TECHNIPARTS
INDUSTRIAL SUPPLY

)¨ – : tMRüR
6 ö ¨ toy
NiVstäMtH¨ ¨
Netherlands

ate 07.05.2019
evision 1
°age 1 of 1

waterial test report HNBR 90

olour Mack

mp. range -35°C / +160°C
(-40°C / +170°C short time)

roperty	Enit	)est method	)est parameter	Wert value
fardness	Shore A	ASTM D 2240		90±5
(pecific gravity	g/cm³	ASTM D 297		1,28 ±0,03
) ensile strength	MPa	ASTM D 412		26,2
wodulus at 100%	MPa	ASTM D 412		19,2
Eltimate elongation	%	ASTM D 412		144
) ear resistance	N/mm	ASTM D 624 B		42
) ear resistance	N/mm	ISO 34-1		9,2
c ompression set	%	ASTM D 395 B/1	168h / 100°C	19
c ompression set	%	ASTM D 395 B/1	24h / 150°C	11
c ompression set	%	ASTM D 395 B/1	70h / 125°C	18,5
c ompression set	%	ASTM D 395 B/1	70h / 150°C	30
bow temp. TR10	°C	ISO 2921	TR10	-18
bow temp. DSC glass transition	°C	DIN 53765	DSC glass trans.	-21
bow temp. brittle point	°C	ASTM D 2137 A	brittle point	-35

changes of properties after ageing

Medium	Test method	Time	Tempe rature	Hardness	Tensile strength	Ultimate elongation	Weight	Volume
		H	°C	Points	%	%	%	%
8ir	ASTM D 573	94	150	+5	+8	-25		
Pentosin	ASTM D 471	96	140	-2	-8	-12	+7	+10
	EN 14141:2003 (annex B) tested – Cerisie 565/2011							
Hater	ISO 1817	24	23	-2	-2,44	-2,32	+0,19	+0,53
Hater	ISO 1817	72	23	-0,1	-3,36	-3,02	+0,32	+0,46
Methanol	ISO 1817	24	23	-1,8	-20,63	-12,29	+5,59	+10,25
Methanol	ISO 1817	72	23	-7,6	-18,97	-8,81	+5,6	+10,79
Diesel	ISO 1817	24	23	-11,3	-12,3	-7,74	+12,87	+19,16
Diesel	ISO 1817	72	23	-18	-15,33	-13,28	+19,39	+28,99
Oil SAE 15W40	ISO 1817	24	23	-1,6	+1,15	-3,02	+0,16	+0,89
Oil SAE 15W40	ISO 1817	72	23	+0,3	-1,19	-3,02	+0,05	+0,25
N ethylene glycol / water (50/50)	DIN 53521	94	120	+0,3	-5	-4	+0,8	+1,2
°¨ ntane	ASTM D 471	70	23	-9				+7,5

Specifications:

OIL/GAS APPLICATIONS - ANTI EXPLOSIVE DECOMPRESSION -
(NORSOK M710 - Annex A Approved - Sour Fluid Resistance 23/02/2012)
(NORSOK M710 - Annex B Approved - RGD 5,33 mm -
(EN 14141:2003 - Annex B Approved - Fluid Resistance 26/09/2011)
(NACE TM0187 TESTED - SOUR FLUID TEST) - 2% - 5% - 20 % H2S
(Sour Fluid test Arrhenius ISO23936-2 / Norsok M710) - SAUDI ARAMCO 06-SAMSS-001

The above indicated data were determined to the best knowledge according to modern laboratory standards on standardised test specimen. If these data are compared with data which were determined on finished parts it may come to variations.