

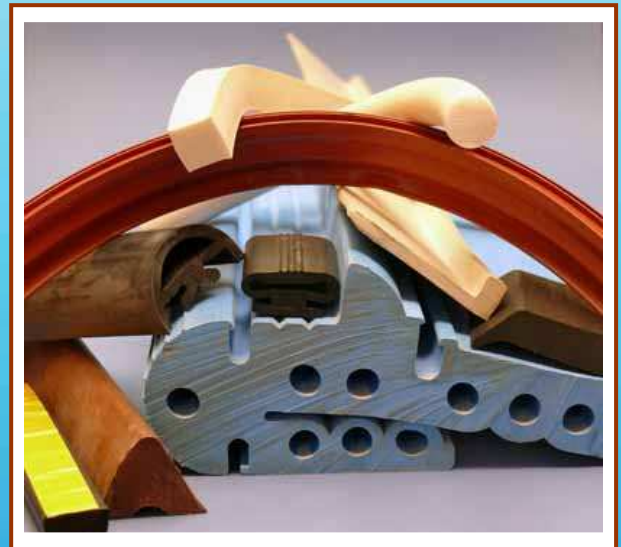
*Competence and Innovations in Rubber and Elastomers*

**Laboratory - Chemistry - Medicine - Pharmacy**

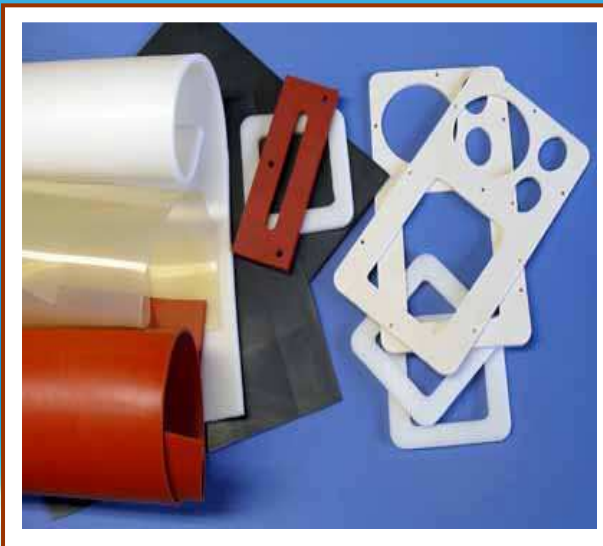
**Food industry - Hydraulics - Machinery**



*The Specialist*



*for Viton,  
Fluoroelastomers,*



*Silicone and*



*Thermoplastic  
Elastomers*



# The Company

The company Lézaud & Co GmbH Fluid and Seal Technology for Laboratory, Chemistry, Medical and Industrial Supplies was founded on 29th July 1998 as the successor of the marketing company Raymond Lézaud, Rubber for Laboratory, Medical and Industrial Supplies. Its principal purpose is **the supply of high quality products made of rubber and plastics, such as silicone, fluoroelastomers, PTFE and thermoplastic elastomers** for the following sectors:

- **Laboratory, chemistry and petrochemistry**
- **Medicine, pharmacy and food technology**
- **Automobile, aeronautic and shipping industry**
- **Construction of plants, machines and instruments**
- **Thermal processes and air-conditioning**
- **Seal technology, pneumatics and hydraulics**
- **Special tubes for peristaltic pumps**

The products of Lézaud & Co GmbH are developed in collaboration with competent and specialized partners and produced according to our own specifications or those of our customers in order to meet the high demands made on quality.



Team discussion to prepare a customer consultation

## The Services



Stamping machine

In addition, the Lézaud & Co GmbH provides the following services:

- **Stamping of rubber sheet to flat seals**
- **Gluing of profiles to rings or frames**
- **Vulcanization of rings or frames**
- **Manufacturing of hydraulic tubes**
- **Development of prototypes**
- **Specific Customised solutions**

## The Philosophy

**High quality:** a Quality Management according to ISO9000-2008 and quality controls of the products both after production by our partners and also upon arrival at our warehouse guarantee a high level of quality.

**Competent advisory service:** owing to many years of experience in manufacturing, processing and the application of rubber, elastomers and plastics as well as the qualification and regular further vocational training and education of our consultancy staff and employees.

**Customer service:** prompt delivery of standard products thanks to a well-stocked warehouse. Customer advisory service and assistance in the case of new developments.

