



SEALING SOLUTIONS FOR THE NUCLEAR INDUSTRY



/ TRESSSES / JOINTS / GARNITURES MECANIKES / RACCORDS TOUR
PACKUNGEN / FLACHDICHTUNGEN / GLEITRINGDICHTUNGEN / DREH
UNIONS / PACKINGS / JOINTINGS / MECHANICAL SEALS / ROTARY UNI
TIVAS / EMPAQUETADURAS / JUNTAS / CERRRES MECANICOS / JUNTAS
GARNITURES MECANIKES / RACCORDS TOURNANTS / TRESSSES / JOINTS
UNGEN / GLEITRINGDICHTUNGEN / DREHDURCHFÜHRUNG / PACKUN

Designer of industrial sealing solutions

**GROUPE
LATY®**

DEDICATED SEALING SOLUTIONS TO THE NUCLEAR INDUSTRY

100 YEARS' EXPERIENCE IN INDUSTRIAL SEALING

Founded in 1920, GROUPE LATTY is renowned for the consistent quality of its products and its ability to provide solutions that meet the most stringent safety and security requirements.

NUCLEAR POWER IS EVERYONE'S RESPONSIBILITY AT EVERY LEVEL!

A world leader in industrial sealing, GROUPE LATTY, which designs and manufactures all its products at its production site in France, has built its reputation on compliance with very strict quality rules that guarantee repeatability and safety across the entire range.

Depending on the specifications required, the products manufactured are inspected and tested to validate the design and materials. This enables us to make continuous improvements and provide guarantees that meet the requirements of the nuclear industry. These tests ensure that our customers receive sealing solutions that meet their expectations.



RESEARCH AND CONCEPTION

Our technicians and engineers are involved at earlier stage of projects and in collaboration with our customers to determine the specifications. These can be combine with visits to the customer's site to better integrate the issues specific to each project and to consider all possible options.

During the design phase, our mechanical seals are systematically modelled using CAD/CAM software to anticipate their behaviour in operation.

Based on the customer's specifications, GROUPE LATTY studies and designs a suitable sealing solution.

QUALIFICATION AND APPROVAL

The nuclear industry's safety and security requirements call for technical validation through fundamental qualifications and product approvals (PMUC type)

The GROUPE LATTY collaborates with nuclear engineering and users worldwide in this process of mechanical, thermal, corrosion and irradiation validation testing.

Quality management systems applied to supply chain organisations in the nuclear energy sector.



Designer of industrial sealing solutions

INTERVENTIONS AND SUPPORT

Our technicians are available for the on site assembly of our sealing products. Our technical assistance advises you on good practices in the operation and in the preventive maintenance of the seals in place.

