MATERIAL SPECIFICATION
FLUOROCARBON (VITON) ELASTOMER

Rev	Reason of Change	Date	Made By	Reviewed By	Approved By	Status
0	Initial Release	15-06-2023	PK	USR	JG	Released

MATERIAL SPECIFICATION
FLUOROCARBON (VITON1 ELASTOMER

1.0 PURPOSE

1.1 It is the purpose of material specification to list in a concise from of the material requirements for Fluorocarbon Elastomers to be used in Sour Service at temperature from - 15° F to +400 °F. (-26°C to +205°C)

1.2 This material specification is intended to aid the purchasing department in procuring and the vendor in supplying a product which meets the needs of its intended use, and the quality control department in the inspection and release of incoming material.

2.0 SCOPE

2.1 This material specification covers sour services, medium- high CAN, Sulphur cure compounds recommended for service with petroleum oils and fuels, water, and glycols.

3.0 Pressure Limits:

Static:	20,000 PSI, Liquid / 10,000 PSI, Gas
Dynamic:	10,000 PSI, Liquid / 5,000 PSI, Gas

4.0 Chemical composition: The standard formulas for Viton Rubber compounds are as in ASTM D-1418.

Polymer Type	Vinylidenefluoride/hexafluoropropyleneAetrafluoroethylene Terpolymer
Trade Designation ASTM D1418 designation Trade names	VF2/HFP/TFE FKM Viton GF

4.1 Chemical Compatibility:

H2O (Water)	Yes
CH_4 (Methane)	Yes
N2 (Nitrogen Gas)	Yes
CO2 (Carbon Dioxide)	Yes
H2S (Hydrogen Sulfide)	Yes
Chlorides	Yes
HC_1 (Hydrochloric Acid)	Yes, Cold
H2SO4 (Sulfuric Acid)	Yes, Cold
H2CO3 (Carbonic Acid)	Yes, Cold
O2 (Oxygen)	Yes

5.0 Physical Properties:

The ASTM standard specifications to determine the physicals are given below.

PROPERTIES	RANGE
HARDNESS (ASTM D-2240) Shore "A" Durometer	70 ±5Pts.
TENSILE STRENGTH (ASTM D-412) Min.	2,000 PSI
ELONGATION (ASTM D-412) Min.	150%
100% Modules (ASTM D-412) Min.	700 PSI
SPECIFIC GRAVITY (ASTM D-792, A)	1.1 5 ± 0.05
COMPRESSION SET (ASTM D-395, B) Method 'B' Max. 22 HRS (2), 212° F	15

6.0 Fluid Immersion Data

70 Hours @ 212° F, IRM903 Oil, ASTMD-471

VOLUME CHANGE, %, Max.	10	ASTM D471
HARDNESS CHANGE, %, Max.	56	
TENSILE STRENGTH CHANGE %, Max.	25	
ELONGATION CHANGE %, Max.	20	