



SEALS AND GUIDANCE PARTS: A POWERFUL RANGE

PXL SEALS designs, manufactures and installs sealing and guidance systems for industry.

To define effective and reliable sealing solutions that meet the requirements of your activity, PXL SEALS will work alongside to help implement your projects.

APPLICATIONS

From simply choosing an O-ring, to carrying out on-site assembly operations, to defining specific seals, either in static or dynamic assemblies, PXL SEALS is at your service to help you make the right decisions.

Rotary connectors, feeders, hydraulic and pneumatic systems, valves, shock absorbers, motors, cryogenics, chemistry, mechanical seals and machine tools are just some of the applications we deal with.

MATERIALS

- PTFE, high-performance polymers, etc.
- PU, PE, PVDF, PEEK, engineered plastics
- NBR, FPM, EPDM, silicone, FFPM, etc.
- PXLKOT, heavy-load composite materials

Some of our materials comply with the industrial sector's general certifications: CE1935/2004, FDA, ACS/KTW, 3-A Sanitary Standards, USP Class VI. Get in touch with us to find the solution best suited to your application.

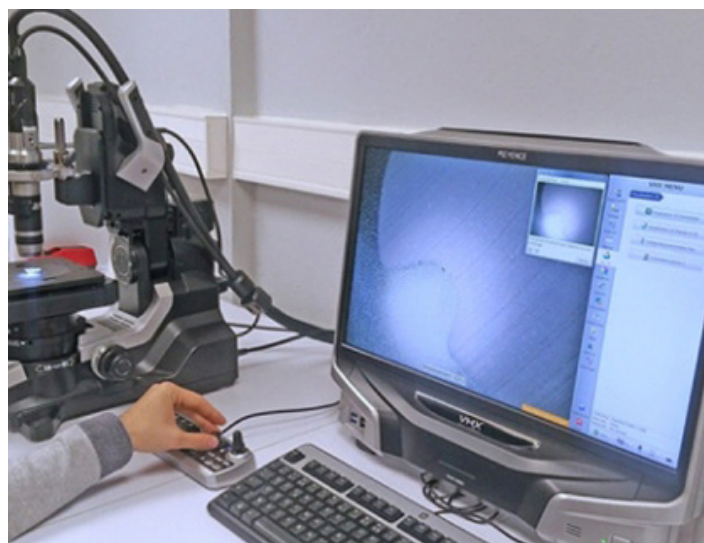
ENGINEERING AND MODELLING

To guarantee that the solutions proposed are completely suitable for your applications, PXL SEALS is able to perform comprehensive technical studies.

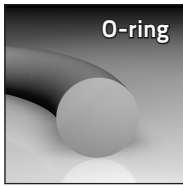
We can offer you finite element digital simulations that can predict how our sealing systems will behave in your applications (withstanding of fatigue or pressure and deformation in operation, etc.).

Thanks to our laboratory equipment, we can also offer you analyses of the mechanical properties of our materials according to the various relevant standards, either on standardised test pieces or on your finished products. We can also perform tests to ensure that your fluids and our materials are compatible with each other.

Please feel free to contact us if you have any specific technical requests.

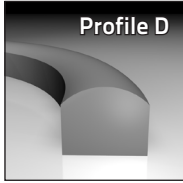


DUAL-ACTION SEALS



O-ring

O-ring: The O-ring, which is the most commonly used profile for sealing, must be implemented according to best industry practice. We recommend the use of BAE from 70 bar, or even 40 bar in the event of a large clearance or significant temperature variation.



Profile D

Profile D: An alternative to the O-ring, this is recommended in the case of high pressures or pulsed pressures. Thanks to its design in particular, it fits better and there is no kinking phenomenon.



PB4

PB4 : An alternative to the previous two, it is used in the same way as the O-ring. Its design makes it easy to position, and it reduces the contact surface while ensuring dual-action sealing.

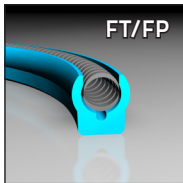
A large selection of sizes, materials and hardnesses with certifications are available for these three profiles. These profiles are mainly used in statically or semi-statically applications.

HP SEALS

Spring seals comprise a casing and a prestressing element. Generally made from PTFE, numerous other materials can be used according to the application (PE, PVDF, PEEK, PU, etc.). Generally single action, but possibility of special double-action profiles.

Designed to sit in standard AS568 grooves, these seals can be manufactured in most sizes.

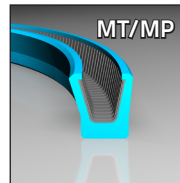
- Wide temperature range: -20°C to +250°C (depending on material used).
- Speed: 15 m/s (or more, depending on pressure and temperature)
- Pressure: 800 bar (or more, depending on geometry and material)



FT/FP

FT/FP

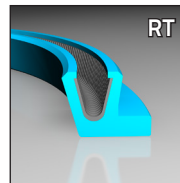
Execution with helicoidal strip spring High seating pressure. Suitable for high pressures, static. Tolerates small movements at low speed.



