



DuraClear™

High performance synthetic barrier fluids

DuraClear oils are formulated for the complex lubrication requirements demanded by mechanical seals. The performance benefits over general duty lubricants have been recognized in lab testing and proven in the field.

A full range of engineered lubricants suitable for plant-wide mechanical seal support

Mechanical seals endure tens of thousands of hours of operation in every type of fluid that may be transported throughout a plant. Many of these fluids challenge seals by being dirty, contaminated, hot, hazardous, flammable, providing poor lubrication, changing phases, solidifying, coking, crystallizing, and plating out.

For many of these applications a barrier fluid must be selected that is environmental safe, nonreactive with the process fluid, and a good mechanical seal face lubricant.

DuraClear contains no detergents or heavy metals

Detergents and heavy metals in conventional multiuse oils, can damage mechanical seals by carrying abrasive sub-micron sized particles between the seal face running surfaces which may score or plate out on the high precision seal face surfaces. DuraClear barrier fluids are formulated specifically for the mechanical seal and barrier fluid reservoir environment and do not include harmful additives which were designed for other duties.

DuraClear compatible API 682 Piping Plans

Plan 52, Plan 53A/B/C, Plan 54, and Plan 55



The ideal fluid for a seal to operate on is DuraClear

DuraClear barrier fluid grades 5-F (ISO 5) and 32-F (ISO 32) are the workhorse seal lubricants, capable of covering the majority of barrier and buffer fluid needs within chemical, petrochemical, pipeline, and refinery plants. These DuraClear grades are fully synthetic poly-alpha olefin (PAO) based oils which offer numerous performance advantages over minerals oils, including:

- Reduced friction and wear
- Oxidation resistance and high temperature stability
- Low temperature fluidity and lubrication
- Chemically stable and compatible with most process fluids
- Low volatility and hydrolytic stability
- Less sludge and varnish build-up
- Longer life means fewer drain intervals, less lubricant disposal
- Reduced lubricant and energy consumption
- Non-toxic, non-hazardous, environmentally safe
- Food grade



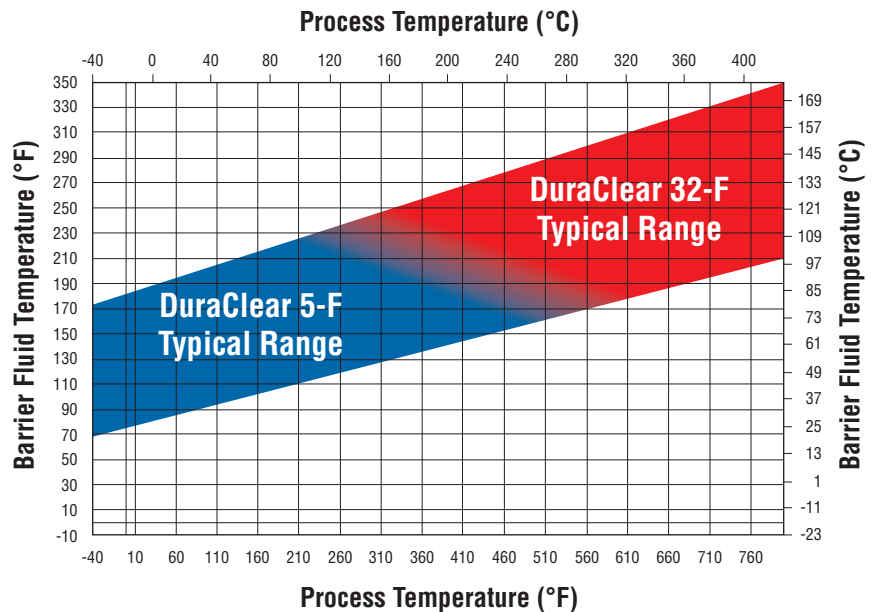
Nonfood Compounds
Program Listed (Category Code)
(Registration #)

Experience In Motion

Know your barrier fluid operating temperature

There are numerous factors that must be considered when choosing the proper barrier fluid. The one least likely to be known is the barrier fluid operating temperature. Flowserve has customized application tools that allow Flowserve to accurately estimate barrier fluid temperature considering dozens of application factors including speed, pressure, seal type, and process fluid properties. Once barrier fluid operating temperature is known, the selected barrier fluid should be confirmed compatible with the process fluid.

For a complete listing of typical fluid properties of DuraClear 5-F and 32-F, consult Flowserve Technical Document FTA114.



Compatible with all Flowserve seal face materials

- Carbon
- Silicon Carbides
- Tungsten Carbides

While some barrier fluids are too thin to support hard vs hard seal faces and other barrier fluids cause blistering on carbon seal faces, DuraClear can support any combination of the above mentioned seal face materials under most conditions.



Example of a carbon blister caused by improper barrier fluid selection

Product Name	ISO Viscosity	Description	Food Grade	Pail P/N	Barrel P/N
DuraClear 5-F	5	Pure synthetic barrier fluid	yes	MLA32486052	MLA32486002
DuraClear 32-F	32	High temperature synthetic barrier fluid	yes	MLA32486053	MLA32486003
DuraClear Crystal 7	7	Broad chemical compatibility synthetic barrier fluid	yes	C0295298ZZ	C0295298ZZ
DS-PARA4-32	32	Synthetic blend bearing frame oil	no	MLA32486054	MLA32486004
DS-PARA4-68	68	Synthetic blend bearing frame oil	no	MLA32486055	MLA32486005

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Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.