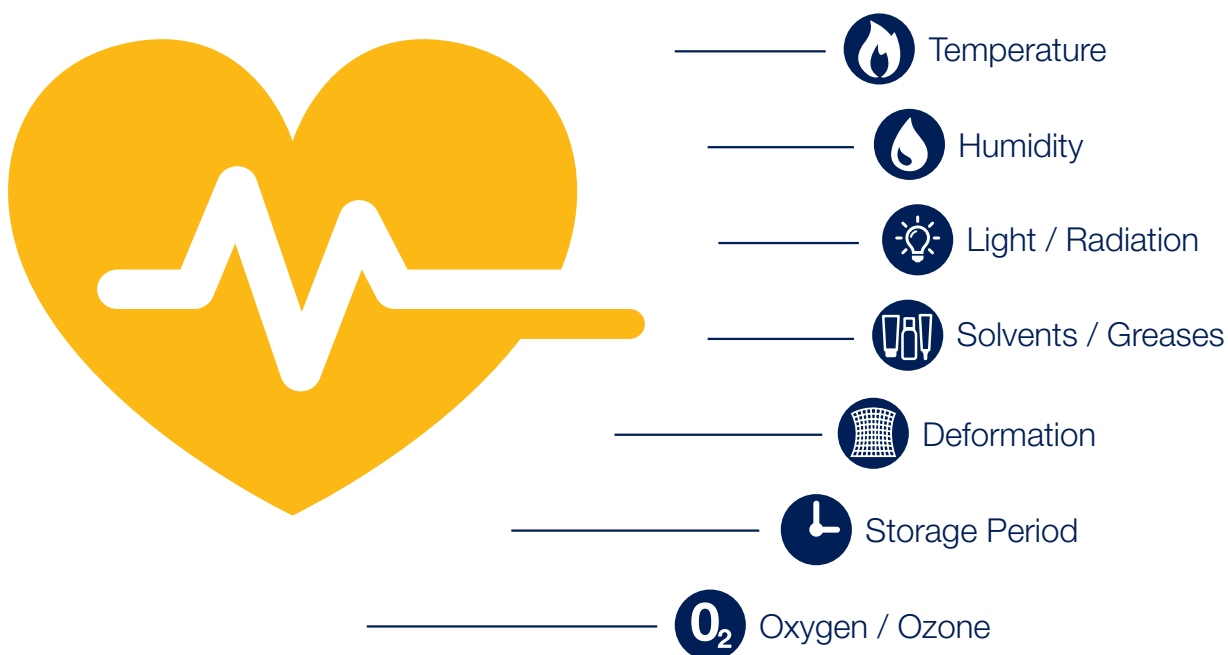


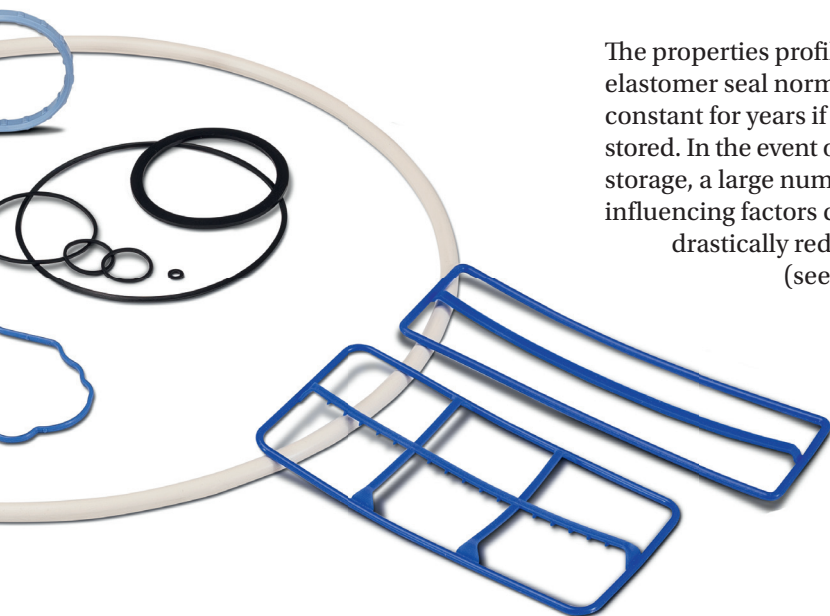


Storage and Cleaning of Elastomer Seals

Factors that influence the storage of elastomer products



Elastomer seals from Parker Prädifa stand for tailor-made innovative solutions for demanding applications. To ensure that the material properties and performance of the sealing system remains at the highest level even after longer storage periods, there are a few simple conditions to be observed regarding storage, storage periods and cleaning of elastomer seals.



