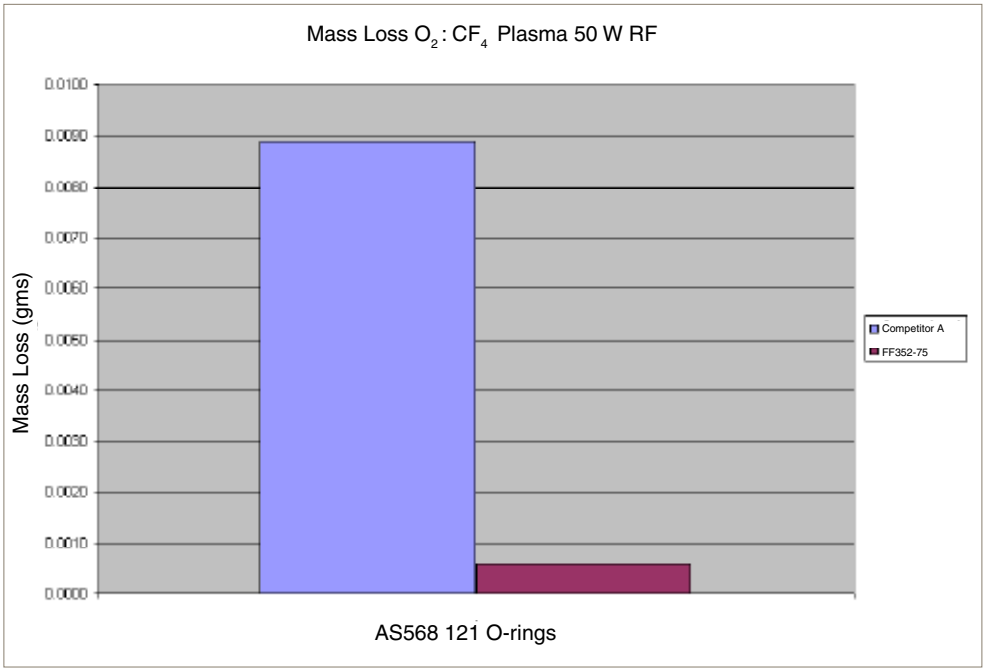
ORD Problem Solved!

FF352-75 for Etch Resistance

The Microelectronics (Micro-E) Industry is an extremely complex network of processes, chemistries, and most important, customer needs. As with all industries, Parker understands that it is extremely important to fully understand the process and application in the world of Micro-E before considering which seal material will create the best solution. For this reason, Parker has various compounds specifically designed to handle the various challenges of sealing; from wet cleaning processes to etch resistance in the most aggressive plasmas. For help determining the best O-ring material for your application needs, contact a Parker O-Ring applications engginer at 859-335-5100 today.



FF352-75 vs Competitor A O2:CF4 Plasma

Success Story

Application:

Micro-Electro-Mechanical Systems (MEMS) Process Equipment

Problem:

A large Asia-Pacific Micro-E customer was having problems with a leading competitor's FFKM product. After only one or two weeks in an etch application, the customer was having to change out the seals in the equipment due to seal material erosion. The customer's targeted PM cycle for the equipment was one month. Ideally, this would also be the change out schedule for the seals in order to avoid multiple teardowns.

Parker Solution:

Application Parameters:

Process Chemistry: SF_6, C_4F_6, O_2
Cleaning Chemistry: O_2
Temperature: ~300°C
Power: 3400 – 4000W

Parker suggested Parofluor ULTRA compound FF352-75. This compound was specifically developed for applications where etch rate and material erosion are the primary concern. Compound FF352-75 has excellent resistance to aggressive plasmas, specifically those based on oxygen. This resistance to plasma yields one of the most etch resistant compounds in the marketplace today.

Outcome:

The customer replaced the underperforming competitor O-rings with O-rings made from compound FF352-75. The customer saw an immediate improvement upon evaluation. Parker compound FF352-75 lasted the full one month length of time between scheduled PM cycles, which eliminated the need for excessive teardowns just to replace seals. Parker is now in the process of evaluating a larger portion of the customer's equipment to see what other opportunities exist for improved seal performance.