

Material Data Sheet F109-BR85 (genuine VITON®)

FPM F109 – brown (bisphenole cross linked)

General

F109-BR85 is a brown Fluorocarbon elastomere, commonly referred to as VITON® and FPM. FPM materials have a very high resistance to hydraulic fluids, chemicals and a number of organic compounds and operating temperature ranges between -20 to +210°C. F109-BR85 is recommended for applications where its outstanding resistance to heat, chemicals, weathering and ozone is required.

Physical properties

Density:	DIN 53479	g/cm ³	2,44
Hardness at 20°C:	DIN 53505	Shore A	85 ±5
Tensile strength:	DIN 53504	N/mm ²	11,7 ±15%
Elongation at break:	DIN 53504	%	154 ±20%
Modulus 100%:	DIN 53504	N/mm	8,8 ±30%
Tear strength:	DIN 53507B	N/mm	4,2
Compression set: 70h/RT	DIN 53517A	%	14,1 ±20%
Compression set: 22h/70°C	DIN 53517A	%	9,4 ±25%
Compression set: 22h/100°C	DIN 53517A	%	6,0 ±25%
Compression set: 24h/175°C	DIN 53517	%	9,4 ±25%
Min. service temperature:		°C	-20
Max. service temperature:		°C	210
Short time max. service temp. in air:		°C	280

Chemical resistance

Water up to 90°	S	Biodegradable oils	R
Steam	U	Hydrocarbons	R
HFA, HFB, HFC Fluids	S	Alcohols	R
HFD-S, R	R	Diesel, Gasoline, Fuels	R
Mineral oils	R	Ozone, Oxygen	R
Vegetable oils	R	Air up to 200°	R
Silicone oils	R		

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

Main application

Static and dynamic seals (standard and special), wipers, O-rings, flange seals, rotary seals, rubber energizers (preload elements). Applications, where high temperature and/or chemical resistance is required.

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.