



sealing solutions



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Storage Conditions / Shelf Life for UTECH Materials

General Recommendations

The following guidelines and recommendations apply for the storage of semi-finished products and seals made of:

- Polyurethane grades UTECHANE, UTECHANE-H, UTECHANE-HTQ, UTECHANE-LT, UTECHANE-FG, UTECHANE-SL, UTECHANE-X, UTECHANE-XH, UTECHANE-XSL
- Elastomer grades UTECRUBBER-N, UTECRUBBER-N white, UTECRUBBER-NH, UTECRUBBER-F, UTECRUBBER-FB, UTECRUBBER-E, UTECRUBBER-S, UTECRUBBER-AF
- The same recommendations are valid for semi-finished materials and plastic products made from POM, PA, PTFE-P, PTFE-F, PTFE-BR40, PTFE-C25, PTFE-Graphite, PTFE-Ekonol, PEEK, UHMW-PE and Phenolic resin, even though there are no standards existing for these materials.

During storage, the characteristics of elastomers and plastic products can, on the one hand, be damaged by chemical reactions resulting from the influence of heat, light, oxygen, ozone, humidity and various chemicals on the material, and, on the other hand, by physical processes.

These physical processes, termed “physical aging”, can be caused by external forces leading to cracks and permanent deformation, or by the migration of plasticizers from the semi-finished products. Such migration of plasticizer makes the materials more brittle and leads to deformation of the parts.

Therefore, rubber products will only maintain their characteristics without major changes for several years under proper storage conditions. Be aware that deterioration due to aging and storage properties of rubber products depend considerably on their chemical structure.

Unsaturated elastomers, such as nitrile rubber (NBR) age much quicker under improper storage conditions than saturated elastomers, such as fluororubbers (FPM). The ideal characteristics of these products can only be maintained for longer periods of time, if the products are stored in accordance with the following recommendations, in line with DIN 7716.

The instructions, recommendations and guidelines stated in this document are based on best practice and our best knowledge. Nonetheless, we cannot assume any guarantee and/or liability in this respect.

Storage conditions for plastic and elastomeric materials

Raw material billets:

- Rubber and plastic products should be stored in a cool and dry environment. Storage temperature should be around 15°C and not exceed 25°C; relative humidity should be less than 65%.
- Rubber and plastic products should not be exposed to direct sunlight or artificial light with a high UV content (incandescent light bulbs preferred over neon lamps).
- The storage rooms must not contain any ozone-producing devices, such as electric motors and/or high-voltage devices.
- Contact between rubber and plastic products and chemicals and/or oxidizing/dangerous metals (e.g. copper, manganese) is to be avoided.
- Rubber and plastic products should be stored as tension-free as possible, i.e. the parts should not be subject to tensile stresses, pressure or bending. Rubber products, above all seals, must not be hung on hooks/nails or folded or rolled for storage.

Finished products (seals):

- All of the above and additionally:
- Rubber products should not be exposed to air currents (drafts). This can be ensured by using airtight packaging which **must not contain plasticizers**, Polyethylene is most suitable for such purposes.
- Contact between rubber products of different compositions is to be avoided.

If all these recommendations are observed, semi-finished products and seals can be stored for the periods of time indicated below, without losing their typical properties:

Elastomers:

NBR: (<i>UTECRUBBER-N, UTECRUBBER-N white</i>)	Approximately 5 years
H-NBR, EPDM, TFE/P: (<i>UTECRUBBER-HN, UTECRUBBER-E, UTECRUBBER-AF</i>)	Approximately 8 years
FPM, MVQ: (<i>UTECRUBBER-F, UTECRUBBER-FB, UTECRUBBER-S</i>)	Approximately 10 years

Plastics:

POM, PA: (<i>UTECTAL-1 natural, UTECTAL-1 Black, UTECMID-1 natural, UTECMID-1 Black</i>)	Approximately 10 years
Polyurethanes: (<i>UTEETHANE, UTEETHANE-H, UTEETHANE-HTQ, UTEETHANE-FG, UTEETHANE-LT, UTEETHANE-SL, UTEETHANE-X, UTEETHANE-XH, UTEETHANE-XSL</i>)	Approximately 12 years
PTFE (virgin and filled), PEEK, UHMW-PE, Phenolic Resin: (<i>UTECFLON-1C, UTECFON-2C, UTECFON-3C, UTECFON-4C, UTECFON-E10, UTECFON-E20, UTECFON-GR10, UTECPEEK-1, UTECPPE-U, UTECRRESIN-1</i>)	Approximately 12 years