

Viton® Properties

Vulcanizates based on Viton® fluoroelastomers provide an exceptional balance of physical property characteristics including the following features:

1. Resistance to temperature extremes:

Heat

Viton® withstands high temperature and simultaneously retains its good mechanical properties better than most other elastomers. Oil and chemical resistance also are relatively unaffected by elevated temperatures. Compounds of Viton® remain usefully elastic indefinitely when exposed to laboratory air oven aging up to 204°C (400°F) or to intermittent test exposures up to 260°C (500°F). High temperature service limits are generally considered to be:

3,000 hr. at 232°C (450°F)
1,000 hr. at 260°C (500°F)
240 hr. at 288°C (550°F)
48 hr. at 316°C (600°F)

Cold



Viton® is generally serviceable in dynamic applications down to -18° to -23°C (0° to -10°F), although special formulations permit its use in static applications down to -54°C (-65°F). Also, Viton® has proven to be satisfactory for static seals used under conditions approaching absolute zero.

2. Resistance to degradation by a greater variety of fluids and chemicals than any non-fluorinated elastomer, providing the best proven fluid resistance of any commercial rubber. Excellent resistance to oils, fuels, lubricants, and most mineral acids.
3. Extremely low permeability to a broad range of substances, including particularly good performance in oxygenated automotive fuels.
4. Resistance to many aliphatic and aromatic hydrocarbon fluids that act as solvents for other rubbers.
5. Exceptionally good resistance to compression set, even at temperatures which can embrittle other non-fluorinated elastomers.
6. Exceptionally good resistance to atmospheric oxidation, sun, and weather. Excellent resistance to fungus and mold.
7. Good electrical properties in low voltage, low frequency applications.
8. Low burning characteristics; inherently more resistant to burning than other non-fluorinated

hydrocarbon rubbers.