Perfluoroelastomer KN Series

Dynarez™
Perfluoroelastomer O-Rings

KN Series

FFKM offers a **280°C heat-resistance rating** and superior chemical compatibility. It provides exceptional resistance to high-temperature **saturated steam** and **amine-based fluids**, conditions where conventional heat-resistant fluoroelastomers (FKM) often fail. Designed for long-term use in high-temperature environments, this series reduces the frequency of seal replacements, effectively lowering operational costs and minimizing waste. Both cleaning and packaging are conducted in a **Class-certified cleanroom.**

Typical Physical Properties		KN-B	KN-W
	Color	black	white
	Max. Service Temperature	280°C	280°C
Physical Testing	Hardness (JIS-A)	76	84
Physical Testing	Tensile Strength (MPa)	20.8	19.5
Physical Testing	Elongation (%)	163	139
Physical Testing	100% Modulus (MPa)	9.9	12.9
Heat Resistance	Test Conditions	200°C × 70hr	200°C × 70hr
Heat Resistance	Hardness Change	0	0
Heat Resistance	Tensile Strength Change (%)	+7	+17
Heat Resistance	Elongation Change (%)	+3	-1
Compression Set	Test Conditions	200°C × 70hr	200°C × 70hr
Compression Set	Compression Set (%)	4	13

Physical Properties

- **Maximum continuous service temperature:** 280°C
- Stable and excellent long-term high-temperature sealing performance
- Outstanding physical properties
- Superior **plasma resistance**
- Excellent chemical resistance
- Ideally suited for **high-temperature dry processes**
- Excellent **Compression Set** properties

Recommended Processes

- **Diffusion**
- **Implant Annealing**
- **Rapid Thermal Processing (RTP)**
- **Dry Etching**

Recommended Application Points

- **Chamber Seals / Lid Seals**
- **Fitting Seals**
- **Pipe Seals**
- **Valve Seals**

Dynarez® offers high-performance **FFKM** materials. While most grades are interchangeable, the lineup includes specialized products engineered with unique properties for specific applications. When selecting a grade as an equivalent replacement, please carefully verify your specific **operating conditions** and requirements.

Temperature Range

The recommended maximum service temperature is 280°C. Continuous operation at the upper limit of this range may cause thermal hardening, leading to material failure and reduced service life. Conversely, at the lower limit of the temperature range, the elastomer's elasticity decreases, potentially compromising the sealing integrity.

Furthermore, in environments exceeding 250°C, thermal expansion becomes more significant. In such cases, it is recommended to design for a smaller compression set (squeeze) and a larger groove volume (fill), which differs from standard groove design specifications.