

Bearing Lubrication Services

- Oils, greases, dry lubricants
- Open, shielded, sealed bearings
- Ball, roller, linear bearings and more
- No minimum quantity
- Wide range of lubricants in stock



SMB
BEARINGS LTD

Our relubrication facility deals with many customer supplied bearings every day so if you ever get asked for bearings with special oils, greases or dry lubricants, please read on

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Our history..

We started to clean and relubricate bearings over 25 years ago in response to customers who wanted bearings with non-standard lubricants. We were often asked to supply bearings to exact lubricant specifications. We could suggest alternatives but this involved the customer in extensive testing to approve an alternative lubricant. Bearing manufacturers were quoting minimum order quantities and long lead-times.

As a result, we began to stock a range of oils and greases and re-work bearings in-house. Over the years, our facilities improved, enabling us to lubricate bearings more efficiently and with much greater accuracy. When we moved premises in 2015, we designed a new, larger relubrication room to cope with the increased demand and provide room for our growing stock of lubricants. Customers now also send their own bearings for us to relubricate.



Our facilities..

We have a custom-built relubrication room with cleaning and lubrication equipment suitable for many different types of bearing. Our cleaning equipment can wash or ultrasonically clean bearings and components. We have preservative oils to protect cleaned bearings from corrosion while awaiting relubrication and grease applicators that allow us to apply a carefully measured amount of lubricant to many different bearing types. Highly sensitive weighing equipment means we can guarantee standard or custom grease fills, even for miniature and instrument bearings.

Our expertise..

Due to our many years' experience, we now clean and relubricate **radial ball bearings, roller bearings, needle roller bearings, taper roller bearings, linear bearings and thrust bearings**. These often require oils or greases for use with aggressive chemicals or extreme temperatures. We lubricate bearings for food and beverage equipment, aerospace and ultra high vacuum equipment, clean rooms and semi-conductor factories. We also regularly apply dry lubricants such as molybdenum disulphide or tungsten disulphide.



Shielded bearings..

Bearings with non-removable shields are widely used and possibly the most common type of bearing we are asked to relubricate. There are obvious problems in greasing shielded bearings so we designed bespoke equipment which enables us to apply highly accurate grease fills **without removing the shields**. We now process shielded bearings for customers all over the world with a variety of specialist lubricants.

Case Studies

Chemically resistant grease

A manufacturer of air filtration equipment had a serious problem with early bearing failures. Some of their products were being used in a specialist application that involved the use of ethanol. The shielded bearings were coming into contact with an ethanol mist and were failing after a few weeks.

We inspected some of the failed bearings and realised that they had almost no grease left. Clearly, the ethanol was breaking down the grease far quicker than expected. The bearing manufacturer was unable to help with an alternative as the bearing usage was too small.

We suggested a chemically resistant PFPE grease and were able to lubricate some samples within a week. Six months later, the sample bearings were still operating normally and our suggested specification has been incorporated into their design.

We were able to help as we can relubricate bearings with non-removable shields. Are you ever contacted by customers experiencing similar problems? If so, let us help.



Clean-room applications

In the manufacture of equipment for use in clean-rooms, it is vital that the bearings use suitable lubricants to avoid contamination of the surrounding area. One manufacturer of clean-room equipment found that shielded thin section bearings used in lens adjusting equipment were giving off a very fine vapour at elevated temperatures. This was causing a mist to form on some lenses which had led to customer complaints. The manufacturer sent us some of the bearings they were using and we relubricated them with a selection of clean-room and vacuum greases for testing.



As we were able to relubricate the samples within a few days with stock lubricants, the problem was solved in a matter of weeks and the new bearing specification was quickly approved for all future production.

If your customers need to test bearing samples with non-standard lubricants, give us a call.

Low friction lubricants

Wind speed measuring instruments need bearings that offer very little turning resistance if they are to react to very light winds. A standard grease would give too much resistance so a light instrument oil is usually the preferred choice.

Our relubrication facility allows us to take greased bearings from stock and clean and relubricate with a light oil in a matter of days. One customer was using some of our oil lubricated bearings in harsh conditions and found that the oil dried up after a few months. They approached us to see if we could offer a better solution. After experimenting with a number of low torque greases and different low grease fills, we were able to find a combination that offered sufficiently low resistance with twice the original bearing life.



If you have customers with lubricant-related problems, we can work with you to find a solution.

Choosing the right lubricant

Bearings are often supplied with a standard lubricant that is suitable for very many applications. Bearings may contain lubrication that has a reasonably wide temperature range, a corrosion inhibitor and is suitable for low to medium speed operation. However, some applications demand more from a lubricant and a standard bearing may not perform as effectively as the customer would like. In this case, a change in lubricant may provide the answer.

