

# **Performance Analysis of Various Perfluoroelastomer Compounds in Aggressive Chemicals**

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## **Abstract**

This paper will present an introduction, procedure, results and conclusions drawn from a series of perfluoroelastomer leach experiments.

As semiconductor manufacturing processes grow in complexity due to increased wafer size and decreased feature size, they require higher purity and more chemically resistant materials. Manufacturers of components used in such processes often utilize perfluoroelastomer (herein referred to as PFE) seals and gaskets, and the purity and suitability of those PFE materials can have a significant impact on the purity and suitability of the final component.

Leach extraction and physical specification experiments were performed on different PFE compounds commonly used in o-rings and gaskets. The goal was: 1) to determine those most resistant to aggressive chemicals commonly used in semiconductor processes; and 2) to determine purity by analyzing metal extraction data when exposed to those aggressive chemicals.