**Fast delivery:** Deliveries are effected with parcel services within 24 hours to south, west or central Germany, 48 hours to north and east Germany as well as 3-4 days to a state within the European Community. Express deliveries with TNT, with guaranteed next-day delivery, can be arranged at the expense of the customer.



Checking the dimensions and specifications



Further vocational training at Sterne, our partner in France

# The materials and their properties

The company Lézaud & Co GmbH is specialized in the following materials:

## - Viton® and Fluoroelastomers (FKM) such as

**Dyneon®, Tecnoflon® or Dai EI® (\*)**

- resistant to oil and acids, good ageing, resistant to temperature till 200 °C in continuous operation, and 300 °C for a short time, very good gas impermeability. **Attention!**: unsuitable with ketones, amines, amides, esters und ethers

## - Silicone Type RTV or Type LSR (such as Silastic®, Elastosil®, Rhodorsil®, Momentive®, GE Silicones)

- translucent to transparent but easy to colour, temperature range from -60 to +200 °C, special types to -100 °C, other types to 300 °C, good electrical and thermal insulation

## - Thermoplastic Elastomers Type PP/EPDM

**(Santoprene®) and Types SBS/SEBS (Kraton®) (\*)**

- good fatigue resistance in the case of dynamic flexion, excellent ageing; easy to weld together with heat, recyclable

## - PTFE and other Fluoroplastics such as FEP, PFA, ETFE, ECTFE or PVDF (e.g. Teflon®) (\*)

- excellent chemical resistance, good sliding properties; temperature range from -270 to +260 °C



Viton, Silikon, Santoprene and PTFE tubes

In addition, we can also supply products made of the following elastomers and polymers:

### • Rubber:

- **Natural (NR)** high elastic, resistant to diluted acids and soda lies, working temperature until +70 °C
- **Styrol-Butadiene (SBR)** resistant to friction, low costs, applicable until 90 °C
- **Ethylene-Diene (EPDM)** good chemical resistance and good ageing; restrained resistance to oil; temperature range from -40 to +130 °C
- **Chloroprene (CR)** resistance to oil and ageing; applicable until +100 °C
- **Nitrile (NBR)** very good resistance to oil, moderate resistance to ageing; temperature range from -25 to +100 °C
- **Butyl, Chloro- or Bromobutyl (IR, IIR)** excellent gas impermeability
- **Epichlorhydrine (ECO)** good gas impermeability, good chemical resistance and temperature resistance until +150 °C
- **Chlorosulfonated PE (CSM)** good chemical resistance until +130 °C
- **Perfluoroelastomer (FFKM)** excellent chemical resistance; temperature range from -15 to +315 °C
- **Tetrafluorethylene/Propylene (FEP, TFE/P, Aflas®) (\*)** very good chemical resistance; temperature range from -30 to +200 °C



Natural, Chloroprene, Nitrile and Butyl tubes

### • Plastics:

- **Polyethylene (PE):** two Types HDPE and LDPE, very good chemical resistance. Temperature till +90 °C. Use for hoses and pipes
- **Polypropylene (PP):** very good chemical resistance, applicable from 0 to +110 °C; becomes brittle under 0 °C. Use for hoses and pipes
- **Polyvinylchloride (PVC):** resistant against acids, soda lies, alcohols, oils and fuels, unsuitable with acetone, ether, benzene, chloroform und concentrated hydrochloric acid, no water absorption, flame resistant, insulating, applicable till +70 °C. Use for hoses and pipes
- **Polyamide (PA):** e.g. nylon, perlon... various types: PA6, PA6.6, PA12; good stability and rigidity, good chemical resistance. Suitable for pressure hoses, textile fibres, moulded parts
- **Polyurethane (PU):** two types: polyether and polyester; general good stability, especially the latter; good chemical resistance and ageing; excellent friction resistance. Use for mattresses, shoe-soles (foam), seals, hoses, medical tubes, fittings, casters (compact) or in pastes and glues; temperature from -30 to +100 °C
- **Polyethylenethylketone (PEEK):** resistant against oils, fuels, aromatic solvents, alcohols, acetone, strong soda lies and weak acids; no resistance against strong and oxidising acids and moderate resistance against trichloroethylene, UV-light and weather; temperature range from -65 to +240 °C  
Applications for tubes in the laboratory, petrochemistry or chemical industry
- **Polyacetal (POM):** high stability, good electrical and thermal insulation, friction resistant and good gliding properties. Temperature range -40 to +220 °C; applications in mechanical engineering, vehicle construction, electrical engineering, consumer goods, tubes and pipes

