

Material Data Sheet **HN900-B85-RGD**

H-NBR HN900 – black (peroxide cross linked)

General

HN900-B85-RGD is a black hydrogenated acrylonitrile-butadiene-rubber commonly referred to as H-NBR, with excellent physical characteristics and chemical resistance to the most common hydraulic fluids, sour oils/gases (H₂S) and crude oils.

HN900-B85-RGD has been optimized to withstand the risk of rapid gas decompression (RGD) or explosive decompression (ED) which is an essential demand in the oil and gas industry.

Physical properties

Density:	DIN 53479	g/cm ³	1,3
Hardness at 20°C	DIN 53505	Shore A	85 ±5%
100% Modulus	DIN 53504	N/mm ²	8,3 ±30%
Tensile strength	DIN 53504	N/mm ²	23,2 ±30%
Elongation at break	DIN 53504	%	260,5 ±20%
Tear strength, trouser test	ISO 34-1A	kN/m	3
Tear strength, angle test	ISO 34-1B	kN/m	18,4
Rebound resilience	DIN 53512	%	29
Compression set: 70°C, 24hr *	DIN 53517	%	13,4 ±20%
Compression set: RT, 72hr *	DIN 53517	%	18,9 ±20%
Compression set: 150°C, 24hr *	DIN 53517	%	22,7 ±20%
Min. service temperature		°C	-20
Max. service temperature		°C	150

* 25% deflection

Chemical resistance

Water up to 90°	R	Diesel Fuel	R
Steam up to 140°C	U	Gasoline Fuel	R
HFA, HFB, HFC Fluids	R	Mineral oils	R
Vegetable oils	R	Air up to 80°	R
Silicone oils	R	Acetone	U
Biodegradable oils	R	Methanol	S

Key to chemical resistance **R = resistant** **S = suitable** **U = unsuitable**

Main application

Static and dynamic seals, O-Rings, flange seals, rubber energizers (preload elements) in the oil and gas industry, especially in applications with high gas pressure.

Rapid Gas Decompression (RGD) validation:

The compound has passed the RGD test at MERL UK with the highest possible rating of **0000**.

Test conditions, according Norsok M-710, were 10 decompressions cycles with 90% Methane + 10% Carbon dioxide gas at 100° C and 150 bar test pressure. A certificate is available on request.

Analysis and Evaluation

The mentioned properties are only valid for test pieces of the corresponding ISO, DIN and ASTM standards. They cannot be directly related to seals, gaskets and other sealing products and should be used only as a general guide. Contact with improper fluids might influence the application properties.