The properties profile of an elastomer seal normally remains constant for years if it is properly stored. In the event of improper storage, a large number of influencing factors can result in drastically reduced seal life (see Figure).

Ultimately, the seal is no longer fit for use due to hardening, softening, permanent deformation, cracks, surface damage, etc.

To avoid this, Parker Prädifa, based on the DIN 7716 and ISO 2230 standards, recommends that the following information be observed for storage, cleaning and maintenance of elastomer seals:

Storage



Temperature

The preferred storage temperature for elastomer seals is +15 °C and should not exceed +25 °C. Accordingly, sources of heat such as radiators, boilers (minimum distance: 1 meter) or direct sunlight should be avoided. Temperatures should not drop below a maximum of -10 °C. As in this case a stiffening of elastomer products occurs the seals should be handled with special care to prevent deformation. Chloroprene materials should not be stored below -12 °C.



Humidity

It is important to ensure that the relative humidity in storage facilities is below 65 %. Storage in humid rooms and condensation must be avoided. Neither should elastomer seals be stored in extremely dry conditions.



Light / Radiation

Elastomer seals must be protected against sources of light with a high UV content as they might be able to damage the products. Examples of light sources with a high UV content include intense artificial light or direct sunlight. Light-induced (photo) damage can be avoided by adequate application of UV filters to the window panes in the storage room. All types of radiation such as gamma or radioactive radiation must be avoided.



Solvents / Greases

Greases, oils and solvents may cause damage to elastomer seals. Therefore, it should be ensured that the seals cannot come into contact with these media in storage (unless packaged this way by the manufacturer).



Deformation

Elastomer seals which are exposed to tensile or compressive strain, or other type of deformation, may be damaged. Cracking may occur. Therefore, the seals must be stored without being exposed to strain and deformation.



Storage Period

A key criterion for the storage period of elastomers is the time at which the product was vulcanized. Parker indicates the date of manufacture on the packaging bags: "1Qxx" stands for parts produced in the first quarter of the year 20xx.

The recommended maximum storage period depends on the type of elastomer.

Recommended maximum storage period	
TPU	4 years
HNBR, NBR, CR	6 years
EPDM	8 years
FKM, VMQ, FVMQ	10 years
FFKM	13 years

Elastomer seals should preferably be used within the statutory liability period of 24 months.



Oxygen / Ozone

Generally, elastomer seals should be protected against circulating air by suitable packaging such as airtight containers. This is particularly important for very small seals with a large surface-to-volume ratio. Mercury vapor lamps, fluorescent light sources, electric motors – generally any device that is capable of producing ozone through sparks, electrical discharges or high-voltage fields – must urgently be avoided. Ozone is harmful to many elastomers so that storage rooms must be ozone-free. This also applies to organic gases as well as combustion gases as they are capable of producing ozone via a photochemical process.

Miscellaneous

In addition to these recommendations, there are a few other aspects to be observed when storing elastomer seals:

- Elastomer products should not come into contact with metals such as iron, copper and manganese, as this may result in damage. The same applies to respective alloys such as brass and non-metals.
- Contact with materials containing plasticizers, such as PVC, must be avoided.
- Elastomer seals of various types (material, color,...) should be stored separately.

Cleaning

Elastomer seals should be cleaned swiftly using a clean cloth and lukewarm water. Exceptions are fabric-reinforced elastomer seals. In this case, contact with water must be avoided. Gasoline, benzene, turpentine and similar substances are not suitable for use as cleaning fluids.

Elastomer products must not come into contact with sharp-edged or pointed objects such as steel brushes, sanding paper, etc. Drying near radiators is not recommended.



Note

Our application engineers will be pleased to advise you in case of special questions regarding storage and cleaning of elastomer seals.