

Bearing Storage

Bearings are high-quality, advanced products, requiring careful handling. The performance of advanced bearings is state of the art with them often being run close to their designed operating limits. As such it is vital from a quality assurance standpoint that the bearings be in perfect condition when assembled into the finished product.

For these reasons, it is clear that an unlimited storage period cannot reasonably be given as bearings will over time deteriorate.



Our packaging and corrosion protection is designed to maintain the full performance capability of bearings over an extended period. Storage and handling at the customer's site plays a critical role in achieving this objective. One point to take into account is that all lubricants/preservatives have different chemical and mechanical properties that directly affect the shelf life of the bearings.

The storage periods recommended by NSK are subject to the following criteria:

1. Storage period for an individually packaged, ungreased bearing:

- NSK guarantees a shelf-life of one year, provided that compliance with the following storage conditions*1 is ensured.
- Provided that optimum storage conditions*2 are ensured, a shelf-life of up to 5 years should be possible.

2. Storage period for an individually packaged, greased bearing:

- NSK guarantees a shelf-life of one year, provided that compliance with the following storage conditions*1 is ensured.
- Provided that compliance with the optimum storage conditions*2 listed below is ensured, a shelf-life of up to 5 years should be possible. It is recommended that the bearings undergo a visual inspection following a lengthy storage period. If irregularities are observed (e.g. leakage of the base oil, oxidation of the lubricant, corrosion of the bearings), in case of doubt, the bearings must not be used.

3. Storage period for bearings in bulk packaging or other large containers:

- NSK guarantees a shelf-life of at least 3 months, provided that compliance with the following storage conditions*1 is ensured.
- Provided that compliance with optimum storage conditions*2 is ensured, a shelf-life of up to 18 months should be possible. It is recommended that the bearings undergo a visual inspection following a lengthy storage period. If irregularities are observed (e.g. leakage of the base oil, oxidation of the lubricant, corrosion of the bearings), in case of doubt, the bearings must not be used.

Condition *1

The guaranteed shelf- life is subject to the following fundamental conditions:

- › Closed, original packaging
- › Storage area excludes the effect of aggressive media such as acids, alkalis, salts, exhaust fumes, aerosols and steam
- › Frost-free storage in enclosed spaces
- › No quick changes in temperature which cause condensation to form
- › No direct sunlight

Condition *2

The expected shelf- life can be extended considerably by complying with the following requirements:

- › Closed, original packaging
- › Storage area excludes the effect of aggressive media such as acids, alkalis, salts, exhaust fumes, aerosols and steam
- › Frost-free storage, ideally > 5°C
- › No quick changes in temperature which cause condensation to form
- › No direct sunlight
- › Max temperature of approx. 40°C, Ø range 15°C–30°C
- › Max relative humidity of 75% [peak], Ø max 65% within 24 h

If compliance with these requirements is ensured, it is unlikely that oxidation of the metal surfaces will take place within the specified period and the lubricants have the best possible protection against any changes.

