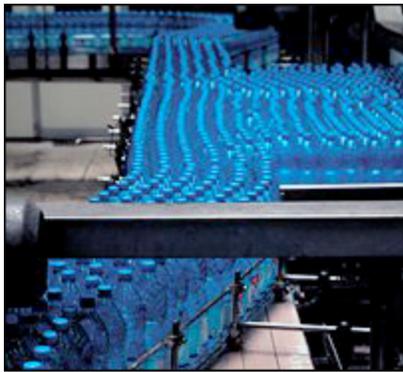




Kalrez®

From DuPont Performance Elastomers

Field tests at major Japan bottler demonstrate superior performance of Kalrez® parts.



The superiority of Kalrez® perfluoroelastomer parts for sealing in beverage industry processes was demonstrated recently at two Japan-based bottling factories owned by a major global beverage company.

Rigorous field tests were carried out at the company's sports and tea drink bottling processes to evaluate the sealing performance of Kalrez® Spectrum™ 6375 and Kalrez® 6236 in comparison with incumbent silicone rubber ferrule gaskets and EPDM O-rings.

Exceptional performance

In the first test, O-rings of Kalrez® Spectrum™ 6375 and EPDM rubber were used to seal strainer inlets and outlets in an aseptic sport drink bottling process. After one month service in an aqueous solution at 80°C, the two sealing materials were compared for

weight loss, deformation and the potential effect on product flavor/odor.

Results:

- The Kalrez® parts exhibited miniscule weight loss and virtually no deformation of inner and exterior diameter while the EPDM seal showed significant change (see Figure 1). In the DuPont Performance Elastomers test for potential flavor carry-over, four independent testers rated Kalrez® parts as having significantly less odor than EPDM. This is an important consideration in the food and beverage industry.

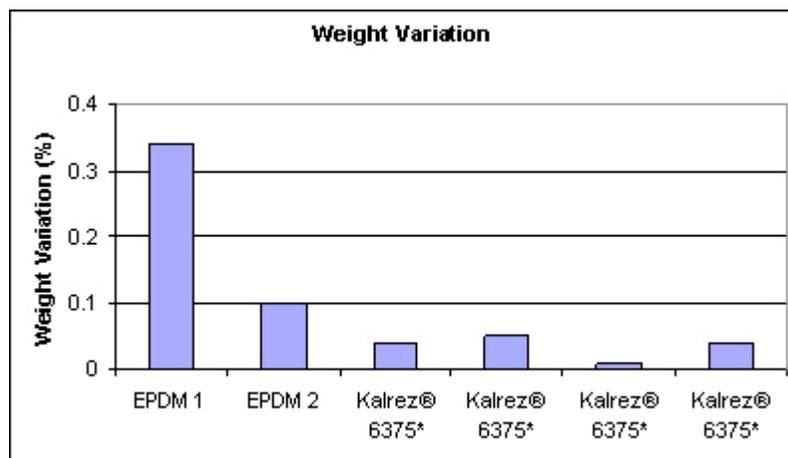


Figure 1: Comparison of weight variation of Kalrez® and EPDM O-rings

* Four different Kalrez® 6375 samples were used with different CSDs and different seal locations.

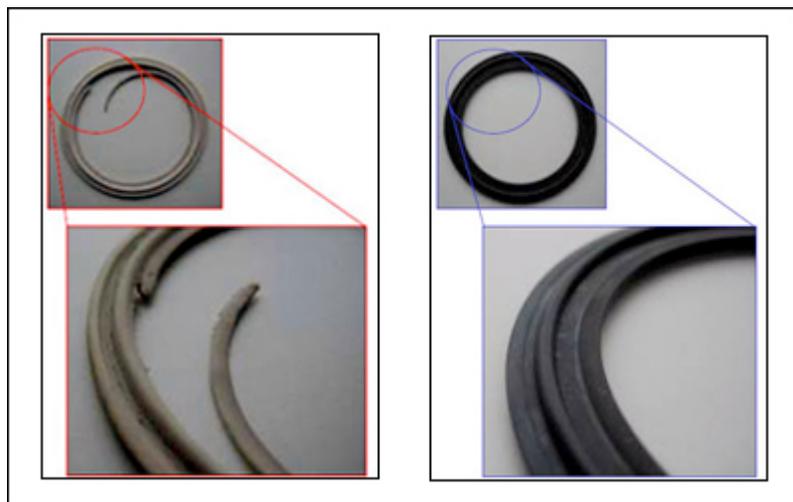
Integrity and purity maintained

The second series of tests were carried out in the company's aseptic tea and sports drink filling processes. Ferrule gasket seals of Kalrez® 6236 and of silicone rubber were compared after 10 months service at 140°C in tea beverage, and 80°C in sports drink solution.

Results:

- Gaskets of silicone rubber were found to have deteriorated significantly at the point of contact with process tubing, while the Kalrez® parts maintained sealing integrity over the same service period.
- Erosion of silicone rubber gaskets is associated with increased risk of particulate contamination of the critical aseptic beverage process. The Kalrez® gaskets maintained integrity during the extended test period.

For more information about ferrule gaskets and Kalrez® 6236, contact your regional Kalrez® Application Engineer.



Photographs show significant deterioration and breakage of silicone rubber gasket after 10 months service while Kalrez® gasket remained virtually unchanged.

Longer seal life, reduced costs

The Kalrez® parts exhibited exceptional sealing performance in the beverage processes at both bottling factories in Japan. Kalrez® O-rings and gaskets remained in near-new condition at the conclusion of the field tests, unlike the EPDM and silicone rubber seals which deteriorated significantly in the same operating conditions thus curtailing seal life.

Replacement of EPDM and silicone rubber by Kalrez® perfluoroelastomer parts can lead to longer seal life, extended mean time between replacement, higher production yields and reduced total cost.