



## FAQs

### **How do I know when my bearing needs replacing before it causes a catastrophic failure?**

Bearing failure of the catastrophic nature is usually very rare. In cases where a foreign object is introduced or the bearing is running near its design speed limit, then it is potentially possible. A bearing's life can be calculated using various factors.

### **Does it matter if I choose a C4 clearance bearing instead of a C3 just because C4 is available?**

The clearance tolerances for bearings do overlap to some degree, hence it is possible that the clearance in a C3 could be the same as a C4. In reality though you will find that a particular factory will tend to statistically be at the upper or lower end of an allowed tolerance band. Whilst another factory will statistically be in a different area of the tolerance band. You could take the chance, but we would advise you not to, and that your application details be looked at carefully. A quick assessment of the various application factors balanced against the tolerance range of the bearing clearance will determine if there is any danger in the bearing radially preloading itself.

### **Can bearings be refurbished?**

As a general rule, for small bearings it is uneconomic but for larger sizes (8 inch bore and above) there could potentially be economic advantages. Example bearings include slewing rings, cylindrical roller bearings and spherical roller bearings. So long as upon examination, wear is not too excessive, refurbishment is an option.

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## **What is the shelf life of the bearings I buy?**

The quick answer is two to three years. This is recommended almost universally across all manufacturers. Technically, depending on packaging and storage conditions this can be extended, consult the manufacturer.

## **Grease type used in 6000 series**

Bearings with outside diameters less than 62mm normally have some form of lithium soap grease with NGLI2 consistency (MT47) and a temperature range of -30 to +110 deg C. Bearings with an outside diameter > 62mm have lithium based grease with NGLI3 consistency (MT33) and a temperature range of about -30 to +120 deg C.

## **Have a high temperature application, can I use standard lubricants?**

Most standard Lithium-based solutions are not designed for high temperatures. Most standard greases will operate consistently at a maximum temperature of 80°C and can withstand brief periods at 110°C. If your application goes higher than this then you need a more specialised lubricant. If your application goes beyond 350°C then you may need to consider solid lubricants or ceramic bearing materials (or a combination).

## **Can I flush out a bearings lubricant and use another?**

Not unless you use a prescribed flushing agent in a properly environmentally controlled area and the bearing is thoroughly dried post flush and lubricated with the correct amount and type of grease.

## **How much grease should I fill my bearing with?**

As a rule of thumb, never more than 30%. If however your application is very high load and very low RPM then a greater grease fill may be beneficial. You should NEVER fill a bearing totally with grease as it will almost certainly hydraulically lock, especially if the bearing undergoes a relatively quick start up acceleration. If the grease cannot escape then it stops the rolling elements moving (you cannot compress a liquid).



## **Can I work out how much axial clearance I have in my bearing?**

Most bearing manufacturers never give this information in their catalogues. It is surprisingly inexact and does not fall into any international standards. As a very rough rule of thumb, it is eight to ten times that of the radial clearance. We would strongly recommend that the advice of the bearing manufacturer be taken on this as other factor such as heat expansion either locally or ambient, load conditions, rolling element type etc. will all play a part in the axial movement.

## **Do bearings provide an effective pressure seal?**

We are often asked this by designers of vacuum applications and the answer is most definitely NO. a separate sealing device will have to be used in order to maintain any pressure differences.

## **Are ceramic bearings the answer to my problems?**

Ceramic components within bearings, whether the rolling elements or the rings as well, are suitable for extreme temperature and/or low lubrication situations. Their cost, although dramatically reduced from two or three years ago, is still high when compared with a correctly designed steel equivalent.