA S.R.L have been subjected to a multi-cycle RGD test under the conditions detailed below.

RGD TEST COMMISSIONED BY		
BER-PA S.R.L		
SEAL COMPOUND DETAILS		
Seal Manufacture	BER-PA S.R.L	
Supplied by	BER-PA S.R.L	
Compound name/number/reference	VB90CMED	
Elastomer type to ASTM D1418	FKM	
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	5.44
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	mg%	90/10 CH ₄ /CO ₂
SEAL HOUSING DETAILS CONDITIONS		
Seal compression direction	Radial	
Groove ID	mm	25.42
Groove OD	mm	15.96
Groove width	mm	5.69
Squeeze (average)	%	12.3
Groove fill (area basis)	%	85
Number of seals tested	4	
ISO TEST SEAL RATINGS		
SEAL REPLICATE	RATING	PASS/FAIL
1	0000	Pass
2	0000	Pass
3	0000	Pass
4	0000	Pass
OVERALL RATING	PASS	
GENERAL		
Test laboratory	Element Materials Technology, Hitchin, U.K.	
Test date	24 th November – 1 st December 2017	
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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