

LUBRICATION

Regular lubrication and maintenance are important for a longer life time of revolving bearings.

Lubrication develops the following functions:

- makes a film of a sufficient capacity which separates contact surfaces
- diffuses heat (oiling lubrication)
- allows bearing to hold from, outside (grease lubrication) and therefore prevents the entry of liquid or solid agents.
- decreases bearing noise
- protects from corrosion

Revolving bearings can be lubricated by technical choices, with grease or oil, depending on the following characteristics:

- constructive form and dimension of the bearing
- execution type of the lodging and of the parts in touch with the bearing
- working conditions

GREASE LUBRICATION

The choice of lubricant grease must be executed according to the specific instructions of lubricant suppliers.

Revolving bearings normally employ lubricant greases which do not present high density at low temperatures.

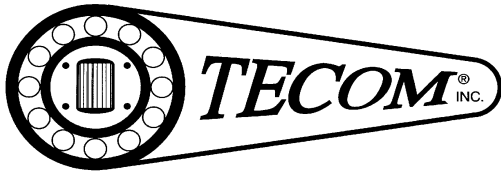
For high speed bearings, normally choose grease with low dynamic viscosity.

Low speed bearings use more dynamic viscosity grease.

For high strain bearings, **TECOM** recommends lubricant greases with EP characteristics and higher viscosity of the main oil.

Normally, the bearing shouldn't exceed 90 degrees C; in this way grease performances don't change.

Lubricant aging is influenced by environmental conditions.



Thanks to its experience **TECOM** can guarantee a conservation for 3 years, provided that the following conditions are respected:

- closed rooms (stores)
- temperature between 0 degrees C and 40 degrees C
- air humidity below 70%
- no contamination by chemical agents

After a 3 year storage time lubricant characteristics of the grease could be decreased.

When relubrication is not possible, the original grease employed becomes fundamental.

Note that a lubricant grease normally doesn't last more than 3 years. To make sure that the bearing is still functional it must be cleaned and lubricated with the original grease quantity. When it is possible, the relubrication must happen at the working temperature and while the bearing is rolling.

Necessary grease quantity can change from 20% to 80% in comparison with the original one.

It is necessary to verify that the old grease can go outside without problems.

The lubrication interval can be exactly determined only by a check made during operation.

It is possible to establish an indicative value of the lubrication interval following specific formulas.

OILING LUBRICATION

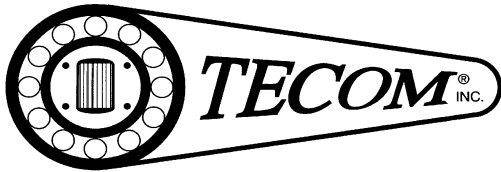
Oiling lubrication guarantees the good distribution of lubricant means and the cleaning of the carrying surfaces.

Oiling lubrication is used if the parts near the bearing are already lubricated with oil, or if it is necessary to take away heat from the mounting.

For oil lubrication are suitable oils with mineral base or synthetic oils.

Mineral oils with additives can be used for continuous working temperature up to +120 degrees C, synthetic oils up to +210 degrees C.

TECOM recommends lubricant oils with EP additives.



They can be used in the following cases:

- radial cylindrical roller bearings subjected to very high loads with axial thrusts
- axial cylindrical roller bearings

Before using lubricant oils verify their own compatibility with plastic materials, no iron metal or light alloys.

Alternate lubricant systems are the following:

bath oil lubrication

or lubrication in immersion or with oil sump, is effective for radial bearings

drop-oil lubrication

is employed for high speed radial bearings with lubrication hole on the external ring

fog-oil lubrication

and air oil lubrication, are suitable for high speed radial bearings working at high R.P.M. with a low load

recirculation oil lubrication

with the possibility of filtering and cooling continuously is advantageous to diffuse heat from bearings which work at high temperature

During running-in of the device, a high contamination of the lubricant arises: therefore the oil must be changed when the test is complete.

In our opinion, normally, an oil change per year is sufficient; if the bearing temperature stays below 60 degrees C with minimum impurities.

In bad conditions **TECOM** recommends controlling the lubricant according to the manufacturers specifications.

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