# Specifications and choice of the right material

All of these materials are offered by the raw material producers on the market in various types with different specifications depending on the application. For example:

- **Shore Hardness:** depending on the material: expressed in Shore 00 (soft and foam materials: between 20-80), Shore A (medium-soft rubbers: between 10-90), Shore D (hard rubbers and plastics: between 20-80).
- **Elongation:** from a few % (plastics) to over 1000 % in the case of special elastomers (e.g. silicone, special type).
- **Tensile strength:** expressed in MPA or N/mm<sup>2</sup>.
- **Tear strength:** expressed in N/mm, provides an indication of the stability of the material after a tear.
- **Pressure Deformation Rest:** also called **Compression Set**; expressed in %, it indicates the deformation of the material after compression.



Laboratory control instrument

Other parameters:

- **Chemical resistance; steam resistance**
- **Temperature and heat resistance; resistance to pressure**
- **Resistance against ageing, light, UV-light, ozone, radiation**
- **Resistance to fire and flames (compliance with UL94 or other norms)**
- **Suitability with food or for medical and pharmaceutical purposes (compliance with BfR, FDA, USP, ISO 10993, Biocompatibility, CE Label)...**

**Send us your enquiry so that we can select the right material!  
Consult us and challenge our expertise and experience!  
We shall gladly advise you with our best knowledge and belief!**

## Delivery forms

Depending on the technical possibilities, these materials are available in the following forms:

### - extruded:

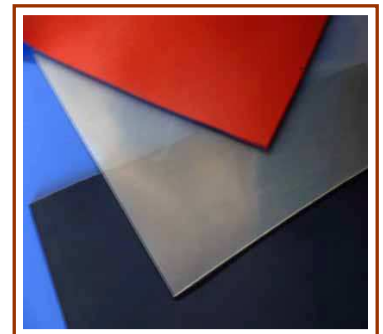
- Tubes and pipes
- Round cords
- Square profiles (also self adhesive)
- Profiles according to drawings
- Bands



Extruded tubes and profiles

### - calandered:

- Sheets and bands
- Coils and scrolls
- Plates



Calandered sheets and plates

### - pressed or moulded:

- O-rings
- Seals
- Plates
- Moulded parts according to drawings



Moulded O-rings and seals

### - extruded or pressed foams:

- Hoses
- Round cords
- Square profiles (also self adhesive)
- Bands (also self adhesive)
- Plates
- Moulded parts according to drawings



Foam Silicone and moss Viton

# The standard sales programme

## Tubes and Profiles

### • Viton® and Fluoroelastomers

- **LEZ-FLUTEC:** technical FKM-quality 75 Shore A, for general purposes
- **LEZ-VIT 70:** standard quality of Viton B, 70 Shore A, for high requirements
- **LEZ-VITCHEM:** special type with high fluorine content. Very good chemical resistance against methanol, ethanol, FAME-Ester and biologic fuels, 75 Shore A
- **LEZ-VITEC:** quality 60 Shore A, for peristaltic pumps
- **LEZ-VIT PP55:** very soft quality 55 Shore A, for precision tubing in peristaltic pumps.

**On request:**

- FDA-compliant quality for food contact (beige or black)
- fire resistant quality compliant with UL94 Class V0



Tubes and profiles of Viton

### **Our speciality: fluored moss rubber LEZ-VITMOOS E20**

LEZ-VITMOOS E20 is a moss rubber on the basis of a special type of Viton, bringing together the advantages of Viton and those of a moss rubber. It can be used where soft seals are demanded and are in contact with oils, greases, fuels, solvents or strong acids at high temperatures until +200 °C.

Typical applications are found in thermal or chemical processes, for example:

- Seals for drying, painting, washing and degreasing equipment
- Seals for heating systems, burning devices, gas and plasma ovens
- Seals for thermal and chemical insulation of containers
- Fuel and oil resistant seals in aeronautic, space, automobile industries and shipbuilding
- Seals in hydrogen and solar cells

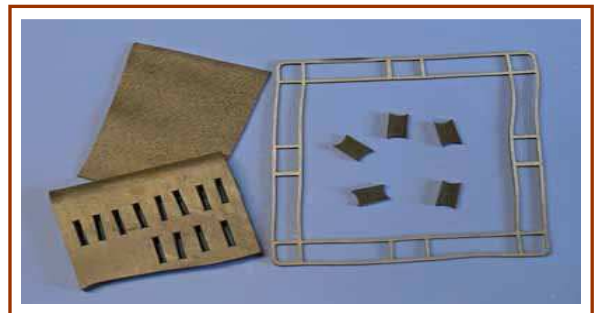
LEZ-VITMOOS E20 (\*) round cords or profiles can be easily glued with our special glue LEZ-VITFIX (\*) made of the same fluoroelastomer basic material, for example: round cord to O-rings or square profiles to frame seals.