REPAIRS

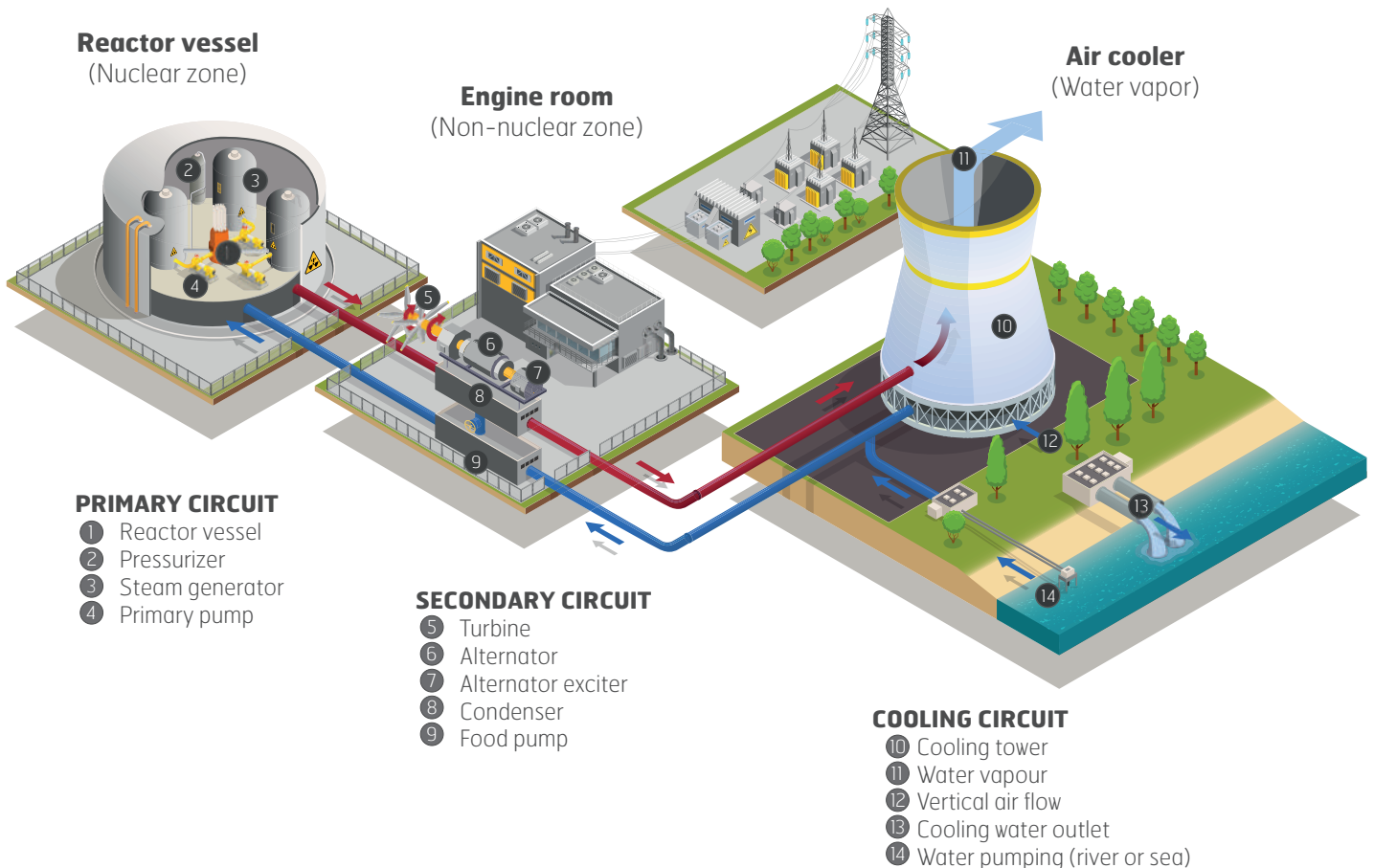
After evaluating the mechanical seals and providing an estimated cost, we carry out any necessary repair, reconditioning and improvement of seals. Once repaired, the seals are inspected on our test benches

TRAINING

A well-trained fitter is both more competent and more efficient!

Our training courses are dedicated to the choice of sealing solutions, focused on installation and good assembly practices. They guarantee safety for your teams and reliability for your equipment.

The GROUPE LATTY's sealing solutions are present on all of the circuits of a nuclear power plant.



Designer of industrial sealing solutions



Our mechanical seals meet nuclear and users requirements and qualifications as well as the safety and security standards set by the nuclear industry. They also contribute to the cleanliness of installations (leak reduction, OEEI / MEEI, etc.).

CARTSEAL B 14810 & B 24810

Dynamic sealing by single cartridge mechanical seal

Stationary mechanical seal for high-speed applications. Accepts angular shaft offset and adapts to all types of equipment.

Ready to use: no adjustment on assembly, reduced maintenance time

CARTSEAL B 23, B 17 & U 68

Dynamic sealing by bi-composant mechanical seal

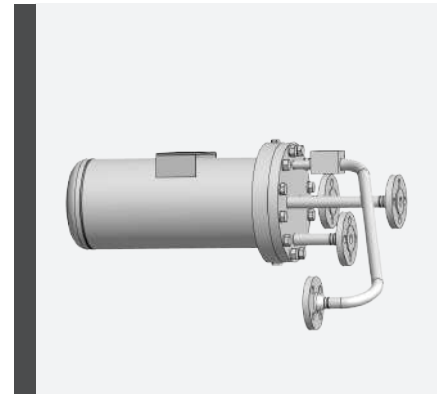
Stationary mechanical seal for high-speed applications. Accepts angular shaft offset and adapts to all types of equipment.

Ready to use: no adjustment on assembly, reduced maintenance time

HEAT EXCHANGER RCC-M

Manufactured to RCC-M

Calculated and manufactured according to RCC-M, for our mechanical seals with cooling according to API 23 plan. Circuits Containment Spray System (EAS), Safety injection system (RIS) and Moisture separator reheaters system (GSS)...





