



Fluorocarbon Rubber (FKM) (Viton)

Temperature Range: -26°C to +205°/230°C (-15°F to +400°/440°F)

Fluorocarbon elastomers have grown to major importance in the seal industry. Due to their extensive chemical compatibility, temperature capability, low compression set, and excellent aging characteristics, fluorocarbon rubbers are the most significant single elastomers developed in recent history. Fluorocarbon elastomers are highly fluorinated carbon-based polymers used in applications to resist harsh chemical and ozone attack. Special compounds with improved chemical resistance are also available with new types always being developed. In general, with increasing fluorine content, resistance to chemical attack is improved but low temperature characteristics are diminished, however, specialty grade FKM's are available that can provide high fluorine content with improved low temperature properties.

Ref	Specification	Hardness IRHD	SG	Tensile Strength (MPa)	Elongation at Break %	Colour
303 – V502	Commercial	50°	1.12	10	450	Brown
303 – V601	Commercial	60°	1.12	13	330	Black
303 – V602	Commercial	60°	1.12	13	330	Brown
303 – V603	Viton A	60°	2.00	12	290	Black
303 – V651	Commercial	65°	1.12	10.30	260	Black
303 – V652	O Ring Grade	65°	1.12	11	330	Black
303 – V654	Sheet Grade	65°	1.40	6	200	Black
303 – V656	Viton FDA App	65°	2.00	14	250	White
303 – V701	General FKM	70°	1.98	6	200	Black
303 – V702	General FKM	70°	2.17	15.80	192	Black
303 – V703	Viton A	70°	1.95	5	200	Black
303 – V704	Viton B	70°	1.81	8.5	200	Black
303 – V705	FKM FDA	70°	1.83	8.46	195	White
303 - V706	Viton FDA	70°	2.00	14	250	White
303 - V707	General Purpose	70°	2.01	13.50	240	To Order
303 - V708	FDA Green	70°	2.29	12	200	Green
303 - V709GFLT	Low Temp	70°	1.85	18	228	Black
303 – V751	FKM Sheet	75°	1.93	7	200	Black
303 – V752	FKM O Ring	75°	1.93	7	200	Black
303 – V753	Viton A	75°	1.85	13	170	Black
303 – V754	Viton B	75°	1.90	13	170	Black
303 – V755	FKM FDA	75°	2.00	9.30	280	White
303 – V756	Viton FDA	75°	2.4	12	330	White
303 – V757	FKM Low Temp	75°	1.80	15	180	Black
303 – V758	Viton Green	75°	2.07	12	170	Green
303 - V759ETP	Extreme	75°	1.85	11	180	Black
303 - V759F	Bio Fuel Grade	75°	1.89	18.20	310	Black
303 - V759GF	Mouldings	75°	1.88	19.3	328	To Order
303 - V759GFLT	Viton Low Temp	75°	1.87	21.40	240	Black

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303 – V801	FKM Sheet	75°	1.93	7	200	Black
303 – V802	FKM O Ring	75°	1.93	7	200	Black
303 – V803	Viton A	75°	1.85	13	170	Black
303 – V804	Viton B	75°	1.90	13	170	Black
303 – V805	FKM FDA	75°	2.00	9.30	280	White
303 – V806	Viton FDA	75°	2.4	12	330	White
303 – V807	FKM Low Temp	75°	1.80	15	180	Black
303 – V808	Viton Green	75°	2.07	12	170	Green
303 – V809ETP	Extreme	75°	1.85	11	180	Black
303 - V759F	Bio Fuel Grade	75°	1.89	18.20	310	Black
303 - V759GF	Mouldings	75°	1.88	19.3	328	To Order
303 - V759GFLT	Viton Low Temp	75°	1.87	21.40	240	Black

Fluorocarbon should be considered for use in aircraft, automobile and other mechanical applications requiring maximum resistance to elevated temperatures and too many fluids. FKM (FPM, Viton®, Fluorel®) resist mineral oils and greases, aliphatic, aromatic and special chlorinated hydrocarbons, petrol, diesel fuels, silicone oils and greases. It is also suitable for high vacuum applications.

Standard compounds are:

Type A and are commonly available in 75 & 90 Shore Hardness: – V75 & V90. These compounds are normally stocked in Black although other colours can be manufactured, i.e. Brown / Green. Other types are available

Type B ? Generally used in Chemical Process plant, Power Utility Seals & Gaskets

Type F ? Used for Oxygenated Automotive fuels. Concentrated aqueous inorganic acids, water, steam

Type ETP (also known as Viton Extreme), these offer excellent Chemical resistance and greater performance compared to standard compounds. Used for Automotive & Off Road – High pH lubricants, greases, & Coolants. Also used in Oil Exploration/ Production – Drilling Mud, Sour Wells. Special sealing requirements – solvents, coatings, ultra harsh environments (ETP).

Additionally, specialty versions of these types are available to provide improved low temperature flexibility. These are called LT types, for example, GLT, and GFLT, and these perform like the A, and F families, respectively; GLT & GFLT have a wider temperature service range of – 35°C to 205°C.

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