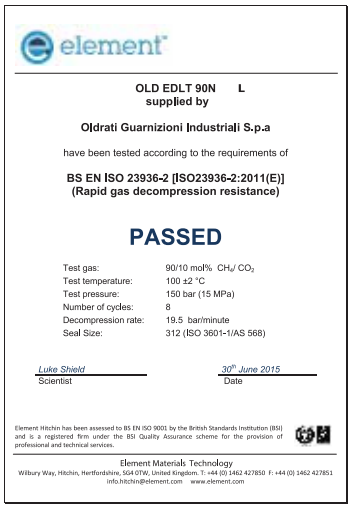
OLD EDLT 90NL & OLD EDFP 95NA

OLD EDLT 90NL AND OLD EDFP 95NA
qualified according to
SAUDI ARAMCO 06-SamSS-001 (2013)

-50°

LOW TEMPERATURE



element

OLD EDLT 90N L
supplied by

Oldrati Guarnizioni Industriali S.p.a

have been tested according to the requirements of

BS EN ISO 23936-2 [ISO23936-2:2011(E)]
(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:	19.5 bar/minute
Seal Size:	312 (ISO 3601-1/AS 568)

Luke Shield — Scientist

30th June 2015 — 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.

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Oldrati Group obtained the **SAUDI ARAMCO 06-SamSS-001 (2013)** qualification for two of its flagship products.
In particular, the R&D challenge was to develop two specific compounds with even better performance than the limitations set by the Saudi Aramco specification.

The two qualified materials are:
OLD EDLT 90NL: fluoropolymer indicated in arctic applications with minimum working temperature -50° C.
OLD EDFP 95NA: fluoropolymer suggested in applications in which chemical resistance maximization is required.
Saudi Aramco specification indicates both chemical aging in sour gas and a RGD qualification (rapid gas decompression) in two different fluids.

Oldrati Group was able to exceed the conditions set in the ARAMCO specification thus demonstrating the exceptional quality, chemical and physical stability of its materials.
The sour gas aging resistance test was conducted in an atmosphere containing 30% H2S (maximum possible quantity in the gas phase at the temperature and pressure conditions required by the specification itself) and the RGD qualification tests have also been conducted using O-ring with 10.82 mm cross section.

RGD TEST CONDITIONS		
Temperature	°C	100±2
Pressure	MPa (bar)	15 +1/-0.5 (150 +10/-5)
No. of cycles		8
Dwell between cycles	hour	1
Decompression rate (average)	MPa/min (bar/minute)	1.95 (19.5)
Gas type	$_{mol}$%	90/10 CH_4/CO_2
SEAL HOUSING DETAILS CONDITIONS		
Seal compression direction	Radial	
Groove ID	mm	25.40
Groove OD	mm	16.01
Groove width	mm	5.67
Squeeze (average)	%	12.24
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

The tests performed in a specialized laboratory, were coordinated and supervised by Bureau Veritas inspectors. The results, as documented by the certificates approved and released by Bureau Veritas, qualify OLD EDLT 90NL with O-ring 10,82 mm cross section, while the OLD EDFP 95NA qualified according to NORSOK's highest rating, using an O-ring with 5,33 mm cross section.

Founded in 1964 in Italy, Oldrati Group is recognized as one of the international leaders in Rubber and Plastic sector.
Oldrati operates multiple production sites in Europe thus ensuring high quality and services for global customers.
Oldrati's specialization in the Oil and Gas field led the Group to achieve prestigious qualifications.

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oldratigroup
RUBBER & PLASTIC GOVERNANCE

OIL & GAS APPROVED COMPOUNDS PORTFOLIO

OLDRATI NAME	ASTM 1418 NOMENCLATURE	POLYMER DESCRIPTION	SPECIFICATION APPROVAL
OLD-REX ICE	FFKM	Black perfluoroelastomer rubber with outstanding chemical resistance and low temperature applications	**NORSOK M-710** Rev. 3 (ISO 23936-2)
OLD-REX P495N	FFKM	Black perfluoroelastomer rubber with outstanding chemical resistance	**NORSOK M-710** Rev. 2 **NORSOK M-710** Rev. 3 (ISO 23936-2)
OLD EDLT 90NL	FKM	Black fluorocarbon rubber peroxide cured for very low temperature application	**NORSOK M-710** Rev.3 (ISO 23936-2) **SAUDI ARAMCO** 06-SamSS-001 (2013)
OLD EDG 90N	FKM	Black fluorocarbon rubber peroxide cured for low temperature application	**NORSOK** M-710 Rev. 2 **NORSOK M-710** Rev. 3 (ISO 23936-2)
OLD EDG 95N	FKM	Black fluorocarbon rubber peroxide cured for low temperature application	**TOTAL GS PVV 142** 03/01 Rev.00 **NORSOK M-710** Rev. 3 (ISO 23936-2)
OLD EDG 98N	FKM	Black fluorocarbon rubber peroxide cured for low temperature application	**NORSOK M-710** Rev. 3 (ISO 23936-2)
OLD EDFP 95NA	FKM	Black fluorocarbon rubber peroxide cured with improved chemical resistance	**SAUDI ARAMCO 06-SamSS-001** (2013)
OLD EDFP 95N	FKM	Black fluorocarbon rubber peroxide cured with improved chemical resistance	**TOTAL GS PVV 142** 03/01 Rev.00
OLD EDB 95N	FKM	Black fluorocarbon rubber bisphenolic cured with improved chemical resistance	**NORSOK M-710** Rev. 2
OLD EDA 95N	FKM	Black fluorocarbon rubber bisphenolic cured	**NORSOK M-710** Rev. 2
OLD EDAF 90N	FEPM	Black fluorocarbon rubber peroxide cured specifically designed in ammine service	**NORSOK M-710** Rev. 2
OLD NHP ICE 90	HNBR	Black hydrogeneted nitrile butadiene rubber peroxide cured	**NORSOK M-710** Rev. 3 (ISO 23936-2)
OLD EDNHP 90N	HNBR	Black hydrogeneted nitrile butadiene rubber peroxide cured	**TOTAL GS PVV 142** 03/01 Rev.00
OLD ULTRA ED 90N	HNBR	Black hydrogeneted nitrile butadiene rubber peroxide cured	**TOTAL GS PVV 154** Rev.0