MT/MP

MT / MP

This seal is activated by a V-spring and can be used statically, mainly in a piston or rod assembly. It is fitted into open or semi-open groove through quick-release. There is a silicone filling option for food or medical applications.



RT

RT : Available in V or C form, this profile was developed for rotary or helicoidal movements. Its flange holds the seal in place. It is fitted into an open groove only.

All of these profiles are available for use with standard housings, but they are also available on request for any size of housing.

COMPOSITES SEALS LINEAR

Composite profiles work on the combination of an O-ring-type spreader and a pad made from a high-performance material (PU/PTFE, etc.) for the friction level and extrusion resistance. These profiles allow very high pressure levels and operating speeds to be reached:

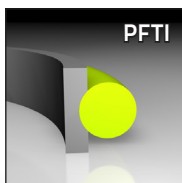
Up to 400 bar (more for the special design)

Up to 15 m/s (more for the special design)

They are either single action or double action and fitted into open or closed grooves. (Care should be taken with small diameters.) Available in numerous material combinations, composite seals are suitable for a diverse range of applications: hydraulic, pneumatic, food, etc.



PFAI



PFTI

PFAI/PFTI

This is the original version of the composite profiles. It is fitted into standard grooves for O-rings and decreases the friction and stick-slip level

and to increase the system's extrusion resistance. This is a good replacement for the O-ring + BAE combination.



PFAD



PFTD

PFAD/PFTD

Dual-action version which is commonly found in the sealing systems of high-performance cylinders.



PFTS



PFAS

PFTS/PFAS

Single-action version, placed in series, which allows a thin film of oil to pass for lubrication purposes.

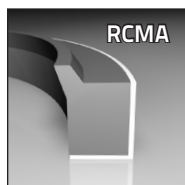
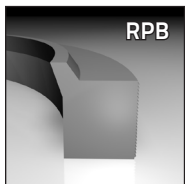
Many geometries are possible in order to best match the specific technical demand: high pressure, high temperature, low friction, low travel, dry running, high frequency, etc.

Composite seals should be combined with a guidance system (metal or by segments) to ensure that they operate correctly. It is essential that the surface of rubbing parts is kept in excellent condition, that the hardness is adequate and the fluid clean. (Our design office will help you choose the solutions to use.)

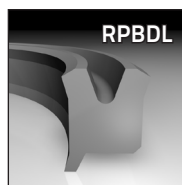
- Available in a rod or piston version.
- All of these profiles are available to suit different housings standard housings, but also on request for all other sizes

SCRAPERS

The choice of a scraper system is vital when developing an effective and reliable sealing system. Its main function is to prevent pollution (either solid or liquid) from getting inside the system and impairing its operation. Also, it contains a film of oil preventing leaks towards the external environment. Numerous profiles are available in a wide range of materials to match your



Single Action



Dual Action

technical and economic requirements as closely as possible.

- Single-action scrapers are available and extensively used in hydraulic applications, for instance, but dual-action scrapers are also available and are the essential addition to single-action composite rod seals.

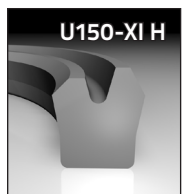
- Versions for boring are available for individual applications (food industry, fluid processing and medical)

Traditionally made of NBR or FPM, many variations are possible: EPDM, PU, PTFE, engineered plastics and other fabric versions. These are fitted into closed, semi-open or open grooves, depending on the type of scraper selected: flexible, with composite or metal cage or insert.

U-SEALS

Along with the O-ring, the U-seal is the most widespread profile in the sealing sector. These seals come in a multitude of different profiles and are used on a complementary basis to reflect the precise input data of your application (fluid type, temperature, pressure, etc.).

The broad range of materials and designs can be used to resolve issues relating to friction, extrusion, etc.



From ULP seals made from low-hardness elastomer and used for low-pressure pneumatic applications, to U150-XI H profiles made from high-hardness polyurethane, to U150-3 seals made from elastomer reinforced with fabric that can reach pressures of 400 bar, there is an installation solution for most applications and standard service conditions in the form of one or other of the U profiles. Naturally, all of these profiles are available in the rod or piston version with asymmetric lips to ensure that they match your requirements.

ROTARY SEALS

There are many profiles available depending on the application, pressure, temperature, fluids in contact and rotation speed.

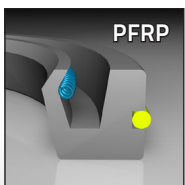
For slow and irregular rotation movements, some of the profiles that have already been presented could be used (particularly U-seals or spring profiles).

For more demanding applications with high rotation speeds, different profiles can be used, also depending on the input data.



Lip seal rings :

In the high-performance rotary seals category, there is also a family of seals known as 'lip ring seals'. A very diverse range of profiles and materials can be used even in the most challenging conditions.



Rotary compact seals :

Just like linear composite seals, rotary composite profiles rely on the combination of a pad and a spreader. A broad range of materials can cater for the diverse range of applications encountered, e.g. hydraulic, pneumatic, food, etc.

