

## Fluoroelastomer O-Ring: Chemical Compatibility Testing

Testing lab

1998 FM 362, Brookshire, TX 77423, USA

January 22<sup>nd</sup>, 2024

### CI-80: Corrosion Inhibitor

#### Testing Materials:

1. Oven at 150F
2. Fluoroelastomer, (FKM/Viton) O-Ring material
3. CI-80, Corrosion Inhibitor

Fluoroelastomer, such as FKM (fluorocarbon rubber), are known for their excellent chemical resistance. However, the specific compatibility of FKM with a corrosion inhibitor can vary depending on the formulation of both the elastomer and the inhibitor. To determine the chemical compatibility between Fluoroelastomer (FKM) and a particular corrosion inhibitor, it's recommended to test the particular elastomer with the fluid at condition anticipated in the field.




Viton (FKM) Fluoroelastomer are known for their resilience and compatibility with corrosion inhibitors.

The FKM O-Ring supplied by Allied was tested with Corrosion inhibitor CI-80, to determine its compatibility and resilience at 150F, for 8 hours.

#### Procedures and Conditions

Oven: 150F

Time: 8 hours

Description	Samples
Picture Before adding O-Ring #1:Field Strength CI-80 #2:75:25, CI-80:DI	
O-Rings post Immersion 150F, 8 Hours #1:Field Strength CI-80 #2:75:25, CI-80:DI	
O-Rings post Immersion 150F, 8 Hours - No Change in Weight - Not Swollen - Integrity Intact - No Discoloration	<div>#1      #2</div> 

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### Conclusion:

- CI-80 is compatibility with FKM (Viton) O-Rings
- No change in color/discoloration is noted in the O-Rings or fluids
- No swelling or change in shape was observed in the O-Rings
- No change in weight of O-Rings was noted.