

DYNAMIC SEALING STATIC SEALING VALVES TOOLS AND ACCESSORIES SERVICES Designer of industrial sealing solutions

DATES AND KEY FIGURES

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

1

subsidiaries

160

employees in France









increase in turnover in 5 years



export countries

Designer of industrial sealing solutions

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 sq.m

AS CLOSE AS POSSIBLE TO CUSTOMERS





GROUPE GROL



and regular controls in laboratories

and by continuous training intended for teams and technical services:

refurbishment, interventions on

customer's premises, approvals,

training, etc.

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.

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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







RESEARCH É 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: USERS AND MANUFACTURERS TRUST US

By virtue of a policy of constant innovation, GROUPE LATTY, via its R\$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
- **i** Fire test: API 607, API 689, API 589
- 🛞 Gas: DVGW

 Oxygen: BAM, ATEX, SHELL, WHA, GAS AND LIQUID OXYGEN SERVICE
 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



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



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.





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







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



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.





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.





S PAPER

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.





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









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 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

ROTARY UNITS SEALING

Designer of industrial sealing solutions

À 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 chemicalsTo 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
 Chalcilli and a second secon
- 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.



LATTY CORE



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





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





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



ROTARY UNITS SEALING

A RANGE OF PACKINGS WITH EXCEPTIONAL PERFORMANCE

GAPHITE AT THE HEART OF THE PACKINGS

LATTY innovation with this new range of innovating range of packings as regards structure and composition. The addition of expanded graphite into the core of our packings provide them remarkable suppleness and elastic recovery.



LATTYCORE 5790 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



VERY GOOD RESISTANCE WITH ABRASIVE FLUIDS

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





ROTARY UNITS SEALING

Designer of industrial sealing solutions

BRAIDS FOOD



-200°C to 300°C | S < 5 m/s | P 0 to 300 bar | pH 0-14 **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

_ATTYflon 5790 **(7)** ARAMID -200°C to 260°C | S < 20 m/s | P 0 to 100 bar | pH 2-13

Approval : CE 1935/2004



Approval: PMUC 17-044



BRAIDS FOR CHARGED FLUIDS AND HIGH MECHANICAL STRENGTH



BRAIDS FOR UTILITIES



Approvals : CE 1935/2004 (ON REQUEST)

BRAIDS FOR HIGH TEMPERATURE









The temperature, pressure and maximum speed parameters indicated cannot be combined in any way

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The temperature, pressure and maximum speed parameters indicated cannot be combined in any way



ROTARY UNITS SEALING



| LATTYgraf TSP @ | |
|--------------------------|---|
| CARBON GRAPHITE | T -200°C to 550°C S < 35 m/s P 0 to 300 bar pH 0-14 |
| LATTYflon 4488 @ 🗃 | |
| ARAMID CARBON | |

-220°C to 300°C | S < 30 m/s | P 0 to 300 bar | pH 1-13

BRAIDS FOR CHEMICAL FLUIDS





ROTARY UNITS SEALING

Designer of industrial sealing solutions

COMPONENT MECHANICAL SEAL SINGLE BALANCED & UNBALANCED

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

| LATTYseal 🔊 | Q |
|--|---------------------------------------|
| BALANCED OR NOT Approvals: EC 1935/2004, FDA (C | T -20°C to 180 DN RESQUEST) |
| LATTYseal 🛷 U/B 6812 | T. |
| BALANCED OR NOT | T -20°C to 220 |

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



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



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



Approvals: WRAS, FDA (ON RESQUEST)



Approvals: WRAS, FDA (ON RESQUEST)

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







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





T -20°C to 160°C| S < 20 m/s | P 0 to 25 bar

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

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 DALAINCED
 T - 20°C to 180°C | S 0 to 25 m/s | P 0 to 10 bar

 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)





Approvals: WRAS, FDA (ON RESQUEST)



Approvals: WRAS, FDA (ON RESQUEST)

MECHANICAL SEAL CARTRIDGE



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

MECHANICAL SEAL SPECIFIC APPLICATIONS



DYNAMIC SEALING

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



The temperature, pressure and maximum speed parameters indicated cannot be combined in any way







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

AUXILIARY SYSTEMS



STATIC SEALS



GASKET SHEETS FOR HIGH MECHANICAL STRENGTH



Approval: PMUC 17-235

ARAMID







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

LATTYgold

SYNTHETIC FIBER

LATTYgold

ARAMID

LATTYgold

32

92

925



GASKET SHEETS FOR HIGH **TEMPERATURES**







GRAPHITE



T 0°C to 300°C | P 0 to 60 bor

T 0°C to 440°C | P 0 to 100 bor

- 76"







GASKET SHEETS RESISTANT TO CHEMICAL FLUIDS



OTHER GASKETS



ACCESSORIES AND TOOLS





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



ACCESSORIES



STATIC SEALING

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
- valve body/bonnet gaskets • fire safety seals
- seat gaskets
- 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





GATE VALVE





GLOBE VALVES







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



The temperature, pressure and maximum speed parameters indicated cannot be combined in any way



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| GRAPHITE RINGS | 000 |
|--|--|
| LATTYPACK CONTROL NUC | |
| PACKING Approvals: PMUC N° 17-0364 AN | T < 310°C S < 1 m/s P < 400 bar pH 0-14 D 17-0363 |
| LATTYPACK VALVE NUC | |
| PACKING | T < 450°C S < 1 m/s P < 400 bar pH 0-14 |
| | |
| Approval: API 622 | T < 310°C S < 1 m/s P < 400 bar pH 0-14 |
| LATTYGRAF HPML | |
| GASKET | T -200°C to 700°C P 0 to 250 bar ph 0 - 14 |

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

Designer of industrial sealing solutions



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 BOLTED ASSEMBLIES



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.









SAOR-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.





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