These profiles allow very high pressure levels and operating speeds to be reached:

- Up to 400 bar (more for the special design)
- Up to 2 m/s (more for the special design)
- The temperature range is between -20°C and +250°C (depending on materials). Many geometries are possible in order to best match the specific technical demand: high pressure, high temperature, low friction, dry running, etc.

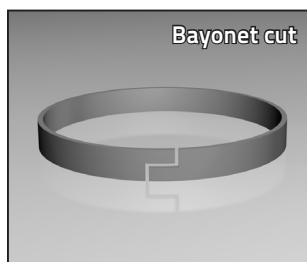
Composite seals should be combined with a guidance system (metal or by segments) to ensure that they operate correctly. It is essential that the surface of rubbing parts is kept in excellent condition, that the hardness is adequate and the fluid clean. (Our design office will help you choose the solutions to use.)

- Available in a rod or piston version.
- All of these profiles are available for use with standard housings, but they are also available on request for all sizes of housing.

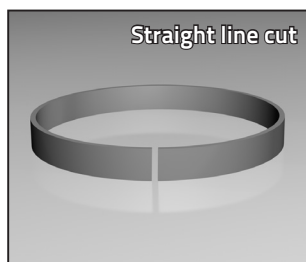
We also manufacture facial seals, mechanical seals and V-rings, etc.

GUIDANCE PARTS

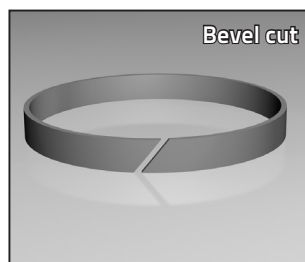
Guidance is an essential addition to ensure the correct operation of a seal. In particular, it prevents mechanical parts from becoming off-centred, which can impair the sealing. The guidance part also helps with the performance of systems and makes them less sensitive to pollution. Recommended for use in a rod assembly or in a piston assembly.



Bayonet cut

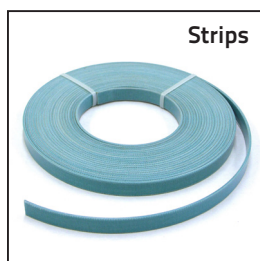


Straight line cut

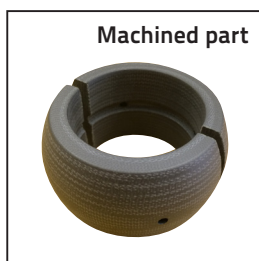


Bevel cut

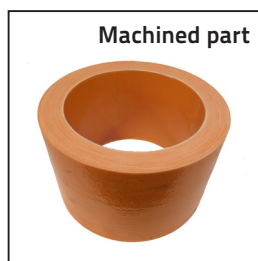
Available either as strips that can be cut to the desired length or as machined parts, guidance segments are widely used in linear applications, although they can be installed in rotary systems under certain conditions. From hydraulic cylinders, pneumatic cylinders and feeders to actuators, shock absorbers and valves, the use of guidance segments is widespread across all industries. Our design office is available to help you choose from a large number of materials: PTFE, charged PTFE, engineered plastics or PXLKOT heavy-load materials.



Strips



Machined part



Machined part

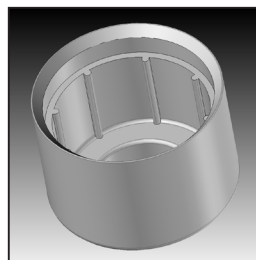
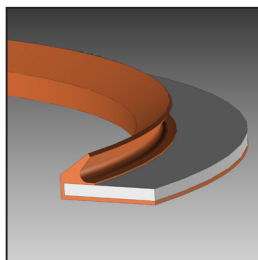
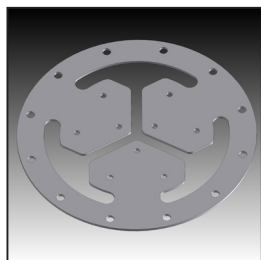
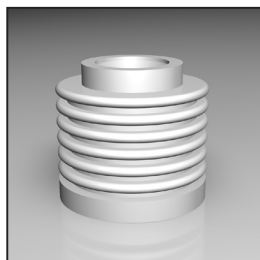
SPECIFIC PARTS

PXL SEALS produces or jointly develops all sorts of specific parts and products to fit in with customers' plans. Moulded and machined technical parts, overmoulding of elastomer onto metal parts. We can also offer you a whole range of custom-cut products with a wide choice of materials.

We are also able to manufacture mechanical seals and braids.

Finally, PXL SEALS can carry out on-site appraisals for taking measurements and developing specifically tailored solutions, to offer the fitting of seals on your systems or to recommend the appropriate tools to enable this.

Please feel free to contact us if you have any specific requests.



PXL SEALS

27, rue de l'Industrie - 01200 Bellegarde-sur-Valserine - France
Tel : +33 (0)4 50 48 02 09 - Fax : +33 (0)4 50 48 59 99

www.pxlseals.com