Designer of industrial sealing solutions **DYNAMIC SEALING STATIC SEALING**

VALVES TOOLS AND ACCESSORIES

SERVICES

CONTENTS

Designer of industrial sealing solutions

GROUPE LATTY

GROUPE LATTY has been designing and manufacturing industrial sealing solutions in many diverse industrial areas for over a century.

This longevity relates to the permanent willingness to innovate to address each new technical challenge, in France and worldwide.



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Agri-food, chemical, petrochemical, pharmaceutical, waste water treatment, wood and paper, energy production, aeronautics, automotive and shipbuilding, mining industries, etc.

The companies trusting GROUPE LATTY belong to such various industrial sectors because the men and women who design and manufacture the LATTY® products know what addressing a challenge means. They combine their expertise and with state-of-the-art tools spread over an innovative industrial park, in the research and development centre, but also in the seal cutting, repair and mechanical seal reconditioning workshops spread across France and abroad.





280

employees worldwide

15

subsidiaries

160

employees in France



increase in turnover in 5 years



export countries

SOURCE FOR INDUSTRIAL SEALING SOLUTIONS

Over 100 years of design and manufacture.

Since the first sealing solutions were developed, 100 years have passed. Today, the LATTY® company is a family-owned and independent group with 300 employees, working on more than 14 sites, the industrial heart of which is located in Brou and covers more than 10,000 sa.m





VIRTUAL VISIT 300 Enjoy an immersive experience to discover or rediscover the LATTY company.

services is one of the group's inherent priorities. It is supported by numerous approvals, certifications and standards that result in strict and regular controls in laboratories and by continuous training intended for teams and technical services: refurbishment, interventions on customer's premises, approvals, training, etc.



AS CLOSE AS POSSIBLE TO CUSTOMERS

In France...

The French distribution network is made up of a hundred of distributors and cut gasket makers, led by technicians and sales engineers who have expert knowledge of the characteristics and applications of LATTY® products.

They work directly with the companies in their area so as to be as close as possible to the needs of final customers.



... and abroad

With subsidiaries in Europe, South America and North Africa, the LATTY® brand is distributed in the United States, Africa, Oceania, China, etc. Sales abroad account for about half the Group's sales.

A HIGH-PERFORMANCE INDUSTRIAL PRODUCTION SITE

GROUPE LATTY's main production site is located in Brou, in Eure-et-Loir (France). Covering more than 10,000 sq. m., our employees contribute to the expertise that has been built up over the company's century of existence.

Regularly trained in ISO 9001 procedures, in Statistical Process Control (SPC) and in the manufacturing and packaging standards set by some certifications, the workforce daily contributes to the manufacturing quality of LATTY® products.

The company's production strength is based on state-of-the-art machinery consisting of:

- Diagonal or circular braiders 18 to 36 carriers),
- Hydraulic presses (12 to 5 500 kN)
- Four- and five-axis machining centres
- Lapping machines
- A waterjet cutting machine

MADE IN FRANCE









INNOVATION TO MEET PERFORMANCE REQUIREMENTS

For over a century, GROUPE LATTY has undertaken to implement the most efficient and the most innovative sealing solutions for its customers. That is why every year 5% of turnover is invested in research and development.

PRODUCT QUALIFICATION & APPROVAL

GROUPE LATTY has contributed to numerous approvals and qualifications for its customers' equipment and its own products over the past few years. The approval of equipment is carried out in the Brou test and qualification laboratory and in collaboration with approved laboratories and organisations.

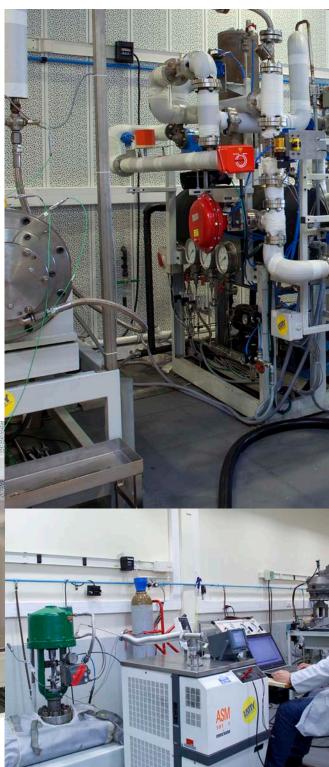
RESEARCH \$ DEVELOPMENT: INNOVATION AS A DRIVER

GROUPE LATTY helps its customers to incorporate the technical innovations demanded by an increasingly competitive environment.