Our **accident-qualified mechanical seals** are also designed and manufactured in accordance with RCC-M

CARTSEAL B 11200

Friction faces without antimony

Balanced mechanical seal cartridge, with the latest generation of friction faces without antimony and abrasion resistance. For high pressure applications, high temperature with thermal shock, high speed and charged fluids

Qualified MQCA for EDF, circuits: ASG, RCV, RIS, EAS

CARTSEAL B 10610

Diamond faces

Mechanical seal cartridge with diamond faces and elastomer seals, PMUC-qualified for 1,700 kGy for high temperature applications with thermal shock and without cooling, high pressure, high speed and loaded fluids.

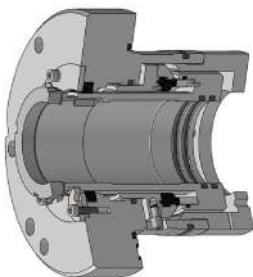
Qualified MQCA for EDF: Ultimate Pumps EAS UO

CARTSEAL B 11610

Welded pipes up to RCC-M

Balanced mechanical seal cartridge, with built-in pumping screw. Cover with welded pipes up to RCC-M and cooling according to API plan 23, with exchanger for high-pressure, high-temperature and high-speed applications.

EDF circuits: APP all bearings 900MW / 1300 MW / 1450 MW.



Designer of industrial sealing solutions

Our packings meet the requirements of cooling circuits with an impact on the safety of equipment installed in the reactor building. They are designed to be installed on secondary and cooling circuits such as: CRF, SEN, JPP, ABP, ASG, SEC...



LATTYFLON

4788

Aramid braid with very high mechanical performance

High mechanical strength, suitable for highly charged fluids.

- Excellent resistance to abrasive fluids
- Incomparable mechanical strength
- Long seal life
- Silicone-free packing
- Reduced maintenance time

- Pressure: 0 to 200 bar
- Temperature: -220°C to 300°C
- Speed: < 25 m/s
- pH: 2-13

- Approval PMUC n° 17-0044



LATTYFLON

4789

Aramid braid with very high mechanical performance

High mechanical strength, suitable for highly charged fluids

- Excellent resistance to abrasive fluids
- Slight tightening
- Long seal life
- Lubricated friction
- Silicone-free packing
- Reduced maintenance time

- Pressure: 0 to 100 bar
- Temperature: -200°C to 275°C
- Speed: < 20 m/s
- pH: 2-12

- Approval PMUC n° 17-0045



Available in packing rings,
pre-formed lengths or boxes of braids



LATTYFLON 7188

High-performance synthetic packing for dynamic sealing.

Very good mechanical performance, combining flexibility and robustness

- Resistant to abrasive and charged fluids
- Reduced running-in time
- Technical characteristics of the wires that limit heating and liner wear
- Silicone-free lubricant
- Reduced maintenance time
- Pressure: 0 to 200 bar
- Temperature: -220°C to 300°C
- Speed: < 20 m/s
- pH: 1-13
- Approval PMUC n° 17-0400



LATTYCORE 7189 G

Packing with graphite core, for slurries and very difficult environments.

Packing with graphite core, high-resistance flexible and rugged braided packing for heavy slurries

- Excellent resistance to abrasive fluids
- Flexible and robust braid
- Can be used without a lantern
- Very good elastic recovery
- Reduced maintenance time
- Pressure: 0 to 200 bar
- Temperature: -220°C to 260°C
- Speed: < 20 m/s
- pH: 1-13

For many years, we have of our Research and Development committed to improve sealing solutions that meet the requirements of nuclear industries in the area of industrial valves and fittings.

As specialists in sealing solutions for valves and fittings, our products ensure the security of your installations and the safety of your personnel and external staff.

ADVANTAGES

Packings for stuffing boxes consisting of compressed rings and anti-extrusion rings specially developed to meet the nuclear industry's technical and safety requirements:

- Resistance to radiation up to 4000 kGy
- Provides outstanding sealing efficiency under low clamping force.
- Very low friction coefficient and very good elastic recovery,
- Ready-for-use packings for reduced maintenance time.

Our products ensure:

- Optimum operating sealing efficiency for a safe and efficient installation,
- Reduction in the stem operation torque required to optimise opening/closing time of motor valves as a result of reduced friction.
- Increased safety as a result of more reliable sealing solutions,
- Very good resistance in the event of drastic variations in temperatures or pressures,
- Contains a passive, unlimited corrosion inhibitor.



