



Sealing Global - Servicing Local

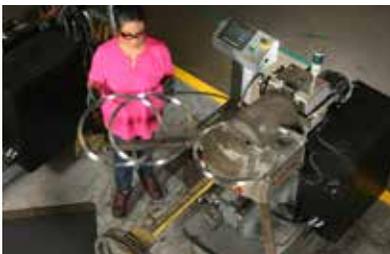
# COMPLETE OFFERINGS

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METALLIC GASKETS | SEMI-METALLIC GASKETS | NON-METALLIC GASKETS |  
SEALING ISOLATION GASKETS AND KITS | FASTENERS | HOSE PRODUCTS |  
ENGINEERED PRODUCTS | COMPLIMENTARY PRODUCTS

# QUALITY MANUFACTURING FROM START TO FINISH

With over 900,000 square feet of manufacturing and warehouse space, Lamons employs some of the best and most experienced fluid sealing & conveyance component fabricators in the business. Everyday, we pride ourselves on having complete control of the finished products we deliver to our valued end-user customers from procurement of raw materials through the manufacturing process, and we stand behind the reliability of those products. Lamons is the only gasket, fastener and hose assembly manufacturer in the world that provides direct supply of our manufactured products to downstream end-users globally. Because of our direct go-to-market business model, we maintain the highest integrity in the products reaching service in the industry. Lamons maintains a diverse source of supply for raw materials globally to ensure no interruptions in the pipeline. Our manufacturing footprint is composed of a network of branch locations with a focus on providing limited and specific manufacturing capabilities to their local geographical regions strategically located close to major industrial markets. Major manufacturing hubs are located in Houston, TX and Golden, CO. Distribution is available where needed.



- ▶ **Soft Gasket Manufacturing**
- ▶ **Heat Exchanger, Pump, Valve and other Equipment Gasket Manufacturing**
- ▶ **Spiral Wound Gasket Manufacturing**
- ▶ **Kammprofile Gasket Manufacturing**
- ▶ **CorruKamm Gasket Manufacturing**
- ▶ **Standard Bolting & Fastener Manufacturing**
- ▶ **Specialty Bolting & Fastener Manufacturing**
- ▶ **Hose Assembly Manufacturing**

# LAMONS TECHNICAL & FIELD SERVICES

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A resource at your fingertips, Lamons Engineering Department can provide valuable assistance to achieving a higher degree of reliability for your bolted joints. Whether you are looking for suggested torque values, a recommendation for a problematic assembly or conversation regarding industry practices, our staff is ready to hear your request and prides itself on prompt response. Your application will be reviewed by our staff of engineers and we will make recommendations based upon our vast knowledge and experience.

## OUR APPLICATION ENGINEERS CAN ASSIST YOU WITH:

- ▶ **Trouble-shooting difficult sealing scenarios**
- ▶ **Gasket type and material recommendations based upon your application specifics**
- ▶ **Manufacturing and industry specifications**
- ▶ **Material specifications and consolidation of different material types to suit your application needs**
- ▶ **Torque and Load Calculations**
- ▶ **Technical Training Seminars**





# WORLD-CLASS SERVICE AND TOTAL CUSTOMER SATISFACTION

While we're proud to manufacture and distribute some of the most diverse and expansive offerings in the fluid sealing and conveyance industry, we understand that servicing our customers is just as important as the products we ship. That's why Lamons has a strategic footprint of locations with 24/7/365 support. Each Lamons location has dedicated service teams available to offer on-site:

- ▶ Flange Assembly Analysis
- ▶ Application Analysis & Recommendations
- ▶ CAD Drawings
- ▶ Field Measurements of Flanges, Gaskets, and Bolting
- ▶ Educational Seminars including Product & Installation Training
- ▶ MOC/Specification Assistance (i.e. OEM gasket/bolting replacement)

# FLANGE ASSEMBLY DEMONSTRATION UNIT

## REAL-TIME BOLT UP AND GASKET TRAINING

Flange assembly demonstration unit, short for FADU, is a live flange with load indicating fasteners and a compression sensor. Lamons offers a complementary bolt up and gasket training with live operating classroom equipment. This equipment demonstrates bolt and gasket stress along with the relaxation in a flange connection.