Every day, a team of engineers focuses exclusively on developing new processes and designing new products that provide dynamic, semi-dynamic or static sealing.

Whether it's a question of reducing friction stress, facilitating the use of equipment while maintaining its efficiency, or reducing maintenance time, every effort is made to offer ever more innovative products.









APPROVALS & CERTIFICATIONS: USERS AND MANUFACTURERS TRUST US

By virtue of a policy of constant innovation, GROUPE LATTY, via its R ξ D department, is able to satisfy new requirements and keep pace with changing standards and directives.

EQUIPMENT APPROVAL

The equipment approvals performed by GROUPE LATTY for its end-users or OEMs are carried out by its test and approval laboratory based in Brou, France.

Approvals, Certifications, Directives and Standards include,

- Food processing: FDA, EC 1935/2004, 3A, EHEDG
- Water: WRAS, KTW, ACS
- Nuclear energy: PMUC, AECL, ASME, RCC-M, ISO 19443
- (a) Fire test: API 607, API 689, API 589
- @ Gas: DVGW
- ② Oxygen: BAM, ATEX, SHELL, WHA, GAS AND LIQUID OXYGEN SERVICE
- **S** Fugitive emissions: API 622 2018, 3rd edition, API 624, API 641, ISO 15848-1, TÜV VDI 2440, SHELL, Total SGM 2082.TUY





GROUPE LATTY INDUSTRIES

Designer of industrial sealing solutions

GROUPE LATTY INDUSTRIES



Today, many industrial sectors trust GROUPE LATTY. Even though they require the same high standards, each one is specific.

For almost a century, LATTY® products have benefited from the diversity acquired from innovations in design.



LATTY designs and manufactures sealing solutions specifically adapted to the constraints of food processing industry.







The sealing solutions sought in chemical industries are mainly oriented towards personnel safety and environmental protection.



Traceability, personal safety and compliance with standards are the main concerns of the pharmaceutical industry, which is looking for reliable, high-performance seals.



GROUPE LATTY INDUSTRIES

Designer of industrial sealing solutions



Thanks to our experience, our ranges of products meet the main constraints such as dust, debris, sludge and moisture present in the mining and quarrying industry.







Environmental protection and the reduction of water consumption are priorities, but reducing, or even eliminating down-time is just as important.



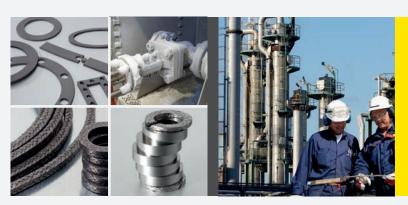
As a partner of the main players in energy production, our sealing solutions are designed for not just nuclear, thermal and hydraulic energy, but also for the renewable energy sectors.

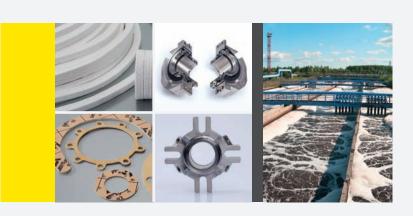






Safety of persons and respect for the environment are a major concern for oil and gas industries. Our products contribute to the reduction of fugitive emissions by reducing actuator response times.







We provide specific products to the water industry (extraction, waste water treatment, drinking water) for improved respect for the environment and reduction in water consumption.



A large number of other industries implement our sealing solutions: special machinery, boilers, machine-tools, etc. The Eiffel Tower being one of them.