LATTYgraf 8945BS - LATTYflon 3265 FR



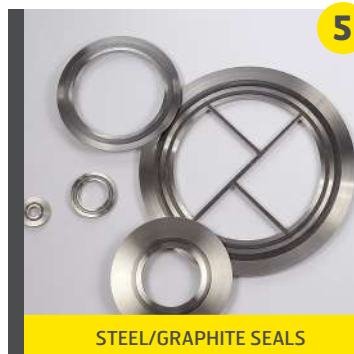
LATTYgraf 8945 BS - LATTYgraf 9110



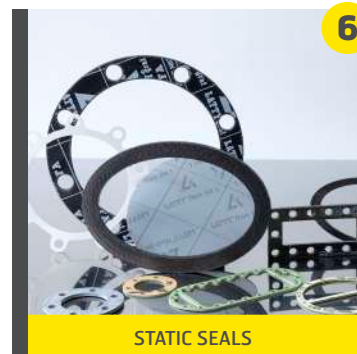
AUTOCLAVES RINGS



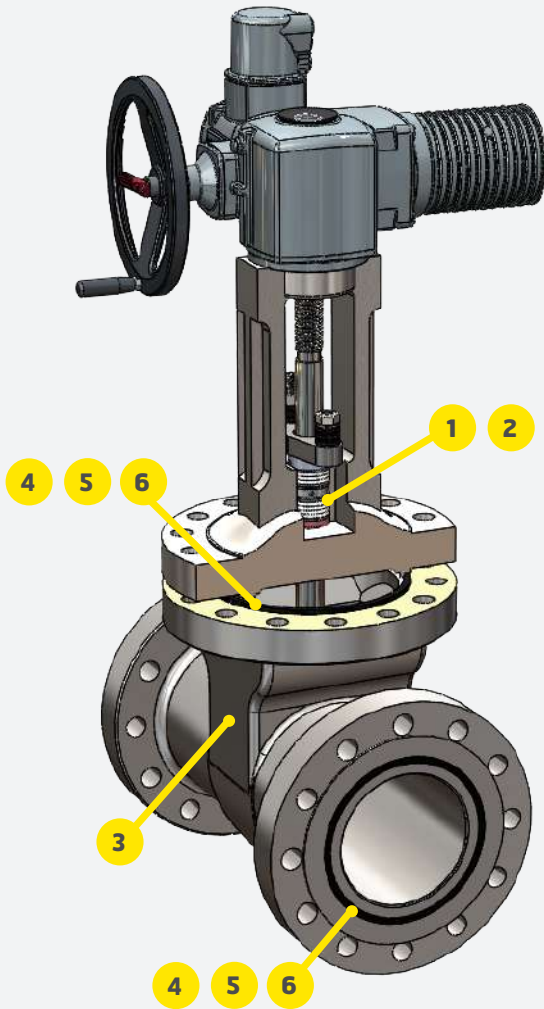
GRAPHITE RINGS



STEEL/GRAPHITE SEALS



STATIC SEALS



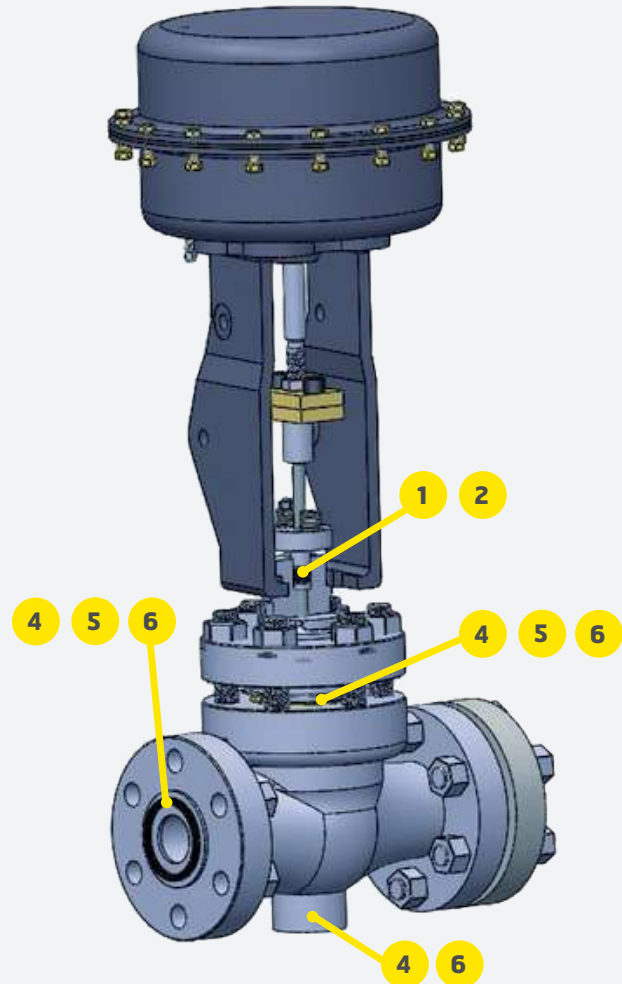
SERVICE PARAMETERS (NOT ASSOCIATED)