Soft, flat seals can be stamped from LEZ-VITMOOS E20 sheets.

(\*) Special flyer on request!



Viton moss rubber round cords and profiles



Viton moss rubber sheets and stamped parts

### • Silicone

- **LEZ-SIL 60TF:** standard quality vulcanised with peroxide 60 Shore A, translucent, for technical applications, FDA-compliant and thus suitable for food contact.
- **LEZ-SIL 60RT:** standard quality vulcanised with peroxide 60 Shore A, brick-red, for technical applications. Heat resistant until +250 °C
- **LEZ-SIL 60TP:** quality vulcanised with peroxide 60 Shore A, transparent, USP Class 6-compliant, biocompatible for pharmaceutical, biological and medical applications
- **LEZ-SIL 55TP:** soft quality vulcanised with peroxide for peristaltic pumps, USP Class 6-compliant, biocompatible for pharmaceutical, biological and medical applications
- **LEZ-SILEXP 15:** Silicone foam appr. 15 Shore A, red or white, for heat insulating and stroke damping

**On request:**

- **LEZ-SIL 60THT** high temperature resistant till +300 °C for technical purposes
- **LEZ-SIL 60THTF** high temperature resistant till +300 °C, FDA-compliant (grey-beige)
- other qualities e.g. fire resistant silicone according to various fire norms
- foam silicone **LEZ-SILEXP** is also available in FDA-compliant quality

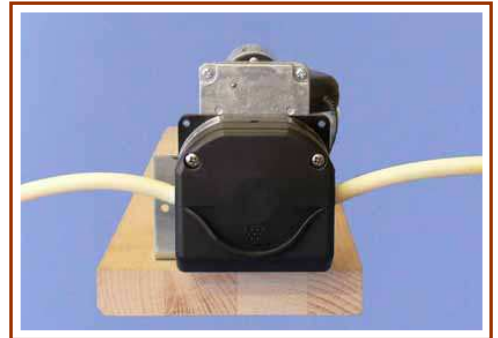
### Our speciality:

#### •Silicone platinum and clean room production

- **LEZ-SIL 60-TPPT:** ultra-pure silicone, platinum vulcanized, 60 Shore A, USP Class 6-compliant, biocompatible for pharmaceutical and medical purposes, free of peroxide, absolutely odourless and tasteless; Applications: Wine production, biology, cytology, pharmacy, medical devices, food technology, ferment culture
- **LEZ-SIL 60-ISOPT:** like **LEZ-SIL 60-TPPT**, but manufactured in clean room conditions according to ISO8 (= Class 100.000)  
**On request:** manufacturing according to ISO 6  
Applications: medical devices and pharmaceutical production
- **LEZ-SILMED 60-CE:** like **LEZ-SIL 60-ISOPT**, manufactured in clean room conditions according to ISO 8 and with CE mark  
Applications: medical devices and pharmaceutical production



Silicone tubes



Santoprene tube in peristaltic pump

#### • Santoprene

- **LEZ-SAN 65:** FDA-compliant for food contact, 65 Shore A, beige. On request in 55 and 73 Shore A. Tubes particularly suitable for peristaltic pumps. Easy to weld together by heating; recyclable
- **LEZ-SANTEC:** technical quality 60 Shore A, black.  
Easy to weld together by heating; recyclable
- **PTFE - LEZ-FLON:** of Teflon, with excellent chemical resistance and wide temperature resistance field from -270 to +260 °C  
**On request:** - also PFA, FEP, ETFE, ECTFE, PVDF
- **TPE**
  - **LEZ-THERMOBLOND:** TPE Type SEBS, 40 Shore A, honey colour; FDA-compliant for food contact
  - **LEZ-GOM:** TPE Type SEBS, 40 Shore A, beige, FDA-compliant for food contact
- **Natural rubber**
  - **LEZ-LAB and LEZ-VAC:** laboratory and vacuum tubes, red; 50 Shore A. Profiles on request
  - **LEZ-VIN:** Wine tubes 50 Shore A, wine red, BfR- and FDA-compliant for food contact. Profiles on request
- **Nitril - LEZ-NIT:** NBR-quality 65 Shore A for oils and fuels
- **Chloroprene-LEZ-NEO:** Neoprene®-quality 65 Shore A, for contact with oils und fuels, coupled with long-term ageing performance
- **Butyl - LEZ-GAS:** butyl quality 60 Shore A, white, for gas tubes
- **EPDM - LEZ-EPEM 60:** EPDM-quality 60 Shore A, good chemical resistance and good ageing
- **EPDM-Moosgummi - LEZ-EPEX 15:** EPDM moss rubber, quality approx. 15 Shore A; other hardness on request