### BEST PRACTICES BOLT-UP TRAINING

In a classroom environment we teach our audience the best practices in bolting up flanges and proper gasket installation accordance to ASME PCC1. Using different gaskets our volunteers will get the opportunity to illustrate



- ▶ Scatted bolt load & cross talk
- ▶ Gasket relaxation using different gaskets
- ▶ Proper Lubrication
- ▶ Use of Washers
- ▶ Using torque, combination, or box wrenches
- ▶ Bolt/Stud Tensile/Yield strength
- ▶ Legacy/Cross pattern bolt up
- ▶ Body positing and proper arm movement

### OUR TRAINING

Our training consists of the FADU and any additional requested trainings such as Gasket 101. We can customize our training to focus on the important aspects of flange bolt up and plants/facility's procedures. For our customers we conduct this training free of charge and arrange any lunch or refreshments.

In order to schedule any trainings including lunch and learns please contact [engineering@lamons.com](mailto:engineering@lamons.com).





Lamons manufactures and supplies a large variety of ring type joint gaskets. Lamons Ring Type Joint (RTJ) standard size gaskets are manufactured in accordance to API 6A, API 17D and ASME B16.20 specifications. Our facilities all over the world stock a wide range of sizes and materials ready for immediate shipment, from R11 to R105. Customers can also rely on our extensive inventory of raw materials, allowing for best-in-class delivery of special sizes and shapes.

Specialty rings and industrial machined components can be rapidly produced to exact dimensions and to customer specifications. Lamons stocks the most extensive inventory of centrifugal castings, forgings and plates in the industry, allowing us to respond quickly to most customer needs. From small machined components to rings over 6 feet (1800mm), Lamons has the capacity and turning capability to deliver most configurations of heavy cross-sectioned components.

- Ring Joint Gaskets
- Kammprofile RTJ
  - Kammpro-ORJ
  - Kamm-PEG
  - Kammpro-Adapter (RTJ or RF)
- Specialty Machined Products

## APPLICATIONS

- Higher pressure bolted flange connections as high as 15,000psig
- High temperature services
- Bolted flange connections requiring a metal to metal seal
- Petroleum Upstream, Midstream and Downstream
- Subsea
- Valves
- Pumps
- Piping

## BENEFITS

- Metal to metal seal
- High reliability seal
- Safer
- Customizable

# SEMI-METALLIC GASKETS



Semi-Metallic gaskets are designed to feature soft, pliable sealing materials which enhance the tightness of the assembly with lower overall load requirements when compared to full metallic gaskets. They are very popular due to this configuration, and options are available in a wide variety of styles and sizes. They can typically be fabricated from any metal which is available in thin strip or sheet, and which can be welded. Therefore, these gaskets can be used against virtually any corrosive medium dependent upon the choice of the metal and filler/facing material. Additionally, they can be used over the complete temperature range from cryogenic to approximately 2000°F (1093°C). Semi-metallic gaskets can generally be used in pressures ranging from vacuum to those seen in ASME B16.5 standard 2500 pressure class flange ratings. They are resilient and, therefore, can compensate somewhat for flange movement which may occur due to temperature gradients, variations of pressure and vibration.

- Spiral Wound Gaskets
- Kammprofile Gaskets
- Corrugated Metal Gasket (CMG)
- Metal Jacketed Gaskets
- High Temperature Gaskets (HTG)

## APPLICATIONS

- High temperature services
- Low to High Pressures
- Petroleum Upstream, Midstream and Downstream
- Subsea
- Valves
- Pumps
- Other process equipment
- Piping

## BENEFITS

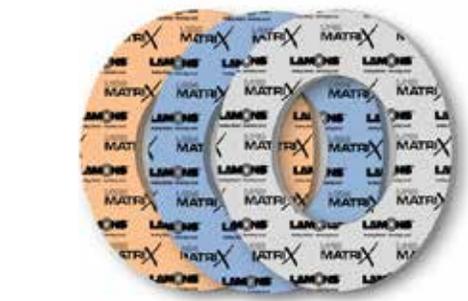
- Wide variety of styles, sizes and materials
- Versatile to meet wide array of applications
- Color coded for easy material identification
- Compatible for a wide range of flange surface finishes

# NON-METALLIC GASKETS



A “soft gasket” material is a term used when referring to a gasket material that is easily compressed under a low bolt load. This term has been used to distinguish the difference from a metallic gasket. A soft gasket material can be selected from a large variety of elastomers, compressed non-asbestos, PTFE, flexible graphite and high temperature sheet products. Soft gaskets are used in a wide range of applications such as for pipe flanges, heat exchangers, compressors and bonnet valves, to name just a few. Soft gasket material can be purchased in a variety of cut shapes or be provided in sheet or rolls.

