

BEARING STORAGE

Rolling bearings are precision machine parts. Their parts – rolling elements and rings /balls, rollers, needles/ are hardened, have high accuracy and high purity /smoothness/ of the surfaces. Any violation of the quality of the surface leads to premature wear and reduce the life of the bearing. Bearings are made of special steel housings, which by their nature are iron alloys, known as “black metals”

It is known that the latter do not possess high corrosion resistance and a major threat to them appears to be the corrosion, which is totally unacceptable in the working surfaces of the bearing. Due to its high precision bearings are very sensitive to poor storage and handling and inappropriate. To prevent corrosion during storage, factory supplied bearings lubricated with grease and corrosion resistant paper. Period during which this lubricant can prevent corrosion of bearings depends on storage conditions. The task of the user – to keep the bearings in the best possible conditions. In respect of storage, packaging and anti-corrosion grease ensures protection from corrosion for bearings 1 term – 1 year.

Bearings with two protective washers /-2Z / can store a maximum of 2 years and those with seals on both sides / - 2RS /, no more than 3 years. For longer storage, lubricant, which are filled with these bearings, ages and hardens, resulting in joint friction torque when operating the bearing is increasing. The intensity of corrosion during storage of bearings depends on the following two main factors: 1. From the high humidity environment /air/ environment in which the bearings are kept. Humidity lower than 40 % practical bearings will not corrode.

2. The size of the drop in temperature during the day – the less the fall, the more favorable are the conditions for storage. Especially dangerous are the sudden changes of temperature in high humidity. In this case the condensation of water droplets on the surfaces of the bearings to “sweat” and corrode. Corrosion develops as a result of periodic condensation of water droplets on the surface of the bearing.

These factors determine the requirements for storage facilities for storage of bearings, namely: storage rooms must be dry, isolated from the ingress of dust, central heating ventilations equipment and resources away from areas where the air contains substances that can cause corrosion of the metals.

The warehouse must be equipped with special racks, open type baffles which is appropriate to be covered with sheet iron. Shelves have different sizes depending on the size of the camps and not have to plumbing and heating appliances. It is recommended that bearings with an outside diameter of 250-300 mm can be stored in the cells of the shelves, and those with larger – in chests.

It is rack access be provided on both sides and the distance between the racks and external walls to be at least 75 cm. Newly bearings must be placed on the racks in such order as to give consumers the earliest batches received. For this purpose it is

necessary to introduce strict accountability for delivery and storage. Compliance with this policy will greatly reduce the workload and costs for pre-conservation. Bearings should never be stored unpacked. Package to be removed prior to installation, and those with damaged packaging should be rinsed and squashed. Larger bearings should be kept horizontal / lying on the foreheads of the bearing rings /.

It is desirable that the windows of the warehouses have been converted to the north and the sun do not fall on the packed bearing.

The temperature of the indoor air where stored bearings must be in the range of + 10 ° to + 30 °. Are preferred at lower temperatures within specified limits. At temperatures lower than 0, lubricant crystallize, resulting in the oil layer and torn in places exposed to moisture penetrates the metal of the bearings and has its destructive action.

With more than + 30 ° lubricant melts, flows and details of the camp is degreased. Drop in temperature during the day should not exceed 5 ° C. The relative humidity in the premises must not exceed 70% - humidity is desirable to be as much as possible below. Temperature and humidity must be controlled with instruments - thermometers and hygrometers. Completely unacceptable is the preservation of land and bearing under the open sky, in the distribution database and loading points.

To establish the need of pre-conservation, annually bearings are checked whether they are present by testing corrosion of samples from different batches. In establishing the necessary corrosion is the whole batch to pre-conservation. The pre-conservation consists of the following operations:

- a/ Detaching the old grease from the bearing – re-conservation. For bearings without protective washers, the re-conservation is done by flushing within 5-10 minutes in oil heated to 90-110°C, allowed to cool air, then washed with gasoline mixed with 5-10% oil.
- b/ Checking whether a residual corrosion. Bearings with little corrosion on non-working surfaces are cleaned and lubricated /preserved/ and those with corrosion on the working surfaces shall be discarded.
- c/ conservation bearings – performed by dipping them in melted Vaseline or grease arms, heated to 50-70°C

In pre-conservation bearings closed type /-2Z, -2RS/, the external surfaces of the lubricant is separated with paper towels, cotton soaked in petrol and wring well. Then check the presence of corrosion are lubricated with grease by smearing cold brush. The washing of these bearings in baths with oil and solvents is not permitted. All operations are performed so that the bearings do not touch the hands, as this leads to rapid corrosion. Catch can be made with grips, hooks and pieces parafyned paper. It should be remembered that the continuous operation of the machines largely depends on the quality of the bearings, stored in warehouses.

Duty of the staff working on reception and storage is to keep the bearings in the best possible conditions. Failure to follow all the rules can lead to corrosion of the bearings, reducing their reliability and durability.