

Chemraz® 629 Excels in Photoresist Strip/Ashing Applications

Background

A Greene Tweed customer was experiencing problems with wafer particle contamination. The process chamber seal, an FFKM material, was shedding particles due to plasma exposure damage. This was causing the customer to perform premature, unscheduled preventive maintenances (PMs), resulting in increased tool down time.

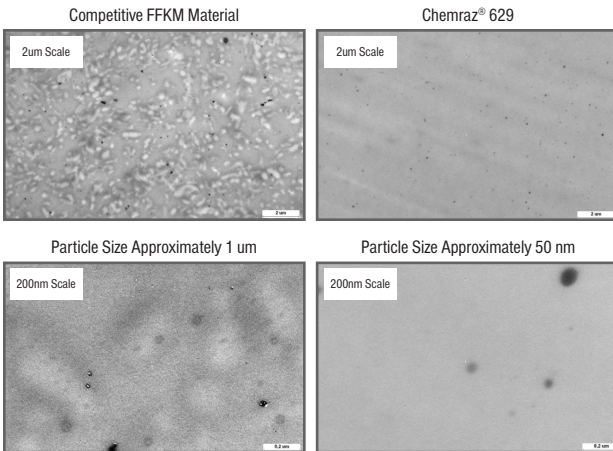
To increase yields and hit scheduled PM cycles, the customer needed a solution to eliminate the source of particle contamination.

The Challenge

Greene Tweed reviewed the customer's application and performance of the FFKM seals they were using, and recommended a customized Chemraz® 629 solution, which included a new process chamber seal, a shower head seal, and a slit valve door seal.

The Greene Tweed Solution

Chemraz® 629: why does it work better?



- The chemical composition of Chemraz® 629 uses significantly smaller filler particle size than the competition.
- In the photos above, Transmission Electron Microscopy (TEM) shows the surfaces of "used" process chamber seals that have been exposed to process/plasma.
- These Chemraz® 629 photos show fewer and smaller particles.
- Smaller particle filler size, combined with the correct filler chemistry, results in fewer particles in fab processes.

The Results

- Chemraz® 629 eliminated particle excursions that were leading to premature PMs.
- As demonstrated in the graphic below, these custom designs delivered a solution that offered repeatable, reliable particle performance and a seal life of 1 PM cycle (~ 6 months).