Welded Santoprene profile



Pressure and hydraulic tubes

### Pressure tubes

- **Viton**
  - **LEZ-VITMET 70/ES:** tube of Viton, 70 Shore A, braided with stainless steel for hydraulics
  - **LEZ-VITGLAS 70:** Tube of Viton, 70 Shore A, woven with fibreglass for hydraulics  
**On request:** - braided with zinc wire or woven with other materials (e.g. Kevlar)
- **Silicone**
  - **LEZ-SIL-TPR:** silicone tube with insert woven in fibreglass, transparent, 70 Shore A, FDA- and USP-compliant for food contact, pharmaceutical and medical purposes
  - **LEZ-SITEC-RTPR:** silicone tube with one-layer thread woven, interior transparent, exterior red coated, 70 Shore A, for technical purposes  
**On request:** - silicone tubes braided with stainless steel or zinc wire or woven with other fabric materials
- **Santoprene: on request!** Santoprene tubes reinforced with fabric inserts, weavings or braided

## Sheets, Plates, Bands and Rolls

### • Viton

- **LEZ-VITEC 75:** FKM sheets and plates 75 Shore A for general technical purposes
- **LEZ-VIT 75:** Viton sheets and plates, 75 Shore A, premium quality for high requirements
- **LEZ-VIT 75/S:** Viton plates equal to LEZ-VIT 75, reinforced with fabric insert, 75 Shore A,
- **LEZ-VITMOOS E20:** Viton moss rubber approx. 30 Shore A in bands 100 until 150 mm wide (see frame)

### • Silicones

- **LEZ-SIL 60TF:** silicone sheets and plates 60 Shore A, translucent, FDA-compliant for food contact and for general technical purposes
- **LEZ-SIL 60RT:** silicone sheets and plates 60 Shore A, brick-red, high temperature resistance till 250 °C
- **LEZ-SIL 60RT/S:** silicone plates similar to LEZ-SIL 60RT, reinforced with fabric insert, 60 Shore A, brick-red
- **LEZ-SILEXP 15:** foam silicone plates approx. 15 Shore A, white, format 1000x600 mm, for general technical purposes
- **LEZ-SILEXP 20R:** foam silicone rolls approx 20 Shore A, white, for general technical purposes
- **LEZ-SILEXP 25PTF:** foam silicone approx. 25 Shore A, white, in rolls, FDA-compliant for food contact

- **Santoprene® - LEZ-SAN:** sheets of Santoprene®, 65 Shore A, FDA-compliant (see box)

#### **Our speciality: LEZ-SAN Santoprene® sheets**

LEZ-SAN sheets are supplied exclusively by Lézaud & Co GmbH and developed with a specialized partner. It is the same quality 65 Shore A, light beige and FDA-compliant for food contact as the [LEZ-SAN tubes and profiles](#). The distinguishing features of [LEZ-SAN sheets](#) in bands 30 cm wide are high elasticity and flexibility as well as general good chemical resistance and good gas impermeability.

LEZ-SAN sheets can be easily welded together by heating, for example to manufacture sleeves, membranes, compensators or for the lining of large containers in the food and pharmaceutical industries.

LEZ-SAN sheets are primarily used in the manufacturing of seals, filters, membranes or compensators for the food, medical and pharmaceutical technologies, or in the construction of laboratory instruments for biology and analysis purposes and also in chemical engineering.