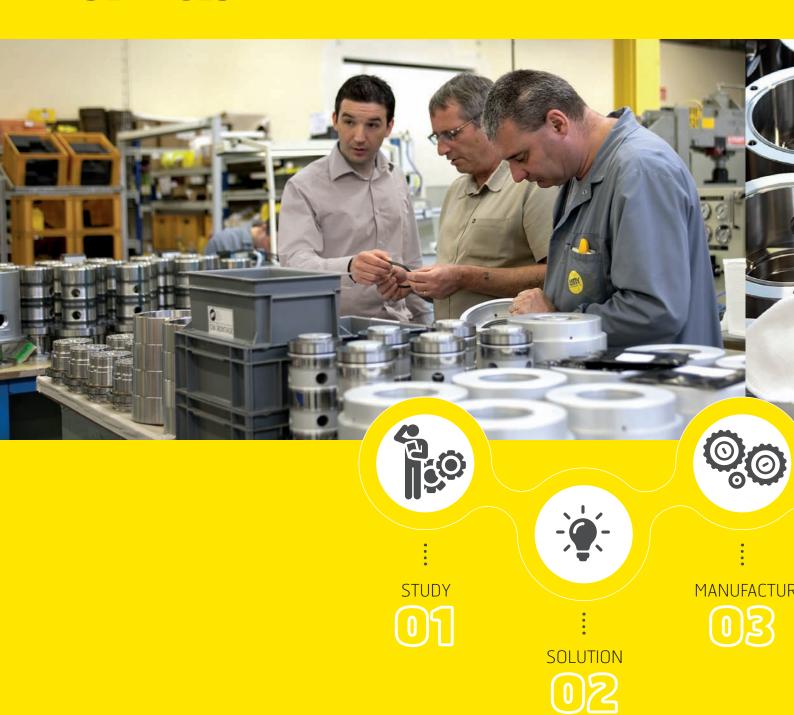
A COMPREHENSIVE RANGE OF PRODUCTS AND SERVICES

Designer of industrial sealing solutions

A COMPREHENSIVE RANGE OF PRODUCTS AND SERVICES

The LATTY® products meet the strictest of client requirements, from the initial design brief through to the test procedures and on to manufacture. This is the way the Group has been providing its industrial customers full reliability for over a century.

Because the technical solutions that are best suitable for industries are often custom-designed, GROUPE LATTY places teams of specific technical consultants at their disposal.



SOLUTIONS ADAPTED TO THE ENVIRONMENTS AND USE OF YOUR SEALING PRODUCTS



IMPROVE THE PERFORMANCE OF SEALING PRODUCTS

From a standard base, our engineers design customised sealing solutions to meet the varied needs of manufacturers in all sectors of activity.

Continuously improve production

- + productivity
- production stoppages
- + environmentally friendly
- maintenance down time



RING

ASSEMBLY





TRAINING



DELIVERY



REPAIR



ROTARY UNITS SEALING

Designer of industrial sealing solutions

A COMPREHENSIVE RANGE OF PRODUCTS AND SERVICES FOR ROTARY EQUIPMENT

Our research for the development of fibres and lubricants allows us to offer a range that includes about fifty different grades of braided packings.

Made up of over 70 types of impregnation and 120 different kinds of yarns (aramid, PTFE, graphite, carbon, etc.), the gland packings are intended for use in the stuffing box of pumps, valves, agitators and other rotary equipment.

The main fibres and their characteristics

ARAMID FIBRE

- Very good chemical resistance
- Used with very abrasive products
- Outstanding dimensional stability
- High elasticity and elastic recovery
- Very good resistance at high temperatures

PTFE FIBRE

- Applied to rotary units and valves with chemically aggressive fluids
- Very good resistance to strong bases and acids
- Improves the friction coefficient, which is especially important with control valves.
- Good resistance at high speeds.

SYNTHETIC FIBRE

- Used up to 200/250°C
- Any type of industry except chemicals
- To be avoided with acid and strong bases

CARBON/GRAPHITE FIBRE

- Pure graphite for high-temperature and high-pressure applications
- Insensitive to thermal shocks
- Outstanding chemical inertness
- Used to fight against fugitive emissions in valves and fittings.

THE FILCOAT PROCESS, an invention by LATTY®

The impregnation of braided packings enables us to obtain or improve specific characteristics such as:

- Chemical resistance
- Thermal conductivity
- Stability under pressure
- Lubrication (especially during transient conditions)
- Protection against corrosion

Then these fibres are again impregnated during the braiding operation with a mix specific to the use of the packing. These processes significantly reduce friction and greatly improves the lifespan of the equipment (pumps, valves, etc.).

THE ADVANTAGE OF LATTY® PACKINGS

Since the foundation of our company, we have had a record of providing quality and performance with our ranges of sealing packings and rings. With among others our FILCOAT® process, patented by LATTY®, we ensure performance and reliability.

