- Elastomeric and Fiber Sheet
- Compressed Non-Asbestos Sheet
- Virgin / Glass-Filled / Reprocessed PTFE Sheet
- Biaxially Orientated (Filled) PTFE Sheet
- Expanded PTFE Sheet
- EPTFE Joint Sealant
- PTFE Envelope Gaskets
- Flexible Graphite Sheet
- Ceramic Fiber
- Mica Sheet



## APPLICATIONS

- Vast range of service temperatures
- Low to moderate pressures
- Severe Chemical services
- Petroleum & Chemical Upstream, Midstream and Downstream
- Piping & Vessels
- Valves
- Pumps
- Other process equipment

## BENEFITS

- Wide variety sizes, geometries and materials available
- Color Coded for easy material identification
- Compatible for a wide range of flange surface finishes
- Reduces fugitive emission, creep and cold flow characteristics
- Chemical Resistance charts & data sheets available

This is an all graphite material containing no resins or inorganic fillers. It is available with or without a metal insertion, and in adhesive-back tape form. Flexible Graphite has outstanding resistance to corrosion against a wide variety of acids, alkalies and salt solutions, organic compounds, and heat transfer fluids, even at high temperatures. There are two proven metal reinforced flexible graphite laminate materials ideal for 95% of all sheet gasket applications. Lamons flexible graphite laminates (LG-SS and LG-TC) are surface branded for easy identification. These gasket materials meet refinery, petrochemical and industrial service requirements.



**LG-SS** is a flat metal 316/316L stainless steel reinforced flexible graphite sheet material made with minimum 98% typical carbon content.



**LG-TC** is a reinforced flexible graphite sheet material laminated with tanged 316/316L stain-less steel insert and made with minimum 98% typical carbon content.



**LG-L** homogeneous graphite sheets are manufactured from high carbon content of minimum 98% natural graphite.



**Graphite Tape.** Rolls of graphite tape can be furnished with a strong self-adhesive backing strip, to facilitate repair of multiple surfaces, enhancement of existing design or installation as a form-in-place gasket.

| Filler Material Temperature Range |                    |
|-----------------------------------|--------------------|
| PTFE                              | -325° F to 450° F  |
| O2i-Oxidation Inhibited Graphite  | -325° F to 850° F  |
| Oxidation Resistant Grade APX2-FG | -325° F to 975° F  |
| HTG (High Temperature Gasket)     | -325° F to 1500° F |
| Mica                              | -325° F to 1832° F |
| Ceramic                           | -325° F to 2000° F |

# ISOTEK™ SEALING/ISOLATION GASKETS AND FLANGE KITS

PRODUCTS / SEALING ISOLATION GASKETS



Lamons offers a complete line of engineered sealing solutions with the IsoTek™ product line dedicated to sealing and flange isolation. The IsoTek line of products can be tailored to meet and exceed regular and critical service protection solutions.

The **ISOGUARD™** sealing/isolating gasket system is designed for general applications where electrical flange isolation and corrosion control are required on pipes containing water/wastewater, gas, natural gas, oil and other hydrocarbon-based medias up to 392F and ANSI 1500# pressure class service.

The **DEFENDER™** sealing/isolating gasket system is designed for critical/extreme applications. Manufactured with a 316 stainless steel core retainer and laminated on both sides with high strength laminates, the DEFENDER™ gasket is resistant to deforming under load and is used when electrical isolation and corrosion control are required on pipes containing gas, natural gas, oil and other hydrocarbon-based medias up to 392°F (200°C).

The **DEFENDER FS™** sealing/isolating gasket is designed to withstand the rigorous API standard 6FB (Third Edition) test and therefore provides a solution for those who want to electrically isolate their flange while also requiring protection against the introduction of fire in and around the flange.

## APPLICATIONS

- CP Isolation
- Fire Safe Isolation
- Potable water NSF61 Certified
- Critical/ Extreme service flange connections
- Dissimilar flanges, RTJ/ Raised Face
- Flanges: ANSI, AWWA, DN-PN, BS, RTJ, Fiberglass, Aluminum, Coated
- ANSI 150- 2500# API 2 - 15K and PN20- PN420
- Service - H2S/ CO2, PH, Potable water

## BENEFITS

- Materials that meet and exceed industry standards
- NSF/ ANSI Certified
- Dissimilar flange applications
- High temperature isolation
- Fire Safe isolation
- Galvanic corrosion isolation
- Tested and Certified API 6FB
- Certified NSF/ ANSI 61
- ID bore specific retainers
- Corrosive environments
- Spring Energized seals



Standard Designs - Lamons standard fasteners are available in a wide range of alloys and sizes. This line of products is considered to represent the highest quality standard in the industrial market. Our large inventory of fasteners, stud bolts, threaded bar stock and related hardware allows the ability to quickly respond to any customer requirement or demand.