PACKINGS & RING FOR STUFFING BOXES

- Resistance to radiation up to 4000 kGy
- PTFE: 310°C / 185 bar
- Graphite: 450°C / 420 bar

RINGS FOR STATIC SEALING

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



Our static sealing solutions meet the requirements of different types of assembly and circuits in the nuclear industry, e.g. **piping, pressure equipment, rotary units as well as valves and fittings.**

GRAPHITE RINGS

Expanded graphite high purity

Installation including on damaged or distorted flanges. Forms and dimensions adapted to your needs for your static sealing applications: valve bodies/bonnets, etc.

- Optimised intervention time,
- Contain a corrosion inhibitor and may be subjected to pressures ranging from vacuum to 1,000 bars and temperature variations from -200°C to +650 °C.
- Tailor-made from 2 to 900 mm,

LATTYGRAF REFLEX NUC

Metal/graphite and metal/ metal seal

Consisting of three components: an active part made of expanded graphite for sealing, a precision-machined metal outer ring used as a crush limiter and anti-extrusion ring, and a metal inner reinforcement ring.

- Excellent elastic recovery of expanded graphite of the order of 10% of the thickness of the crush limiter thickness

ELASTOMERS RANGE

Qualified for radiation- sensitive environments

LATTY E48Z11LY1700 EPDM elastomer seals qualified according to the EDF programme with a radiation resistance of up to 1700 kGy and meeting the PMUC chemical specification with halogen and sulphur content values of less than 200 ppm.

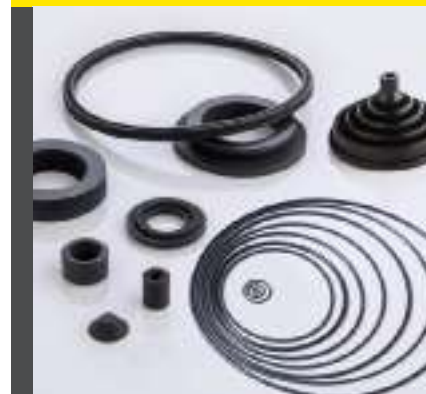
- Suitable for semi-dynamic and static o'ring seals
- Various gasket shapes available, please consult us



Approval: PMUC N°17-0106



Approval: PMUC N°17-0185



Approval: PMUC n° 17-0389



Whatever the configuration of equipment and processes, our static sealing solutions are made to suit high-pressure and high-temperature operating and qualification circuits.

LATTYGOLD 92

Resistant to high mechanical stress

Aramid joint sheet made from synthetic fibres bonded with a mixture of NBR-SBR elastomers and compressed into sheets.

- Very good resistance to mechanical, thermal or chemical stresses
- With anti-adhesive treatment on both sides
- Suitable for cutting



Approval: PMUC N°17-053

LATTYFLON 94L

Modified filled PTFE gasket sheet

Isotropic structure for high creep resistance and elastic recovery, giving it excellent sealing performance. The total chemical inertness of its components means that it can be used effectively with a very wide range of aggressive chemicals (excluding alkaline and fluorinated products), strong acids and bases, solvents and hydrocarbons.



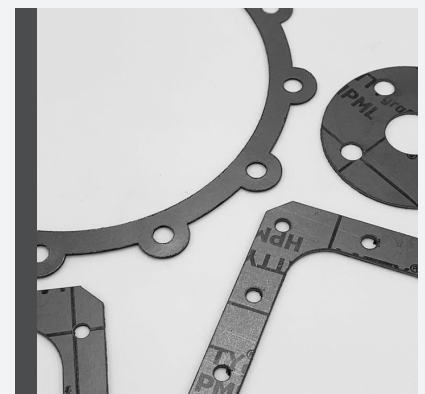
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LATTYGRAF HPML NUC

