DURLON® SEALING PRODUCTS

Triangle Fluid Controls Ltd

DURLON® SELEX

ZERO Leakage Gaskets

DURLON® SELEX

FEATURES

Durlon® Selex zero leakage gaskets are composed of stainless steel inner and outer rings with highly compressed pure nuclear grade flexible graphite sealing elements using a proprietary compression molding process. Selex gaskets exhibit superior mechanical intensity, compressibility and recovery, stress relaxation, and low bolt loading requirements while still providing "ZERO" leakage [≤1x10^{-7} Pa·m^3/s (He)].

Durlon® Selex zero leakage gaskets exploit the natural properties of flexible graphite with outstanding surface conformity, chemical resistance, heat resistance, flame resistance, and radiation resistance. The high quality flexible graphite sealing element has a minimum 99.85% carbon content for critical nuclear applications.

Durlon® Selex zero leakage gaskets are a creative design that conforms to occasional sudden changes of pressure and temperature. They provide the most reliable operation and the largest safety assurances for vessels, piping, valves, and equipment with mid to high pressures and high temperatures in the nuclear industry and other industries requiring premium sealing control.

APPLICATION PARAMETERS

Typical Applications	Cooling water, steam, boric acid, air, nitrogen, demineralized water, oil, oxygen, Sodium Hydroxide (30%), Nitric Acid (7%)
Pressure	Class 150 - 2500 (PN 20 - 420)
Standard Sizes	NPS 1/4" - 24" (DN 8 - 600)
Dimensions	ASME, BS, EN, GB, JIS, HG, tongue & groove flanges, groove flanges, non-standard ring gaskets
Standard Thickness	0.174" (4.4mm)
Inner and Outer Ring Metallurgy	SS304, SS316L
Temperature Minimum Maximum in steam Maximum in oxidizing	 -450°F (-260°C) 1200°F (650°C) 850°F (454°C)
Compressibility	35%
Recovery	20%
Sealability, He	<1x10^{-7} Pa·m^3/s
Flexible Graphite Carbon Content, min Sulfur, max Soluble Chlorine, max Ash, max Fluorine, max Halogens (Cl, F, Br), max	 99.85% 200 ppm 50 ppm 0.5% 50 ppm 200 ppm

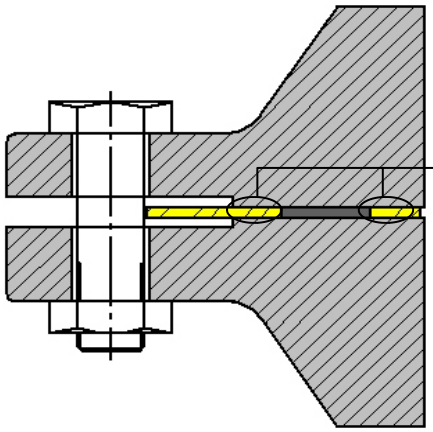
Durlon® Selex gaskets can be manufactured to virtually any configuration and size under 36" in outside diameter and in any metallurgy required by the client. Standard materials (SS304 and SS316L) conform to ANSI, ASTM, EN, and GB standards. The parameters listed above are typical - contact Triangle Fluid Controls Ltd. for specific information pertaining to your application.





ZERO Leakage Gaskets

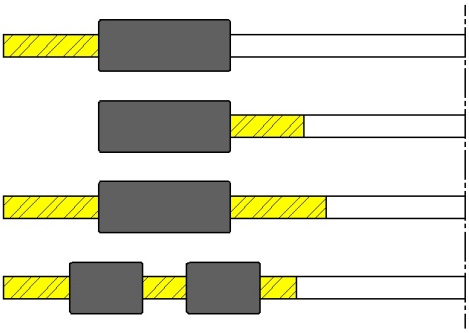
DESIGN PRINCIPLE



The Durlon® Selex zero leakage gasket is designed on the principle of metal-to-metal contact where both the inner ring and outer ring or one of both rings is used as a spacing ring. Therefore, under a given bolt preloading, the metal-to-metal contact between the top and bottom flanges is realized. Durlon® Selex zero leakage gaskets are very suitable for use in applications of occasional sudden changes of pressure and temperature and hence provide the most reliable sealing and safety assurances for bolted flange connections. This is why Selex zero leakage gaskets have been used to solve some of the most critical sealing applications in thermal power plants, especially in the nuclear industry with high temperature steam-water piping applications.

AVAILABLE CONFIGURATIONS

Durlon® Selex zero leakage gaskets can be configured in several ways to meet the requirement of different flange and device configurations.