High speed applications

Multi-purpose greases are often not suitable for high speed bearings as the base oil viscosity may be too high or the grease will churn in the raceways, both of which produce excess heat. A grease that overheats may become too thin and leak out of the bearing. Low viscosity base oils are desirable in high speed greases along with smooth thickeners that generate less heat and retain oil better. The grease fill may often be reduced for better performance. We can relubricate bearings with very high speed greases and vary the grease fill according to the application.



Vertical shaft applications

The lubricating grease in bearings used on a vertical shaft will not usually be recycled back into the raceways as with bearings on a horizontal shaft. The grease can work its way down to the lower seal or shield, leading to inadequate lubrication. We stock stiffer greases (e.g NLGI grade 3 or 4) which will stay in place better. Another option is to use a sealed (rather than shielded) bearing and increase the grease fill to keep lubricant in the ball/raceway contact area although this solution may not be suitable for higher speed applications.

Extreme temperature applications

Low temperature lubricants are used in aerospace applications, cold store conveyors and carts or any outdoor environment subject to extremely low temperatures. Below a certain temperature, oils will fail to lubricate properly and greases may become so stiff that the bearing becomes difficult to rotate, or will not start at all. Some of our low temperature greases will continue to lubricate down to minus 80°C.

Lubricants have recommended upper and lower temperature limits. Using a lubricant above its upper limit will cause lubricant breakdown and rapid failure. Multi-purpose greases may be rated up to 100-120°C which is fine for most applications but if the grease should rise above this limit, bearing life will be shortened. Some of our stock greases are suitable for constant use at 288°C and up to 300°C for short periods, although stainless steel bearings should be used at these higher temperatures.

Food/beverage applications

Very strict hygiene controls apply in the food and beverage sectors and, for many applications, an approved lubricant is required. The lubricants are non-toxic but are also designed to be water-resistant due to the likelihood of equipment being washed-down or steam cleaned. We offer a range of food grade lubricants including some that can withstand aggressive cleaning chemicals or high temperatures.

Low torque applications

For many instruments, very low bearing torque is vital. This can be provided by dry lubricants such as molybdenum disulphide or a light instrument oil, or by using a very low viscosity grease with a reduced fill.

There are a number of options that can work depending on how much starting torque is acceptable and the bearing speed.



Wide range of lubricants in stock

We keep many different lubricants on the shelf which means that we offer a faster turnaround time. Our lubricant stock allows us to offer solutions for almost all of the bearing lubrication problems that we encounter. We also deal with a large number of lubricant manufacturers and suppliers and, in addition, customers can free-supply any particularly hard-to-find lubricant types.

Here is a selection of our lubricant stock:

Oils

Low torque oil

Aeroshell Fluid 12 instrument oil
Anderol A402 synthetic oil
Klueber Isoflex PDP 38 instrument oil
NYE 132B synthetic oil

Clean-room, vacuum oil

Castrol Braycote 815Z PFPE oil
Krytox GPL102 PFPE oil
Krytox K143AZ PFPE oil

Greases

Low torque grease

Aeroshell 7
Kyodo Yushi Multemp ET-100K
Kyodo Yushi Multemp PS2
Kyodo Yushi Multemp SRL
Mobil Beacon 325
Mobil Grease 28

Chemically resistant grease

Klueber Barrierta L 55/2
Krytox 240 AC
Krytox GPL 204
Krytox GPL 205
Krytox GPL 207

Clean-room, vacuum grease

Castrol Braycote 601 EF
Castrol Braycote 803
Castrol Microcote 196
Castrol Optitool 215-2
Klueber Barrierta L 55/2
Krytox 240 AZ
Krytox 240 AC
Krytox GPL 205
Krytox GPL 207
Krytox KLVP

High speed grease

FAG Arcanol Speed 2.6
Klueber Isoflex LDS18
Lubcon Turmogrease Highspeed L252
Nye Rheolube 374C

High temperature grease

Aeroshell 22
Krytox GPL 207
Krytox 240 AC
Molykote 44M

Food grade grease

Mobil FM222
Rocol Foodlube Extreme
Rocol Foodlube Universal 2
Rocol Foodlube High Temp 2
SKF LGFP2

Low temperature grease

Aeroshell 7
Aeroshell 33
Krytox GPL 202
Krytox GPL 203
Kyodo Yushi Multemp PS2
Molykote 33M

Low noise grease

Klueber Asonic GLY 32
Klueber Asonic GHY 72
Klueber Asonic BQH 72-102
Kyodo Yushi Multemp SRL
Mobil Polyrex EM

Water resistant grease

Aeroshell 22
Aeroshell 33
Mobil Polyrex EM
Rocol Sapphire Aqua 2
Krytox GPL203
Krytox GPL204
Krytox GPL205
Rocol Foodlube Extreme
Rocol Foodlube Universal 2



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