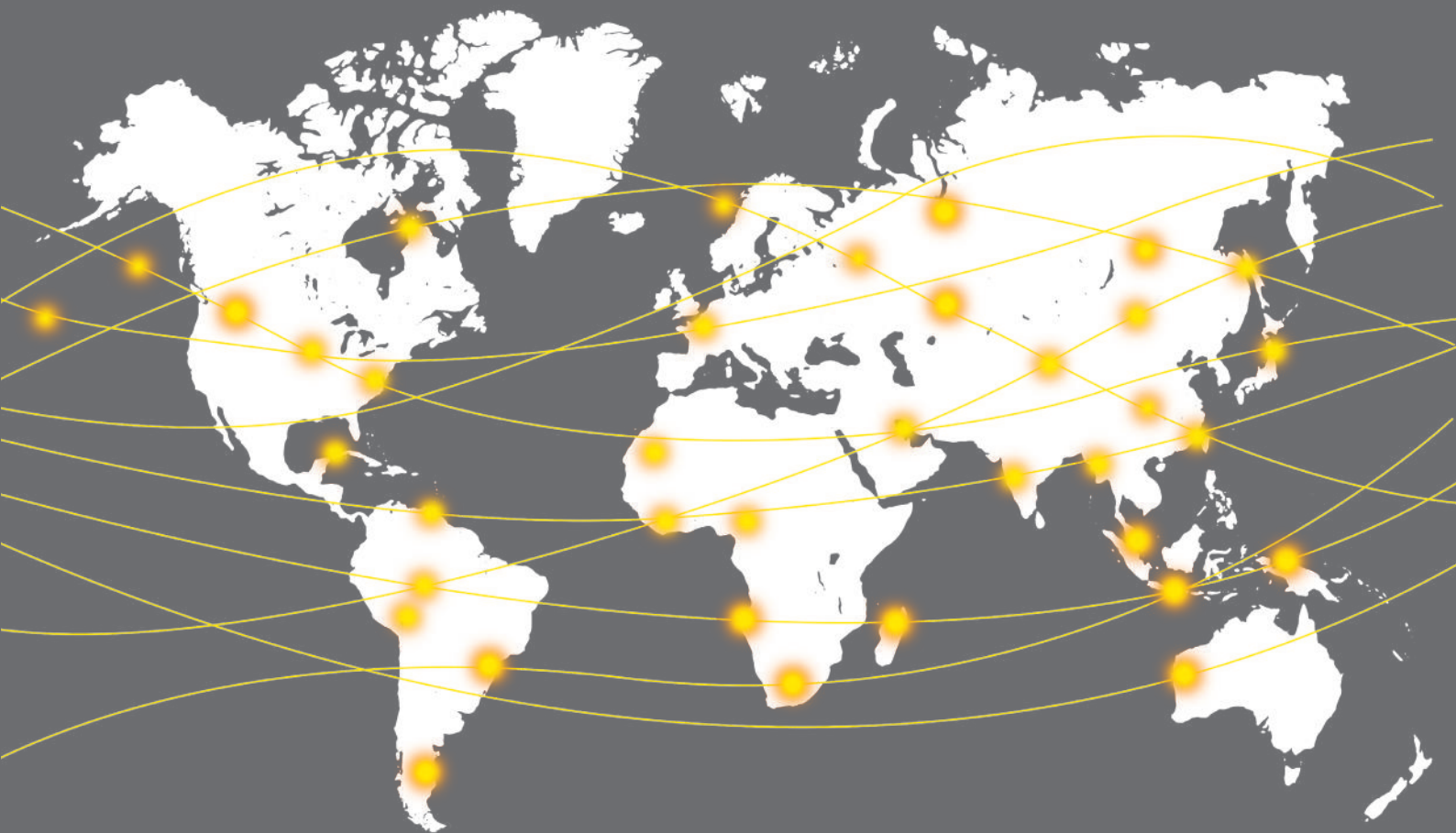
Multi-layer metallo-graphite gasket

Carbon content > 99%, with multiple stainless steel inserts and impregnated with an oxidation inhibitor. The insertion of stainless steel sheets improves pressure resistance and makes it easier to handle and cut gaskets. Excellent chemical and thermal resistance.

- Its high creep resistance makes it possible to use it at high pressures and temperatures,



Approval: PMUC N°17-0405
et 17-0404



The subsidiaries and service centres of the LATTY GROUP are at your disposal throughout the world to meet your requirements. Find all our contact details on our website.

LATTY international S.A. cannot be held responsible for the performance of our products in the event of faulty assembly or use which does not comply with the instructions given. LATTY international S.A. is only responsible for the quality of its products and does not intervene in the assembly or installation, which must be carried out according to the rules of the trade.

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