Specialty Designs - Lamons maintains a high capacity of programmable mill and lathe capability for custom machine work on most specialty components. As a leading manufacturer of custom machined products for the refining, petrochemical and industrial markets, Lamons recognizes the quality and service levels these industries require. We have over 30 state of the art CNC machines operated by programmers and machinists to deliver high quality machined components with the quickest response time in the industry. From a sample, drawing or CAD file, Lamons can program and manufacture/machine custom parts and fasteners with the highest precision and repeatability within .0005 inches (.0127 mm).

- Bolts
- Specialty Bolts
- Studs
- Headed Parts
- Nuts
- Washers
- Bent Bolts

## CAPABILITIES

### Roll Thread

- 1/4 - 2-1/2" Diameter
- Double Ends
- Fully Threaded
- UNC, British, Buttress & Metric Threaded

### Cut Thread

- 1/4" - 3" Diameter
- Double Ends
- Fully Threaded
- UNC, British, Buttress & Metric Threaded

### CNC

- Lathe & Mill
- Single Tool Thread
- O.D. Groove
- Internal Thread

- Reverse Engineering
- Manufactured per print
- Heat Treating
- Full Material Traceability

## CERTIFICATIONS/COMPLIANCE:

- API 20E- BSL Levels I, II & III; API 6A; API 17D; API 20F\*

## QUALITY & TESTING:

- UT & Wet Mag
- PMI
- Coordinate Measuring Machine (CMM)

## MATERIALS:

- 304 & 316 Stainless
- High-Strength Low-Alloy Steel - 4340 & 4140
- Iron-Based Alloy - A286
- Grade 660
- Alloy 718, 925, 935 and 945



- Flexible METAL HOSE
- Chemical/Petroleum
- Industrial Utility

## CERTIFICATIONS

- NAHAD Certified Personnel
- NAHAD Member
- ASME BPVC SEC. IX Certified Weld Procedures and Personnel
- Quality Management System ISO 9001:2015



## APPLICATIONS

- Acids
- Chemicals
- Solvents
- In-Plant Transfer
- Transportation
- Marine
- Waste Water
- Petro-Chemical
- FDA
- Hydrocarbons
- Chlorine
- High Pressure
- High Temperature
- Random Motion
- Vibration
- Corrosive
- Abrasives
- Refineries
- OEM
- Steel Mills
- Paper Mills
- Power Generation

## BENEFITS

- Strategic Fabrication Locations
- Quality Control Standards
- MTR's & CoC's
- 100% Leak Testing & Certification
- NDT Certified Procedures & Personnel
- PMI
- Quick Turn-Around
- NAHAD Certified
- ASME PBVC Section IX Certified Procedures & Welders

# COMPLIMENTARY PRODUCTS



**Compression Packing-** Lamons can provide several compression packing materials and styles upon request to suit the operating conditions and provide suitable sealing properties.



**Expansion joint offerings:**

- Rubber
- PTFE Lined Rubber
- PTFE Molded
- Flue Duct
- Metal



**Flow Switches-** Flow switches are unique in the field of flow controls, actuated by flow, not pressure and are simple mechanical devices. They are specifically designed to accommodate customers' applications with minimal pressure drop. The flow switches are completely field adjustable, available in any electrical rating desired, any type of connection, most metals, Teflon and plastics. They are also available in explosion proof and non-explosion proof models.



**Thread Lube-** Lamons Premium Thread Lubricant and Anti-Seize has advanced engineered compounds that are unsurpassed in the two most fundamental areas of concern to proper joint assembly; make-up torque and disassembly or break-out torque.



**Fingersaver-** The Fingersaver keeps your hands away from the impact of the hammer on flogging spanners and from pinch points when using impact wrenches and hydraulic torque equipment.



