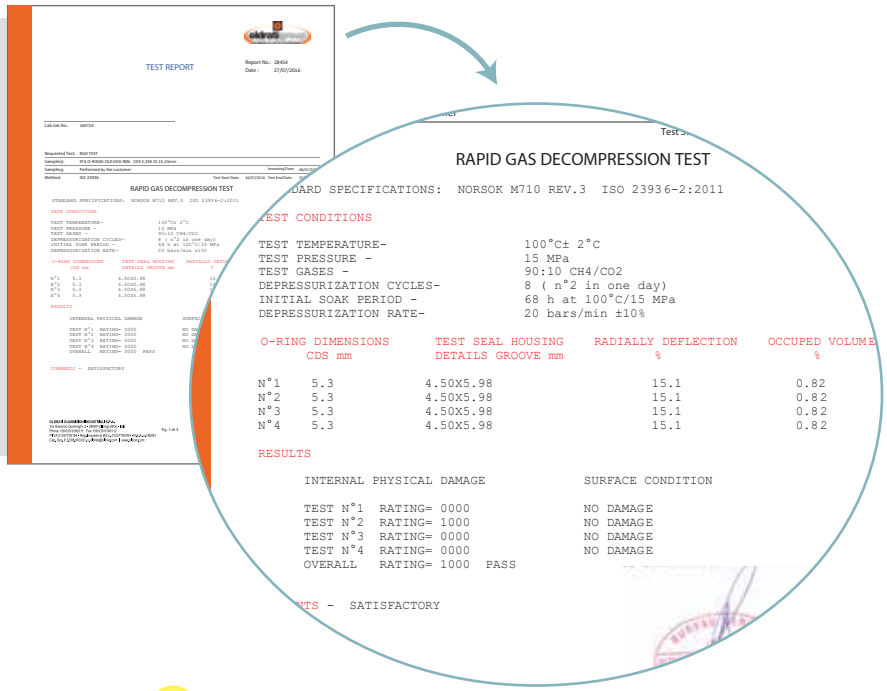
OLD NHP ICE 90

OLD NHP ICE 90 qualified according to NORSOK M710 rev 3 *ISO 23936-2:2011*

-55°

LOW TEMPERATURE

Certified by BUREAU VERITAS



TEST REPORT

Report No.: 28456
Date: 27/07/2016

RAPID GAS DECOMPRESSION TEST

STANDARD SPECIFICATIONS: NORSOK M710 REV.3 ISO 23936-2:2011

TEST CONDITIONS

TEST TEMPERATURE- 100°C± 2°C
TEST PRESSURE - 15 MPa
TEST GASES - 90:10 CH4/CO2
DEPRESSURIZATION CYCLES- 8 (n°2 in one day)
INITIAL SOAK PERIOD - 68 h at 100°C/15 MPa
DEPRESSURIZATION RATE- 20 bars/min ±10%

O-RING DIMENSIONS CDS mm	TEST SEAL HOUSING DETAILS GROOVE mm	RADIALLY DEFLECTION %	OCCUPED VOLUME %
N°1 5.3	4.50X5.98	15.1	0.82
N°2 5.3	4.50X5.98	15.1	0.82
N°3 5.3	4.50X5.98	15.1	0.82
N°4 5.3	4.50X5.98	15.1	0.82

RESULTS

INTERNAL PHYSICAL DAMAGE	SURFACE CONDITION
TEST N°1 RATING= 0000	NO DAMAGE
TEST N°2 RATING= 1000	NO DAMAGE
TEST N°3 RATING= 0000	NO DAMAGE
TEST N°4 RATING= 0000	NO DAMAGE
OVERALL RATING= 1000 PASS	

COMMENTS - SATISFACTORY

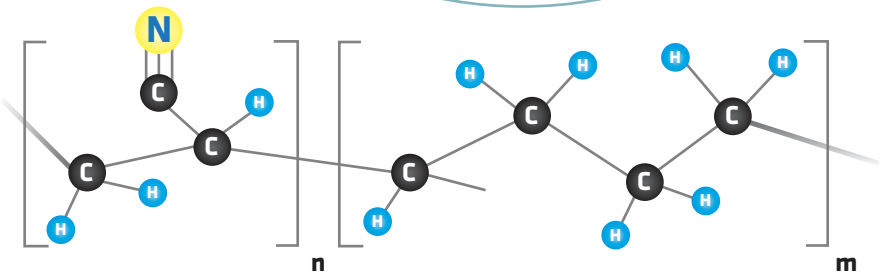
OLD NHP ICE 90 obtained the **Norsok M710 Rev 3 (ISO 23936-2:2011)** certification.
The Oldrati certified material is a very high performing **Hydrogenated Nitrile Rubber (HNBR)** compound.

OLD NHP ICE 90 is the ideal material for applications in which the sealing element is completely soaked with paraffinic and naphthenic hydrocarbons.

The main features of **OLD NHP ICE 90** are:

- **Maintains its characteristics until -55°C**
- **Very low glass transition temperature**
- **Exceptional abrasion resistance**

This qualified material is a further confirmation of Oldrati's commitment and efforts in the Oil & Gas sector.



HYDROGENATED NITRILE RUBBER (HNBR)

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.

oilgasdepartment@oldrati.com

www.oldrati.com

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