## Stoppers

### • Natural rubber

- **LEZ-LAB Series D:** conical stoppers of natural rubber, 45 Shore A, grey, for laboratory purposes
- **LEZ-LAB Series F:** conical stoppers of natural rubber, 40 Shore A, grey, BfR- and FDA-compliant for food contact and for wine production

### • Silicone

- **LEZ-SIL Series D:** conical stoppers of silicone, nature, 50 Shore A, BfR- and FDA-compliant for food contact, wine production and laboratory purposes
- **LEZ-SIL Series P:** conical stoppers of [silicone vulcanized with platinum](#), 45 Shore A, nature, (see box)

### • Viton

- **LEZ-VIT Series T:** conical stoppers of Viton 70 Shore A, green, resistant to oils, fuels and aromatic solvents, resistant to high temperature till 200 °C



Viton and Viton moss rubber sheets



Silicone and foam silicone sheets



Santoprene®-sheet



Rubber, Silicone and Viton stoppers

#### **Our speciality: LEZ-SIL Series P: stoppers of silicone vulcanized with platinum**

FDA-compliant for food contact, free of peroxide, absolutely odourless and tasteless and not cytotoxic.

Applications preferably in wine production, for food contact, for medical and pharmaceutical purposes or in sensitive areas such as cytology and the culture of ferments.

## Accessories: glues and primer

### Silicone glues

- **LEZ-SILFIX Type CAF1:** brick red, in 100 g tube, for general purposes
- **LEZ-SILFIX Type CAF3:** transparent, in 100 g tube, for general purposes
- **LEZ-SILFIX Type 732-FDA:** transparent, cartridge with 310 g;  
FDA-compliant for food contact
- **LEZ-SILFIX HT Type CAF8** brick red, cartridge with 330 g;  
High temperature resistance until +280 °C

### Viton glue and primer

- **LEZ-VITFIX:** basis of fluoroelastomer in MEK, kit of basic mixture with 250 g and 2 kg + vulcanisation agent (see box); temperature resistant till +200 °C
- **LEZ-VITPRIM:** special primer for Viton and fluoroelastomers



Silicone glues



Viton glue LEZ-VITFIX  
Basic mixture with vulcanisation agent

### Our speciality:

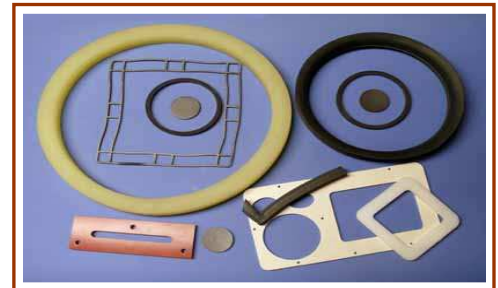
#### LEZ-VITFIX glue for fluoroelastomers:

The glue on the basis of a fluoroelastomer was specifically developed to glue round cords and square profiles of **LEZ-VITMOOS E20** (see box above).

With some pre-treatment measures (degreasing and roughening of the contact surfaces) and with the aid of the primer **LEZ-VITPRIM**, compact Viton or FKM parts can be glued together or onto other supporting materials (other elastomers, metals, plastics, glass...).

## Manufacturing and services

- Stamping of flat seals according to drawings
- Gluing of round cords to rings or square profiles to frame
- Vulcanisation of round cords to rings or square profiles to frame
- Manufacturing of hydraulic tubes with connectors and fittings



Stamped and glued seals

## Profiles according to drawings

- Profiles can be made in all of the above materials according to your drawings. Please send us your inquiry.

## Moulded parts according to drawings

- In collaboration with our specialized partners we are able to offer competent and competitive possibilities to manufacture moulded parts for new developments. Please send us an inquiry with your drawing.



Profiles and moulded parts according to drawing

## Development according to customer specifications

- Together with our partners, we can also offer you specific solutions to your individual requirements, for example:
  - development of specific elastomer compounds
  - assistance in the development of the form of your product
  - manufacturing of prototypes and small series for testing
  - suitability tests in compliance with particular norms...



Development

- (\*)Trade marks: Viton®, Teflon®: Dupont Performance Elastomers  
- Dyneon®: 3M - Tecnoflon®: Solvay - Dai EI®: Daikin - Elastosil®: Wacker  
- Silastic®: Dow Corning - Rhodorsil®: Rhône-Poulenc/Blue Stars  
- Momentive®: Momentive Performance Materials (formerly GE-Silicones/ Bayer) -  
Kraton®: Kraton Polymers - Aflas®: Asahi Glass Co Ltd



**Lézaud & Co GmbH** Fluid and seal technology for laboratory, medical and industrial supply

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