A RANGE OF PACKINGS WITH **EXCEPTIONAL** PERFORMANCE

GAPHITE AT THE HEART OF THE PACKINGS

provide them remarkable suppleness and elastic recovery.

CHEMICAL INERTNESS

Packing with graphite core, made of 100% PTFE silk yarns, pre-treated with graphite impregnation to the core and with a silicon lubricant. Packing suitable for aggressive environments in dynamic sealing applications



T -200°C to 250°C | S < 20 m/s | P 0 to 80 bar | pH 0-14

LATTYCORE 3207 G

HIGH MECHANICAL RESISTANCE

Packing with graphite core, made of synthetic yarns and fibres based on aramid and siliconefree lubricant, the yarns being impregnated to the core using our exclusive «Filcoat»-process prior to braiding operation



T – 50 °C to 260 °C | S < 20 m/s | P 0 to 100 bar | pH 2–13





LATTYCORE 5790 G

VERY GOOD RESISTANCE WITH ABRASIVE FLUIDS

Compound packing with graphite core made of 100% aramid yarns impregnated with PTFE using our exclusive «Filcoat»process, friction faces made 100% PTFE with silicone-free lubricant, then re-impregnated with a PTFE mix during braiding operation



LATTYCORE 4758 G

VERY GOOD RESISTANCE WITH ABRASIVE FLUIDS

Packing with graphite core, made of composite phenolic yarns on the edges and polyacrylic yarns on friction faces.



LATTYCORE 7189 G





VERY HIGH MECHANICAL PERFORMANCE.

Packing with graphite core, made of 100%-aramid fibres, each single yarn being impregnated with PTFE using our exclusive «Filcoat»process, then re-impregnated with a PTFE mix during braiding operation



LATTYCORE 4788 G







ROTARY UNITS SEALING

Designer of industrial sealing solutions

BRAIDS FOOD



Approvals: (1) EC 1935/2004 (ON REQUEST) (2) CRECEP-ACS, FDA 21 CRF 177 1550 (3) FDA, CE 1935/2004, OXYGEN, TUV



Approval: CE 1935/2004



Approval: CE 1935/2004





ARAMID

Approval: PMUC 17-0044





T - 200°C to 275°C|S < 20 m/s|P 0 to 100 bar|pH2-12 **Approvals:** PMUC 17-0045 / WRAS

BRAIDS FOR CHARGED FLUIDS AND HIGH MECHANICAL STRENGTH







T-220°C to 300°C | S < 25 m/s | P 0 to 200 bar | pH 2-13

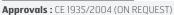




GRAPHITE CORE

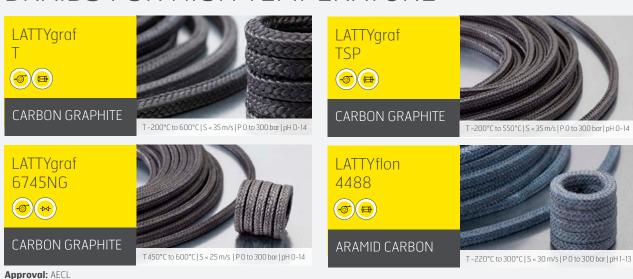
BRAIDS FOR UTILITIES





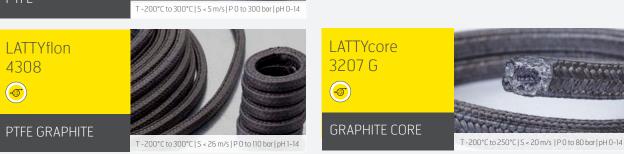


BRAIDS FOR HIGH TEMPERATURE





BRAIDS FOR CHEMICAL FLUIDS



TOOLS



COMPONENT MECHANICAL SEAL SINGLE BALANCED \$ UNBALANCED



BALANCED OR NOT



LATTYseal U1112/1212 UNBALANCED T -20°C to 180°C | S < 10 m/s | P 0 to 10 bar**Approvals:** EC 1935/2004, FDA (ON RESQUEST)

Approvals: EC 1935/2004, FDA (ON RESQUEST)





T-20°C to 220°C | S < 15 m/s | P 0 to 10 bar

Approvals: EC 1935/2004, FDA (ON RESQUEST)





