Sealing Integrity for the Food and Beverage Industry

Garlock

an EnPro Industries family of companies

Meeting and exceeding your most rigorous sealing requirements.

We manufacture sealing solutions with the specific needs of the food and beverage markets at the forefront. Our food-grade products are built with high-quality, safe materials that are designed to minimize process leakage, protecting products while they're being made, and also reducing costly repairs and downtime. Featuring exceptional wear resistance, our food-grade gasket and sealing products also withstand extreme temperatures, aggressive materials and vigorous sterilisation methods. Our vast product line has the entire packaging process covered, from beverage and food pumps to brewing and bottling pipes and fillers.

A culture of *safety.*

Garlock is acknowledged as the global leader in high-performance fluid sealing products, committed to a culture of safety-- making the world safer, sustainable and more reliable.

Our commitment to safety stems from our workplace culture and dedication to sealing integrity. We embrace safety not only for our employees, but for all of our customers as well. Our sealing products and solutions are tested to meet or exceed industry and regulatory agency standards. And that's a standard that defines who we are, and what Garlock stands for.

Our job is making sure your job is efficient and safe.

Many of the challenges facing food and beverage manufacturers can all be placed into two categories – product integrity and safety. Tremendous amounts of effort in the form of process design, safeguards and procedures are expanded in order to keep products inside, and contaminants out while keeping your operational overhead to a minimum. Sealing products from the Garlock family of companies, such as GYLON BIO-LINE® and STRESS SAVER® gasketing, are designed with exactly that in mind.

Sealing products for the food and beverage industry:

Sealing solutions engineered to adhere to the rigorous cleanliness and traceability standards within the industry. Remarkably long service life and performance guarantees the integrity and reproducibility of the product.

Sanitary Gaskets — GYLON BIO-LINE®

GYLON BIO-LINE®

If you are looking for a sealing material that is resistant to acids, caustics and sensitive media, while performing at low and high temperatures and pressures, options are difficult to find. The available elastomers generally fail in at least one of these requirements and conventional PTFE is not suitable due to its cold flow properties. The restructured and modified PTFE used in the GYLON BIO-LINE® range of sanitary gaskets is guaranteed to meet all of these criteria, and is available in the following styles to provide a full range of high quality sealing solutions.

ADVANTAGES AT A GLANCE	
STABLE DIMENSIONS	> No intrusion into the piping providing increased process reliability, no cold flow, high recovery
TEMPERATURE RESISTANT	> Can be used at all process temperatures and with high temperature fluctuations
RESISTANT TO MEDIA	> Almost universal chemical resistance, FDA compliant, meets USP Class VI
A SEAL FOR ALL CHEMICALS AND TEMPERATURES	> Reduces stock, reduces risk of improper installation
ADDITIONAL ADVANTAGES	> Maintains excellent sealing characteristics under vibration, flange misalignment and high temperature differentials > Can be installed in a wide range of pressure connections > Reduces down time and costs > Resistant to all SIP and CIP Processes
APPROVALS	> EN 1935/2004 > USP Class VI > FDA-Compliant > KTW approved

GYLON BIO-ASEPT®

GYLON BIO-ASEPT® seals offer high stability and a specific elasticity. The seals are pre-formed and stress controlled to provide a solid seal when assembled in the piping systems. Chemical degredation or brittleness will not occur under normal or even increasing process and sterilization conditions, due to specific, high performing PTFE sealing material.

GYLON BIO-ECO®

The necessity for adequate sealing stress and simultaneous recovery makes GYLON BIO-ECO® the ideal solution for couplings in accordance with DIN 11851 and SMS 1149. All of the disadvantages associated with current elastomeric seals regarding temperature, chemical resistance and re-usability are eliminated by the modified PTFE material. GYLON BIO-ECO® seals are available in all dimensions without inner collar (M1) or with inner collar (M2).

GYLON BIO-PRO®

GYLON BIO-PRO® seals offer a safe solution with its modified and restructured PTFE material, pre-formed and stress controlled, for all TRI-CLAMP standards. It is dimensionally stable and resists intrusion into the pipe bore. Can be safely used with all cleaning, neutralizing and sterilizing media, including steam, and for all standard process temperatures.

Gaskets

GYLON® Gaskets

These FDA compliant GYLON® gaskets have improved performance over conventional PTFE. The advantages include reduced creep relaxation and the ability to withstand a wide range of chemicals for extended service life in a wide range of applications.

Style 3504 GYLON® Stress Saver®

The molded raised ribs on our Stress Saver® family of products help to create a tighter seal by concentrating the compressive load, ideal for lightweight piping. Our new Style 3504 GYLON® Stress Saver® combines these proven sealing advantages with the performance characteristics of the industry recognized GYLON® 3504. Also available in EPDM.

