A LONG EXPERIENCE...

1960  Elastomeric gaskets are used in the military uranium enrichment plant in Pierrelatte.

1968  Open R&D laboratory, jointly operated by CEFILAC (an Affiliate of Garlock Sealing Technology) and CEA French Atomic Energy Commission, in order to develop a high performance metal seal for the uranium enrichment plant EURODIF.

1973  First installation of Helicoflex® seals in the EURODIF plant.

1977  First Helicoflex® seal on a nuclear reactor vessel (EDF Fessenheim).

1982  Helicoflex® seals are used for sealing of nuclear storage casks.

1987  First Helicoflex® seal in the reprocessing plant of La Hague (France).

1993  Development of Origraf® expanded graphite seals for sealing of the primary coolant circuit of PWR reactors.

2001  EDF PMUC agreement for Cefigraf JPR graphite cut gaskets and GYLON® 3500 modified PTFE sheet material.
**SEALING SOLUTIONS**

**HELCIFLEX®**
High performance metal seal. Very high sealing level and exceptional springback. Can be manufactured in all grades of metallic materials. No limitation in shape and dimension.

**METAL O’RING**
Based on hollow tube. All-metal seal tube design. Possibilities for different types of coating and plating.

**ORIGRAP®**
Die-formed graphite seals with or without inner and outer ring. Very important elastic recovery. High pressure/temperature applications.

**VITAFLEX®**
Spiral-wound gaskets as per all existing standards as well as special designs. Possibility of VITAFLEX BPA (Low stress technology). Possibility of VITAFLEX with controlled curve for specific applications.

**SILICONE PROFILES**
Extruded seals made of silicone elastomer. Very high resistance to ageing and radiations. Large variety of grades and shapes complying with different specifications.

**VITAFLEX BPA (Low stress technology)**
Possibility of VITAFLEX with controlled curve for specific applications.

**CEFIL’AIR®**
Elastomeric inflatable seal. Large range of elastomeric materials especially SBR and silicone. Final dimensions from 100 mm to 10 m and up.

**CEFIRGAP® JPR**
Gasketing product made of one stainless steel sheet covered with 2 graphite sheets. Especially for big sizes and shaped seals. Very easy to handle due to the rigidity of its reinforcement.

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**GYLON®**
Gasketing product made of modified PTFE material. Very high chemical resistance. Reduced creep relaxation and cold flow problems. Possibility of supplying cut gaskets or sheets (to be cut on site).

**QUICK DISCONNECT SYSTEMS**
Joint consisting of conical flanges assembled by a quick-disconnect collar. Large range of series: 150 - 300 - 500 - 1000 (high temperature and pressure).
SEALING IN NUCLEAR POWER PLANTS

- **REACTOR VESSEL**: HELICOFLEX® Metallic seals, O’RING Metallic seals
- **STEAM GENERATOR & PRESSURIZER**: ORIGRAF® Graphite seals, VITAFLEX® Spiral wound gaskets
- **SECONDARY LOOP**: ORIGRAF® Graphite seals, VITAFLEX® Spiral wound gaskets
- **PRIMARY PUMP**: VITAFLEX® Spiral-wound gaskets, HELICOFLEX® Metallic seals
- **NUCLEAR VALVES**: BODY / BONNET SEALING
- **REACTOR BUILDING WALL PLUG MATERIAL & PERSONNEL LOCKS**: SILICONE PROFILES
- **PRIMARY LOOP FILTERS & THERMOCOUPLE NOZZLES**: Quick Disconnect Systems
- **PIES / EXCHANGERS / PUMPS**: ORIGRAF® Graphite seals, VITAFLEX® Spiral wound gaskets, HELICOFLEX® Metallic seals
- **TURBINE**: HELICOFLEX® Metallic seals, Possibility of on-site fitting by Garlock team
- **SECONDARY LOOP**: GYLON® Modified PTFE gaskets, CEFIRAF® JPR Graphite seals
- **POOL GATES IN REACTOR BUILDING AND FUEL BUILDING**: CEFIL’AIR® Inflatable seals
- **REACTOR BUILDING WALL PLUG MATERIAL & PERSONNEL LOCKS**: O’RING Metallic seals
- **NUCLEAR VALVES**: 9000 EVSP® packing STEM SEALING
A UNIQUE WORLD-CLASS LABORATORY FACILITY

Operating since 1969 in collaboration with CEA (French Atomic Energy Commission) and driven by the most stringent leak tightness requirements of nuclear industry, the Pierrelatte Laboratory has acquired a unique experience in the field of seal design and testing, with special emphasis on high performance metallic seals.

Facilities include semi static, static and dynamic testing under extreme test conditions
- Pressure from 1.0E-10 torr up to 1400 bar
- Temperatures from -196°C up to +1100°C
- Severe mechanical loading and cycling conditions
- Helium leak rate measurement down to 1.0E-11 scc/s

World famous companies in all industrial sectors rely on the Pierrelatte laboratory to conduct product testing and development programs.

SEAL / MATERIAL DEVELOPMENT PROGRAMS SPECIFIC TO CUSTOMER REQUIREMENTS

FACILITIES TO DUPLICATE THE MOST ARDVOUS PROCESS CONDITIONS
A COMPREHENSIVE PRODUCT OFFERING

- SHEETS AND CUT GASKETS
- CONVENTIONAL GASKETS
- RESILIENT METAL SEALS
- SEALING SYSTEMS AND ASSEMBLIES
- GRAPHITE SEALS AND RINGS
- BRAIDS AND COMPRESSION PACKINGS
- LIP SEALS AND O’RINGS
- KLOZURE OIL SEALS
- GPA - GULLIVER MECHANICAL SEALS
- ELASTOMER SEALS
- HYDRAULIC AND PNEUMATIC COMPONENTS

http://www.garlock.net