

Material Data Sheet HN900-B85-RGD

H-NBR HN900 – black (peroxide cross linked)

General

HN900-B85-RGD is a black hydrogenated acrylnitrile-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 | ±0,03 |
| Hardness at 23°C: | DIN 53505 | Shore A | 86 | ±5 |
| 100% Modulus: | DIN 53504 | N/mm ² | 7,5 | * |
| Tensile strength: | DIN 53504 | N/mm ² | 19,9 | * |
| Elongation at break: | DIN 53504 | % | 236,7 | * |
| Tear resistance: | DIN 53515 | kN/m | 50,6 | * |
| Rebound resilience: | DIN 53512 | % | 25,0 | * |
| Compression set, 24h, 70°C, 25%: | DIN 53517 | % | 13,7 | * |
| Compression set, 24h, 100°C, 25%: | DIN 53517 | % | 11,5 | * |
| Compression set, 24h, 150°C, 25%: | DIN 53517 | % | 19,1 | * |

* mentioned values are subject to a tolerance of +/- 25%

Temperature range: -20°C to 150°C

Chemical resistance

Resistant to: Water up to 90°C, HFA, HFB, HFC Fluids, Vegetable Oils, Silicone Oils, Biodegradable Oils, Diesel Fuel, Gasoline Fuel, Mineral Oils, Air up to 80°C

Not Resistant to: Steam up to 140°C, Acetone

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.

Analysis and Evaluation

Values mentioned above are based on several tests performed during development and production of the material. Tests have been performed on standard test pieces specified within the relevant standard within the laboratory. Tests performed on any other pieces which are not related to the corresponding standard or made out of any (semi)finished part or any other part deviating in production process, dimension or age of the material from above may result in different values. The data represent our present empirical values and do not disengage the processor or user from his obligation to examine the usage of the material for his specific application.

We reserve the right to update this data sheet from time to time if new empirical values are available. Errors and omissions excepted.

V2.0