Stress Saver® XP

Single piece molded design made from high performance, proprietary blend of fluoroelastomers. Suitable for use in potable water, steam and most chemicals. High performance fluoroelastomer; outperforms traditional fluoroelastomers in severe chemical and steam applications with improved heat resistance.

Rotating Seals

P/S® Seal

P/S® Seal is manufactured with the lip element made of modified PTFE, also known as GYLON®. The P/S® Seal provides reliable sealing of rotating shafts at high peripheral speeds, pressures, and temperatures against aggressive media. The P/S® Seal is FDA compliant and suitable for dry running applications.

ADVANTAGES AT A GLANCE
> Can be used on pressure and vacuum duties
> Temperature-resistant up to +260°C
> Excellent chemical resistance
> Suitable for high peripheral speeds
> Good dry-running characteristics
> Low friction and wear-resistant

Rubber Expansion Joints

Style 204 and 204HP Expansion Joint

Styles 204 and 204HP spool-type expansion joints can be constructed as single or multiple arch types. They connect pipe flanges in concentric or eccentric tapers, to join piping of unequal diameters.

Available in special liners like Hypalon*, EPDM, Nitrile Neoprene, Natural Gum, Flouroelastomer and FDA materials.

Style 206 EZ-FLO®

EZ-FLO® expansion joints contain a single wide flowing arch, perfect for serving the food and beverage industries allowing material to flow through easily without getting caught.

Available in special liners like Hypalon*, EPDM, Nitrile Neoprene, Natural Gum, Flouroelastomer and FDA materials.

Butterfly Valves

Sterile-Seal Butterfly Valves

STERILE-SEAL valves are used in sterile processes that need to be maintained in the pharmaceutical and food industries without unnecessary and costly overhauls and replacements. The special characteristic of this valve is its external sterilisation capability. The design is such that the critical "dead" areas of the valve, as well as the disc, body liner and seals, can be sterilised with steam without coming in contact with the process.

GAR-SEAL® Butterfly Valves

GAR-SEAL® valves are FDA compliant. Amongst the Gar-Seal family, the Sterile-Seal is unique in which the inside of the valve can be sterilized to kill any bacteria making it perfect for the food and beverage industries. GAR-SEAL® butterfly valves offer reduced maintenance requirements and increased operational reliability.

Diaphragms

GYLON® ONE-UP® Pump Diaphragm

Made using our exclusive GYLON® PTFE Diaphragm material and a proprietary EPDM rubber backing, this product is made with the same patented rib construction of our standard industrial ONE-UP® and is in compliance with FDA regulations.

*Hypalon is a registered trademark of DuPont Dow Elastomers.

Orifice & Perforated Plates

Orifice Plates

Our innovative Orifice Plate line includes a complete selection of solid PTFE or Tuf-Steel® or a 316L Stainless Steel molded to a Rubber Fab elastomer, in standard, tabbed, and vertical Tri-Clamp® styles, that can be custom drilled with an eccentric or concentric bore. Rubber Fab's orifice plates can advance your system's performance, adjust flow rates, balance back flow and equalize back pressure during SIP procedures.
Also available: Vertical Orifice Plates.

Standard and Specialty Gaskets

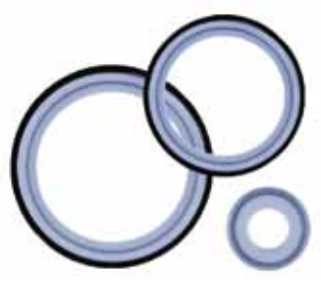
PTFE Envelope Gaskets

A PTFE envelope gasket has good chemical resistance and the inert chemical characteristics of PTFE. The EPDM or FKM Fluoroelastomer insert imparts memory. It is FDA-compliant and meets USP Class VI standards.

Tuf-Steel®

Composed of a unique proprietary blend of PTFE and 316L Stainless Steel, Tuf-Steel® is the choice for leak-proof performance and outstanding durability in steam applications. Tuf-Steel® holds up under high temperature:

» 500 CIP/SIP Cycles
» Superior creep resistance
» Excellent chemical resistance



Tuf-Flex®

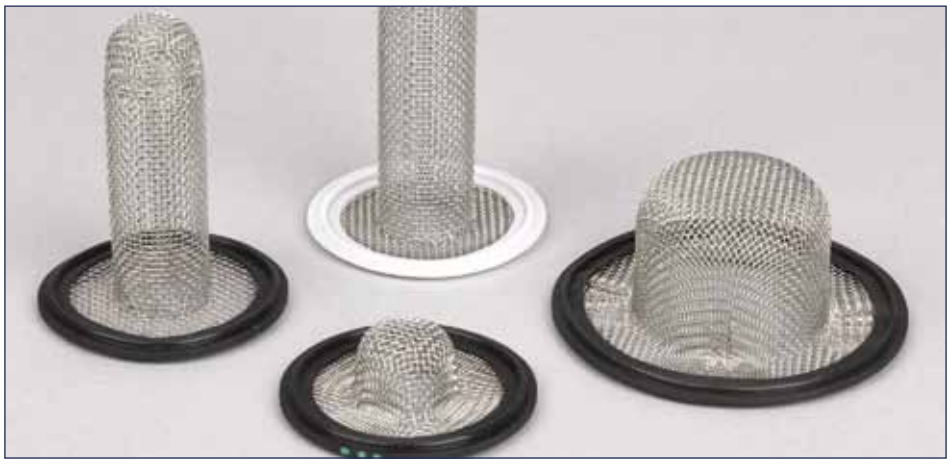
This sanitary gasket is the world's only unitized gasket, and is setting new standards for purity, performance and flexibility. TUF-FLEX® is specifically designed to meet critical requirements in ultra pure water and WFI (water-for-injection). The PTFE grafted elastomer in a TUF-FLEX® sanitary gasket will maintain I.D. without re-torquing or leaking.

*Also available in solid Silicone, PTFE, EPDM and FKM.

Specialty and Screen Gaskets

Smart Gasket

Rubber Fab's Smart Gasket's® value is proven when validating sterility in a high-purity food and beverage system. The Smart Gasket® is used to obtain the critical thermal mapping information you need during the validation process. Smart Gasket® easily installs between two sanitary standard ferrules using the Rubber Fab sanitary thermocouple clamp to secure the ferrules.



Screen Gaskets & Sock Screens

Sock screen strainer designs are inserted into the I.D. of your stainless steel tubing and provide filtration for a greater soil retention. The extended sock shaped mesh gasket offers up to 300% more open area for 300% more soil collection capability than conventional screens. Due to the large capacity and open screen area, sock screens require less service, therefore, reducing down time and costly change outs. While protecting expensive processing pumps and equipment from foreign matter, sock screens are especially effective in decreasing pump wear and burnout while increasing energy conservation. Regularly used in the transfer of liquids from a bulk tank to a tank truck and/or in the opposite direction, sanitary sock screens are specifically designed for high volume applications with low pressure drop.

RUBBER FAB technologies group

Hose and Hose Assemblies

Sanitary Hose & Hose Assemblies, Tubing

- High Purity Silicone Hose, Tubing
- PTFE & FEP Lined Smooth Bore and Convoluted Hose
- FDA Rubber Hose
- FDA PVC hose, tubing
- Metal Hose
- Sight Gauges, as well as Hose Accessories.

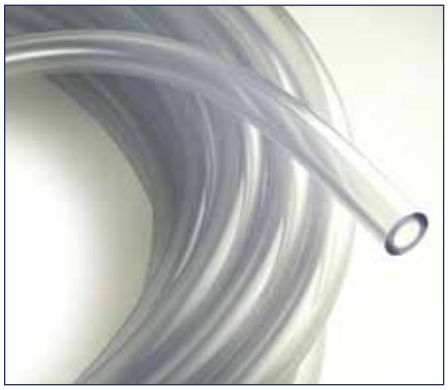
Sanitary Fittings & Adapters

- Fitting sizes available from 1/4"to 6"
- Fittings are manufactured in 316L Stainless Steel
- Standard 10- 20RA surface finish on Tri-Clamps®
- Heat trace number for traceability on all sanitary Tri-Clamps®
- Material test reports (MTRS) are available upon request
- Electropolishing of fittings available
- Tri clamp fittings available in non-metallic materials, such as Kynar®/ PVDF
- Available in special alloys including: Hastelloy C22 & C276, Alloy 20, Titanium, and Monel
- 90° and 45° elbows available
- Special step-up and step-down fittings also available
- Sanitary stainless fittings available

TBL ThermoplasticBiologic

Flexible non-phthalate PVC Vinyl Tubing

Cleargreen™



Our ClearGreen® Line of tubing has been developed to address the growing trend away from plasticizer that contains Phthlates additives. ClearGreen® tubing complies with California EPA environmental standards, EU's REACH (article 33.1) and RoHS regulations. It also fully complies with the requirements of USP Class VI, is non-Pyrogenic and non-hemolytic.

Reinforced Platinum-Cured Tubing

Pharm-A-Clear R™ Silicone

For higher temperature and pressure applications or those with a need for improved kink resistance, Pharm-A-Clear R™ platinum-cured braided silicone tubing is your ideal choice. Pharm-A-Clear R™ meets 3-A standards and can withstand temperatures up to 177°C. All Pharm-A-Clear R™ tubings are Bio-compatible, Ultra-Low Extractables, Non-Pyrogenic and Non-Hemolic.

Chemically Resistant Precision Pump Tubing

Pharm-A-Line I™

Pharm-A-Line I™ tubing was specifically developed to provide superior performance in peristaltic pump applications and to provide an excellent alternative to silicone tubing when chemical resistance is a concern.

Rubber Fab and TBL are selected partners of Garlock Singapore.

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