BALANCED



LATTYseal **B18**

BALANCED





Approvals: EC 1935/2004, FDA (ON RESOUEST)





Approvals: EC 1935/2004, FDA (ON RESQUEST)





Approvals: EC 1935/2004, FDA (ON RESQUEST)





LATTYseal ALFA LAVAL



OEM



APV

OEM

OEM

LATTYseal



Approvals: WRAS, FDA (ON RESQUEST)

LATTYseal **GRUNDFOS**



Approvals: WRAS, FDA (ON RESQUEST)





LATTYseal 500

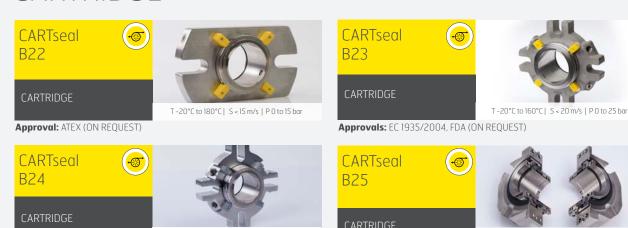


Approvals: WRAS, FDA (ON RESQUEST)

Approvals: WRAS, FDA (ON RESQUEST)

MECHANICAL SEALS B: BALANCED > 10 BAR MECHANICAL SEALS U: UNBALANCED < 10 BAR

MECHANICAL SEAL CARTRIDGE



T-20°C to 220°C | S < 20 m/s | P 0 to 25 bar

Approvals: EC 1935/2004, FDA, ATEX, ACS (ON REQUEST)

MECHANICAL SEAL SPECIFIC APPLICATIONS



DYNAMIC SEALING Approvals: EC 1935/2004, FDA, DIN (ON REQUEST)

AUXILIARY SYSTEMS - LATTYlub



GASKET SHEETS FOR HIGH MECHANICAL STRENGTH









SYNTHETIC FIBER





T0°C to 440°C | P 0 to 100 bar





SYNTHETIC FIBER





Approvals: BAM, DVGW, KTW, WRAS, PMUC 17-053



Approval: PMUC 17-237



Approvals: BAM, KTW, WRAS, TUV VDI 2440



GASKET SHEETS FOR HIGH **TEMPERATURES**



Approval: BAM





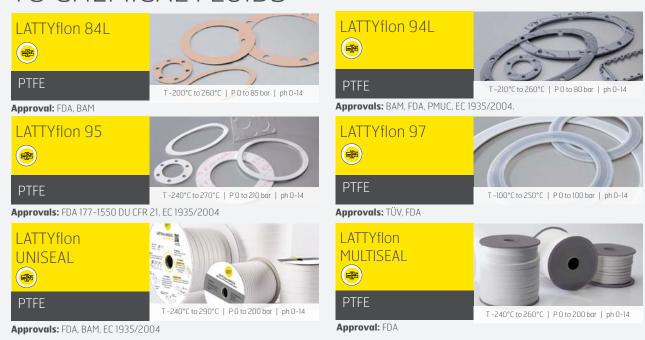




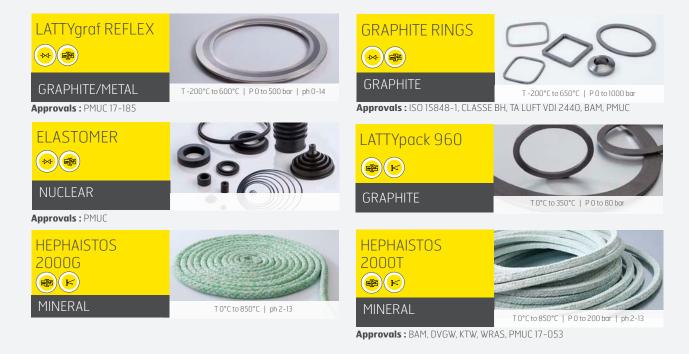


Approval: API 6FB, DVGW, BAM

GASKET SHEETS RESISTANT TO CHEMICAL FLUIDS



OTHER GASKETS



ACCESSORIES AND TOOLS



SEALING VALVES

Designer of industrial sealing solutions

A UNIQUE SOLUTION FOR EACH VALVE!

