Reliable rotation made easy

SKF Explorer spherical roller bearings

Everything you don't need to know about bearings

If you are like most of our customers, you like to think about bearings a lot less than we do. Which is just the way it should be. Because when it comes to your machinery, bearings should never have to be on your mind.

Leave it to us to think about the details – the tolerances, steel grades, mounting methods, seals, monitoring, and remanufacturing options. And enjoy the uptime, profits, and low operating and maintenance costs that come with using SKF bearings and having access to SKF bearing experts.

This brochure covers everything you don't need to know about bearings when you choose reliable rotation with SKF Explorer spherical roller bearings.

We are here for you

Wherever you are, you have SKF reliability experts nearby, ready with engineering knowledge and technical support.

We have 700 application engineers and 2200 service engineers around the globe that live and breathe spherical roller bearings, their applications, operating environments, and the difficult choices you face as a customer.

At every step in the bearing lifecycle, we help you make good decisions. From choosing the correct bearings and accessories to mounting, sealing, and lubricating. When your bearings are in place, we support you in monitoring, maintaining, and eventually remanufacturing your bearings. Everything that impacts the reliability of your operations, reduces your costs and improves your environmental impact.

Digital tools and services

Our range of digital tools and services helps you with bearing selection, specification, authentication, mounting, sealing, lubrication, and condition monitoring. Read more and find our digital tools on SKF.com.

Service arrangements

The industry's most comprehensive assortment of services for rotating equipment helps you keep your spherical roller bearings running as they should by optimising the use of seals, lubrication systems, maintenance products, condition monitoring, and remanufacturing. We help you pick and choose the services you need and offer them either as part of a performance- or fee-based contract or on demand.

What our customers say

SKF Explorer spherical roller bearings offer reliable rotation in all kinds of applications and industries in a wide range of environments around the globe.

Ever since we invented this bearing type in 1919, we have worked with our customers to make their spherical roller bearings the best match for their business and application needs. We support you in every stage of the bearing life cycle to get more uptime, lower operating and maintenance costs, and more profit for your business.

Selecting

It is sometimes difficult to select the right bearing, so we have always appreciated the strong technical support SKF provides in this area. They are always there for us and provide both recommendations and training.

Pulp & paper customer, USA

Monitoring and maintaining

Online monitoring supports high machine availability and better maintenance planning – essential for our competitiveness.

Pulp & paper customer, Sweden

Sealing and lubrication

Using SKF Sealed spherical roller bearings gave us a fantastic upgrade in service life. We have really seen their value: they let us focus on our primary operation instead of constantly worrying about and planning for premature bearing failures.

Mining customer, Australia

Using

Our old supplier provided bearings that failed prematurely and were completely worn out. SKF Explorer bearings are so wear-resistant and high quality that they can even be refurbished and used again.

Mining customer, South America

Reusing and recycling

Being able to remanufacture our sealed spherical roller bearings has made a huge impact on our business savings. A perfect match for our environmental ambitions.

Mining customer, South America

Mounting

Mounting eight-tonne spherical roller bearings is difficult and cumbersome, so the mounting service SKF provided was invaluable.

