

## O-rings in compound

**E1004 (HNBR H90 LT-RGD)**

**supplied by**

**FCS FLUORO CARBON SEALS PVT. LTD**

have been tested according to the requirements of

**NORSOK M-710 Edition 3  
(Rapid gas decompression resistance)**

# PASSED

Test gas:	90/10 mol% CH <sub>4</sub> / CO <sub>2</sub>
Test temperature:	100 ±2 °C
Test pressure:	150 bar (15 MPa)
Number of cycles:	8
Decompression rate:	19.7 bar/minute
Seal Size:	312 (ISO 3601-1/AS 568)

*Helen Coates*

Scientist

*18<sup>th</sup> January 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 **E1004 (HNBR H90 LT-RGD)** supplied by FCS have been subjected to a multi-cycle RGD test under the conditions detailed below.

<b>RGD TEST COMMISSIONED BY</b>		
FCS Fluoro Carbon Seals PVT. Ltd		
<b>SEAL COMPOUND DETAILS</b>		
Seal Manufacture	FCS Fluoro Carbon Seals PVT. Ltd	
Supplied by	FCS Fluoro Carbon Seals PVT. Ltd	
Compound name/number/reference	<b>E1004 (HNBR H90 LT-RGD)</b>	
Elastomer type to ASTM D1418	HNBR	
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
<b>RGD TEST CONDITIONS</b>		
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 <sub>4</sub> /CO <sub>2</sub>
<b>SEAL HOUSING DETAILS CONDITIONS</b>		
Seal compression direction		Radial
Groove ID	mm	25.4
Groove OD	mm	16.0
Groove width	mm	5.70
Squeeze (average)	%	11.4
Groove fill (area basis)	%	83
Number of seals tested		4
<b>ISO TEST SEAL RATINGS</b>		
SEAL REPLICATE	RATING	PASS/FAIL
1	0000	Pass
2	0000	Pass
3	0000	Pass
4	0000	Pass
<b>OVERALL RATING</b>	<b>PASS</b>	
<b>GENERAL</b>		
Test laboratory	Element Materials Technology, Hitchin, U.K.	
Test date	16 <sup>th</sup> - 23 <sup>rd</sup> 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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