SAFETY & PERFORMANCE

Passed the Modified API 607 Fire Test.

Leakage <3x10^{-8} Pa·m^3/s ⇨ <1 mL/year

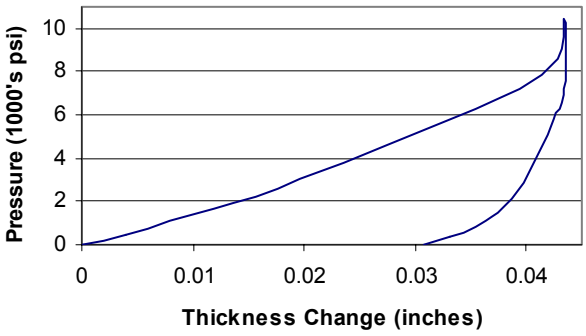
Graphite sealing element will not damage flange surfaces

Nuclear grade flexible graphite 99.85% pure

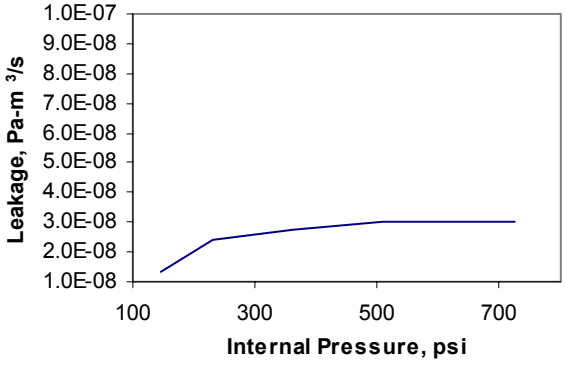
Will not unwind like spiral wound gaskets

TYPICAL TEST RESULTS

Compressibility - Recovery



Helium Leakage



Pulp & Paper
Utilities/Power Plant
Digesters
Chemical Recovery
Pump Discharge
Washing
Bleaching
Refiners
Wet End
Dryers
Coating Piping/Storage
General Service

Chemical Processing
Process Piping
a. Acids
b. Alkalies
c. Chlorine
d. Stainless Steel
e. General Service
Chemical Pumps
Centrifuges
Heat Exchangers
Towers & Reactors
Storage Tanks
Manways
General Service

Rail-Tank Car
Cover Flanges
Liquid Connections
Air Connections
Gauging Devices
Manway Covers
Safety Valves
Bottom Outlet Valves
Steam Pipes

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Boiler
Ash Handling
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Steam Turbine
Circulating Water
Condensate
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TRIANGLE FLUID CONTROLS LTD.

Our Company

Triangle Fluid Controls is market-driven and technology-based, serving customers throughout the world with innovative fluid sealing products.

Our People

Triangle Fluid Controls regards people as its most important resource. We foster leadership, individual accountability, and teamwork. Our employees are professionals whose entrepreneurial behavior is result-oriented and guided by personal integrity. In return, employees can count on opportunities for individual and professional development in an empowering working environment.

Our Sealing Products

Durlon® sealing products have the widest possible range of service applications, therefore, the number of different types of gaskets required to be inventoried can be greatly reduced. This impacts process safety because limiting the number of gasket styles reduces the chance of installing the wrong gasket in the wrong service.

For these reasons, more and more original equipment manufacturers and industrial consumers are specifying Durlon® gasket materials for their needs.

Durlon® products are used in virtually every industrialized corner of the world. Our gasket materials are manufactured to ISO 9001:2000 quality standards and are subjected to continuous testing and rigid quality control. This ensures unvarying performance on the job.

Our state-of-the-art research and development facility is geared to meet the ever-changing demands required in today's variety of service conditions. Since their inception, Durlon® gasket materials have undergone many enhancements, each incorporating the latest technology to better meet the wide variety of industry's changing needs.

Triangle Fluid Controls recognizes that today more and more emphasis is being placed on fugitive emissions via the Clean Air Act in the USA, Canada's Clean Air and Climate Change Act, and various regulations in other countries. Therefore one of our prime design objectives is to maximize the sealability of our gasket materials to meet fugitive emissions requirements.

Triangle Fluid Controls Quality Policy

We will strive to provide our customers and industry with quality products and superior service.

We will accomplish this by:

- Our commitment to understanding and meeting or exceeding our customers' expectations and requirements;
- Continual improvement of our products, services, and processes; and
- Remembering that we are here because of our customers!

Triangle Fluid Controls Ltd.

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