

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 ₄ / CO ₂
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

18th January 2017

Date

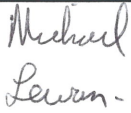

Element Hitchin has been assessed to BS EN ISO 9001 by the British Standards Institution (BSI) and is a registered firm under the BSI Quality Assurance scheme for the provision of professional and technical services.



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.

RGD TEST COMMISSIONED BY		
FCS Fluoro Carbon Seals PVT. Ltd		
SEAL COMPOUND DETAILS		
Seal Manufacture	FCS Fluoro Carbon Seals PVT. Ltd	
Supplied by	FCS Fluoro Carbon Seals PVT. Ltd	
Compound name/number/reference	E1004 (HNBR H90 LT-RGD)	
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
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	5.70
Squeeze (average)	%	11.4
Groove fill (area basis)	%	83
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	16 th - 23 rd 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	 Michael Lewin	 Element Hitchin, UK

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