We have developed in particular products that meet the requirements of industrial valve industries and designed sealing solutions for:

- stuffing boxes
- flange gaskets
- seat gaskets

- valve body/bonnet gaskets
- fire safety seals
- butterfly valve seals

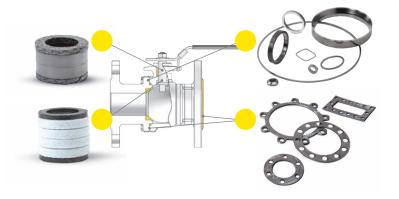
Our equipment allows us to test sealing solutions on your own equipment under optimum conditions, i.e.:

- temperature: 196°C to 650°C
- pressure: vacuum to 650 bar for gas applications or 0 to 700 bar for liquid applications.

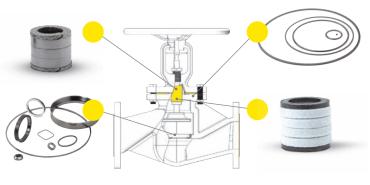
These equipment items comply with existing regulations relative to fugitive emissions, fire and oxygen tests. To date, we have performed over 100 approvals, with validation by external certifying bodies.



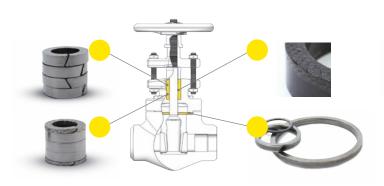
BALL VALVE



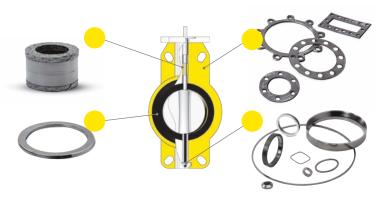
GLOBE VALVES



GATE VALVE



BUTTERFLY VALVE







SEALING VALVES

LATTYPACK CONTROL



PACKING Approval: ISO 15848-1

LATTYPACK **VALVE**



PACKING

Approval: ISO 15848-1





PACKING



T-100°C to 450°C | S<1 m/s | P80 to 450 bar | pH 0-14

T -100°C to 300°C | S < 1 m/s | P 400 bar | pH 0-14

T450°C /650°C |S<1 m/s |P450 bar |pH0-14

Approvals: API 622 (2018, 3RD EDITION), 624 AND 641, API 589 AND 607, ISO 15848-1 BH 425°C CO3, TA LUFT VDI 2440, SHELL MESC SPE 85/203-204

AUTOCLAVES RINGS



RINGS



T-100°C to 300°C | S<1 m/s | P400 bar | pH0-14

GRAPHITE RINGS



RINGS





PACKING

Approvals: PMUC N° 17-0364 AND 17-0363

LATTYPACK **VALVE NUC**



PACKING Approval: PMUC

LATTYPACK





BRAIDED Approval: API 622





GASKET





T - 200°C to 700°C | P 0 to 250 bar | ph 0 - 14

Approvals: API 6FB, DVGW, OXYGEN GAS AND LIQUID SERVICE



 $T < 310^{\circ}C \mid S < 1 \text{ m/s} \mid P < 400 \text{ bar} \mid pH 0-14$



WITH A FOCUS ON SAFETY AND ENVIRONMENTAL PROTECTION

GROUPE LATTY offers you various training courses led by its multilingual experts. These training modules are dedicated to the selection of sealing solutions with a focus on their implementation and good practices in the assembly of equipment, a guarantee of security for your personnel and equipment reliability.



TRAINING ROTARY UNITS









TRAINING VALVES AND FITTINGS





MAINTENANCE ASSISTANCE INTERVENTION

RECONDITIONING OF MECHANICAL SEALS

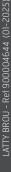
Service centres have all the necessary repair and refurbishment tools and equipment (ultrasonic bath, milling machine, lathe, biological degreasing systems, surface, grinding machine, lapping machine optical flatness measuring equipment etc., in order to extend the lifetime of your equipment with retrofitting, lower maintenance costs and the ability to train our customers in seal and packing installation either on the customer's premises or at our site.

SAQR-ATEX CERTIFIED REPAIR

The guarantee of an identical reconditioning, without modification of the protection modes or security levels.



EXAMPLE OF THE RECONDITIONING OF A SEAL CARTRIDGE





GROUPE LATTY's service centres and subsidiaries are available worldwide to meet your requirements. List of locations on our website.

