

VALQUA Semiconductor Industry Products

FLUORITZ®-OR

High Performance FFKM

❖ Product Overview

FLUORITZ®-OR is a high purity, low particle, low outgassing material that improves upon radical and ozone resistance when compared to the conventional perfluoroelastomer. Especially suited for cleaning environments with NF3 gas + remote plasma source and ozone processes, expect FLUORITZ®-OR to extend seal life while reducing particle generation.

Additionally, its excellent mechanical strength makes the material well suited for dynamic locations, and FLUORITZ®-OR is also available as a bonded seal.

❖ Characteristics

- ◆ Excellent resistance to radicals and ozone
- ◆ Low metal content for particle reduction
- ◆ Low outgassing
- ◆ Mechanical strength for dynamic applications

❖ Contact Us

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❖ Uses

Process

Plasma Etch / CVD / ALD / ALE / Remote Fluorine Plasma Clean, etc.

Applications

Chamber lid / Isolator valve / Gas inlet / Gate etc.

❖ Material Properties

Color	Black
Hardness* ¹ (Shore A)	82
Tensile Strength* ² (MPa)	16.3
Elongation* ² (%)	173
100% Modulus* ² (MPa)	8.4
Compression Set* ³ (%)	19
Maximum Temperature* ⁴ (°C)	300

*Compression Set: 25% compression at 200°C for 72 hours
Values above are actual measurements, not specifications*

*¹ Test Sample: Sheet

*² Test Sample: Dumbbell

*³ Test Sample: AS568-214 O-Ring

*⁴ Proprietary test method

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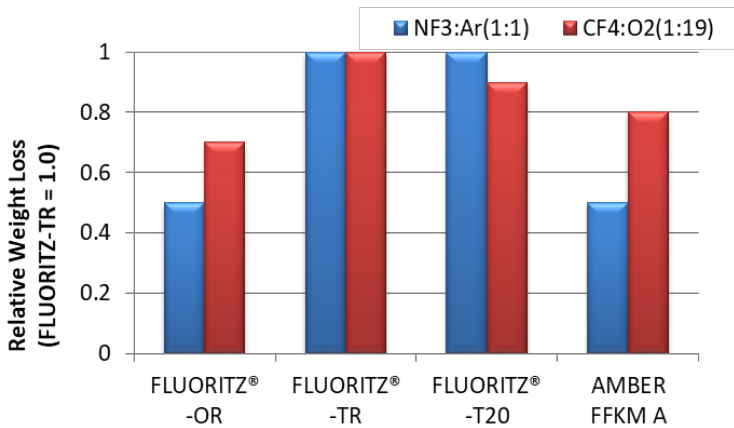


Additional information

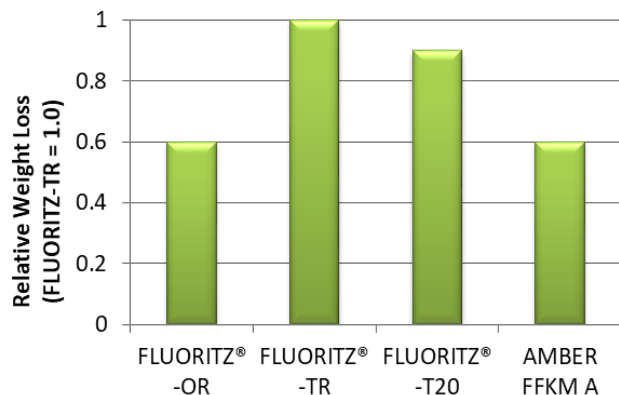
FLUORITZ®-OR

Performance Data

Radical Resistance

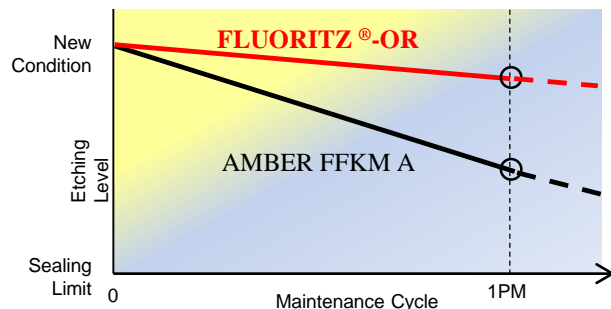


Ozone Resistance



Example of Use

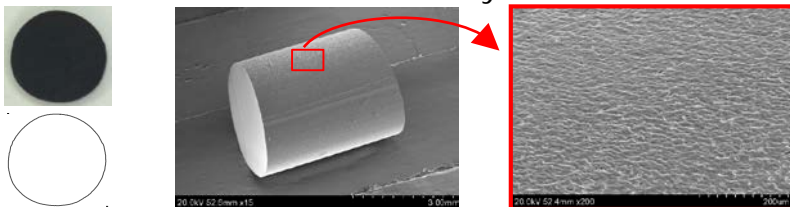
- ◆ Example of use at a major fab in Japan
- ◆ Process: Etching/Ashing
- ◆ Process Gas: Etching SF₆+O₂/Ashing CF₄+O₂
- ◆ O-ring Size: AS568-280
- ◆ Duration: 1 PM Cycle



* This graph is an estimation based on the analysis of used seals.

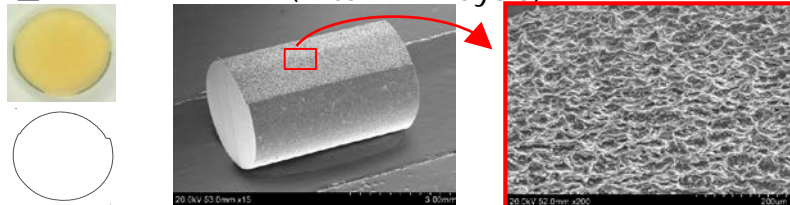
Longer lifetime compared to AMBER FFKM A

FLUORITZ®-OR (After 1PM Cycle)



Weight loss ratio: 0.4%

AMBER FFKM A (After 1PM Cycle)



Weight loss ratio: 1.0%

Remarkable etching is confirmed.