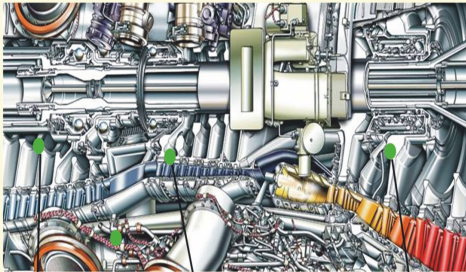


Engine Seals in DuPont™ Kalrez®



Oil guide tube Front bearing Rear bearing

Features:

- Outstanding thermal stability
- Excellent compression set resistance
- Excellent resistance to lubricating oils

Benefits:

- High Temperature Sealing
- Long Life

Kalrez® AeroSeal 7745

- ▶ Excellent resistance to aggressive oxidizing media like Nitrogen Tetroxide. It has been a product of choice for hypergolic propellant applications
- ▶ Maximum service temperature of 240°C is suggested.
- ▶ Typical applications include sealing rocket propellents, hot oxidizing acids, wet halogens and halogenated gases.
- ▶ Lower volume swell and good compression set properties at higher temperatures.

Kalrez® AeroSeal 7777

- ▶ Kalrez® AeroSeal 7777 is a speciality black product
- ▶ Outstanding thermal stability and compression set resistance along with excellent seal force retention properties.
- ▶ Excellent response to temperature cycling effects
- ▶ A maximum continuous service temperature of 325°C (617°F) is suggested.

Kalrez® 4079 AMS

- ▶ Kalrez® 4079AMS is a speciality black product
- ▶ Outstanding thermal stability, excellent compression set resistance and good seal force retention properties.
- ▶ Excellent resistance to HTS (High Thermo-Oxidative Stability) gas turbine engine lubricating oils

Kalrez® AeroSeal 7797

- ▶ Kalrez® AeroSeal 7797 is a speciality black product
- ▶ Used in applications requiring higher hardness/higher modulus properties.
- ▶ Excellent mechanical Properties and is well suited for both static and dynamic sealing applications.



Kalrez® parts and seals

- High Temperature resistance range upto 327°C
- Reliable, long-term sealing in extreme chemical and thermal environments
- Resists over 1800 different chemicals
- Reduce maintenance, operating costs & improve safety

Applications:

- Aerospace
- Photovoltaic
- Semiconductor Processing Seals
- Pharmaceutical
- Food & Beverages :

CHIME POLYMERS PRIVATE LIMITED

50, RSS Complex, Anna Salai, Nagalkeni, Chrompet, Chennai - 600 044, Tamilnadu, India.

Phone: + 91-44-2238 2858 Email: chimepolymers@chime.co.in

Mobile : +91-98410 31850, +91-98415 55581, + 91-9841631852, +91-98416 31851,

DuPont™ Kalrez® for
Pharmaceutical / Food & Beverages



The seal to trust for Tough Sealing Applications

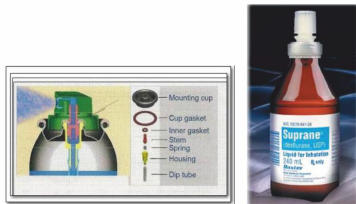


Auto-clave equipment (Pharmaceutical Lab)

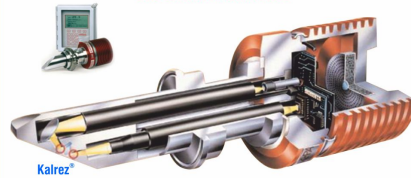
Kalrez® parts in API (Active Pharmaceutical Ingredients) handling Pharmaceutical process.



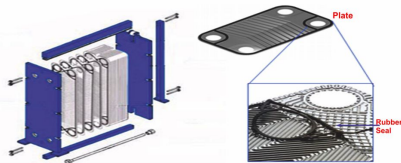
Aerosol Seals



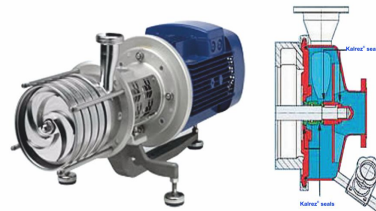
Kalrez® gasket used in Refractometer for food, pulp and Chemical Industries



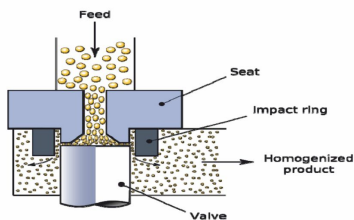
Kalrez® Seals parts used in ..
Typical components of Plate Heat Exchanger



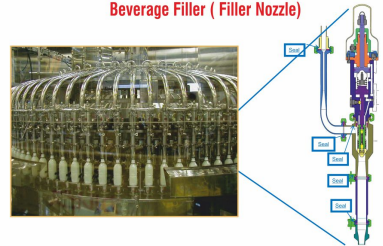
Kalrez® pharmaceutical seals for CIP & SIP cleaning pump



Food Processing (Dairy Industry)



Beverage Filler (Filler Nozzle)



DuPont™ Kalrez® for
Pharmaceutical / Food & Beverages



Kalrez® in Food & Beverages :

- ▶ Homogenizing equipment
- ▶ Stirrers
- ▶ Sterilization processes
- ▶ Seals for filling equipment
- ▶ O-rings and sanitary gaskets
- ▶ Bottling and filling equipment

Kalrez® in Pharmaceutical production:

- ▶ Safety Valves
- ▶ Butterfly Valves
- ▶ Mechanical Seals
- ▶ Granulators
- ▶ Sanitary Seals

Kalrez® in Medical Packaging

- ▶ Aerosol rings
- ▶ Microvalves
- ▶ Needle covers
- ▶ Serum stoppers
- ▶ Plungers
- ▶ Infusion hangers

▶ TEMPERATURE RESISTANCE

Up to 160° C sterilization
(260° C upper continuous service
temperature for Kalrez® FDA grades)

Cyclic Condition (Thermal Cycling)

▶ CHEMICAL RESISTANCE

SIP – Sterilization with pure steam,
EO, H2O2, acetone

CIP – Acid cleaning, Base cleaning,
alternating cleaning cycles.

Any chemicals used in production process

▶ Compliant with US FDA,
USP class VI and Japan Pharmacopoeia

▶ Kalrez® parts have very low extractables

▶ Sealing retainability in harsh conditions.

▶ Good compression set
property for long time sealing.

▶ Minimal volume swell inturn has
minimal to no flavour retention

▶ Withstand high processing temperatures,
pressures