

FKM

Color - brown

FKM – fluoropolymer elastomer, («VITON» – registered trademark Du Pont).

The exceptional characteristics of this material include: resistance to high temperatures, ozone, different chemical ingredients and any weather. FKM is compatible with mineral oils, grease (which contain sulfur), HFD hydraulic fluids (almost every ester phosphate, chlorinated hydrocarbons) raw petroleum and sour gas.

FKM is not resistant to anhydrous ammonia, amines, ketones, esters, hot water and low-molecular organic acids.

FKM possesses a high resistance to temperatures and chemicals.

Temperature range: from -20°C up to +200°C (short time up to +230°C). Due to its rich structure and chemical composition, FKM has an excellent resistance to ozone, weather impact and ageing. Swelling in different environments is very low, as well as in aromatic hydrocarbons. This material can be used in high vacuum conditions. FKM is not flammable.

Resistance

Good resistance	Medium resistance	Low resistance
Mineral oils	Hot water	–
Aliphatic hydrocarbons (propane, butane, petrol)	–	skidrol 500
Silicone oil and grease	–	ammonia, amines, alkali
Adipose and vegetable oils and grease	–	Hot steam
Fuels	–	Low-molecular organic acids (acetic and formic acids)
Oils with soot and highly aromatic oils	–	Hydrofluoric acids, chlorosulfonic acids.
Fire-resistant hydraulic fluids HFD-S, HFD-R	Fire-resistant hydraulic fluids HFA, HFB, HFC	Polar solvents (acetone, methyl ethyl ketone, dioxane, ethylacetate)
Biodegradable hydraulic fluid	–	Brake fluids based on glycol
Aromatic hydrocarbon (toluene, benzol)	–	–

Application

FPM can be used for production of U-shaped seals, chevron seals, wipers and non-standard seals. FKM is mainly used in cases with temperature and chemical stress. Also it is used in hydraulic systems with fire-resistant hydraulic fluids HFD.

In practice verified that the seals by type "V-Ring" out of FPM capable of working at very high speeds, up to 78 m/s.

Mainly used

- Non-standard seals in chemical industry and thermal engineering in metallurgy
- Rotary shaft seals
- O-rings
- Hydraulic seals for HFD-fluids

FKM Material Data Sheet

Properties	Value	Unit	Standard
Hardness	83 +/-3	Sh A	DIN 53505
Density	2,51	g/cm ³	DIN 53479 or DIN EN ISO 1183-1
Compression set 225°C / 22 h	8	%	DIN 53517 or DIN ISO 815-1
Rebound resilience	6	%	DIN 53512
Tensile strength	11,4	MPa	DIN 53504
Elongation at break	208	%	DIN 53504
Tear strength	20	N/mm	DIN 53515 or DIN ISO 34-1 A
Abrasion	154	mm ³	DIN 53516
Min. service temperature	-20	°C	
Max. service temperature	+200	°C	