**FlangeKing®**- The FlangeKing® is the only tool engineered specifically to make changing flange gaskets safer, quicker, and easier. FlangeKing® is crafted from heat treated 4140 alloy steel with a beveled edge and hook to remove gaskets and scrape clean the flange face. The custom-moulded handle prevents slipping while protecting knuckles. The built-in, bright, hands-free LED light provides greater visibility. Handy bolt measuring templates etched on the blade create quick reference points for the user.

# ENGINEERED PRODUCTS



**CorruKamm™** technology is a revolutionary new design that provides the benefits of a kammprofile technology with the additional attribute of recovery that is desired to offset flange relaxation and unloading. It combines the proven concepts of a kammprofile and a corrugated design to achieve increased performance. The result eliminates many of the deficiencies found in both designs while consolidating the benefits. A machined profile, not formed, allows for a correcting alternated geometry, strategically indexed and aligned so that deflection occurs. The result is maximum stability, recovery, resiliency, deflection and conformance.



**Kammpro-ORJ** is sized to the standard octagonal API 6A or ASME B16.20 dimensions, but with the addition of the Kammpro design applied to the sealing.



**Inhibitor** gaskets provide corrosion resistance in the most extreme conditions. The design combines an HTG filler configuration with highest purity graphite, and a Kammpro inner ring laminated with soft PTFE material. The design of the Inhibitor gasket utilizes the Kammpro inner ring to provide the primary sealing interface. The inner ring material and its covering layer are inert in terms of corrosion through contact with dissimilar materials. This fire safe design incorporates the sealing integrity of highest purity graphite in conjunction with mica on the ID and OD, preventing the entrance of further corrosive conditions to the media.



**Matrix CPG®** is a superior performance biaxially orientated PTFE gasket material with a unique Corrugation Profile. The material has been specially formulated to accept this corrugated effect.



**Kammpro Dual Seal** gaskets are designed to mate with leak detection devices incorporated into flanged assemblies used in critical applications, such as lethal service. This highly effective gasket has a primary seal followed towards the outer portion of the sealing area by a relief section with through holes, where the leak detection equipment is mounted. Past this relief section is a secondary sealing area that will maintain the integrity of the bolted joint should the primary seal be compromised, and pressure differential is identified.

## Hydrofluoric Acid (HF) Service Gaskets



Lamons style **WRI-LP** is designed to engage the sealing surface of flanges completely from the OD to the bore. This field-proven design provides protection of the flange facings while requiring a low load for seating and maintaining an effective seal. These gaskets are recommended for use in new and undamaged flange facings. Various winding, core and facing materials are available for maximum corrosion resistance.



Lamons style **DEFENDER HF** is designed similarly to the WRI-LP in that they engage the entire flange sealing surface from OD to bore. Additionally, a the inner sealing surface is faced with a premium expanded PTFE to help fill voids left from previous corrosion to flange facing.



**Custom Kammpro Technology.** Kammpro serration technology can be made to fit most any application including various thickness and material spacers, wedged spacers, instrument spacers, RTJ type gaskets, dual sealing technology, etc. The versatility of items that kammpro sealing technology can be added to is virtually endless.



**HeaderKamm™** sealing plugs are engineered for air-cooled heat exchanger applications (ACHE) in the up and down stream markets. The plug uses an integral seal design under the bolt head, a proven Kammpro LP1 machined seal faced with inhibited graphite. This design integrates the gasket needed to seal with the plug itself reducing leak paths. The Kammpro serrations effect a seal even with imperfect surfaces solving costly installation delays.



The **Ball Lock Washer** is a hardened washer which employs the use of hardened steel ball bearings that embed and grip into the flange face and nut bearing surfaces. This mechanical lock begins to occur during the hand tightening stage and is maintained throughout the tightening process. The result is a technology that eliminates the need for a back-up wrench and the need for an operator to place his hands and fingers at risk in a pinch point zone.



**Nord-Lock Washers** are designed to secure bolted joints exposed to severe vibration and dynamic loads utilizing wedge-locking technology.



**Belleville Spring Washer.** Spring washers are designed to introduce “live loading” into a bolted connection to help maintain load especially effective in thermal cycling applications.



**Spherical Washers** are designed to create an exact, parallel plane between the bolt head and the face of the nut. These washers automatically adjust and compensate for the angular deviation between the planes and prevent the bolt from bending.



**SPC4™** load indicating fastener technology allows installation of a bolted assembly with confidence. Users can monitor the clamp load of any SPC4 bolted joint whether static or dynamic, by attaching an indicator datum disc located on the end of the fastener and reading the value with a user-friendly mechanical indicator.



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