Marine customer, Norway

Authenticating

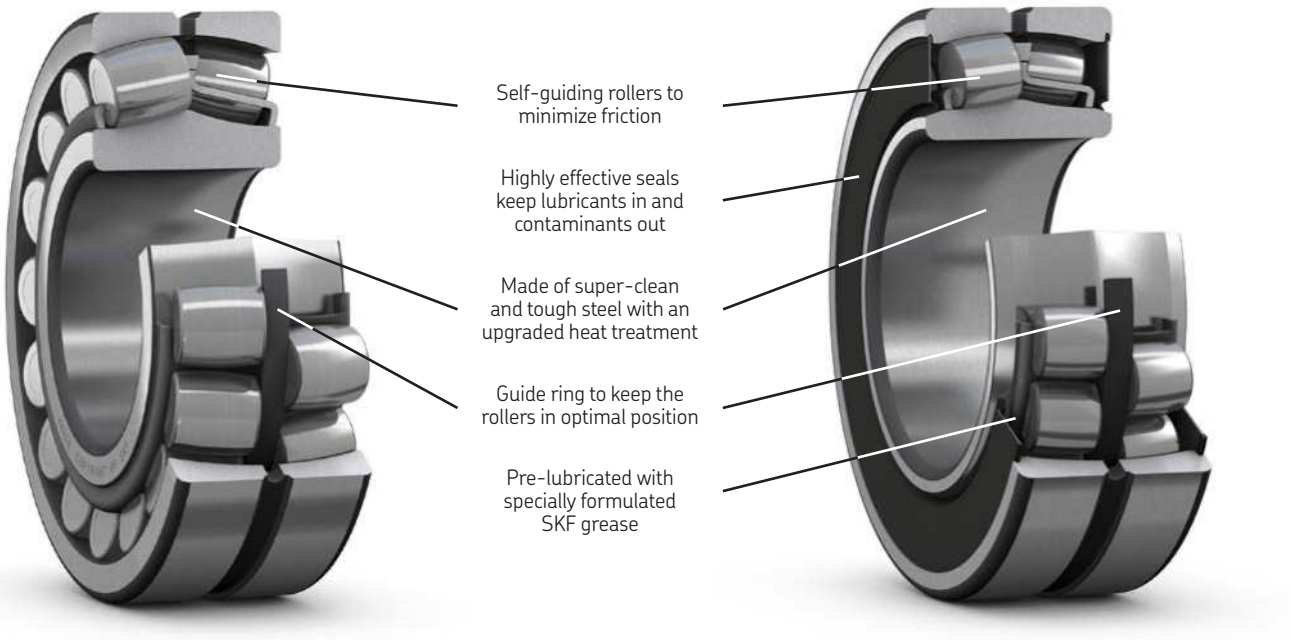
Authenticating SKF bearings is very important and with the service SKF provide,s it is now easier than ever.

Material handling customer, South Africa

Proven bearing technology

Open spherical roller bearing

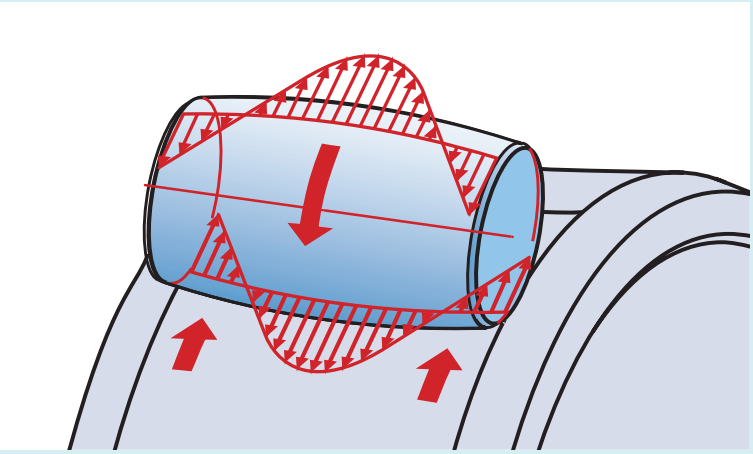
Sealed spherical roller bearing



You choose spherical roller bearings to handle heavy loads, misalignment, and shaft deflections. By selecting SKF Explorer spherical roller bearings, you make sure you don't have to make a new choice soon.

The patented SKF Xbite-II steel rings we use within the range use a heat treatment process that provides up to 3x better wear and contamination resistance than standard bainite steel, reducing the rate of early failures. Spherical roller bearings using this heat treatment have the marking "WR" on the outer ring.

SKF Xbite-II steel also gives the bearing rings excellent crack resistance. This means it takes longer for minor faults to turn into big problems, so you can replace your bearings at your next planned stop instead of shutting down the machines you need up and running.



The rollers are self-guided by a design principle that results in excellent friction control.

Excellent friction control

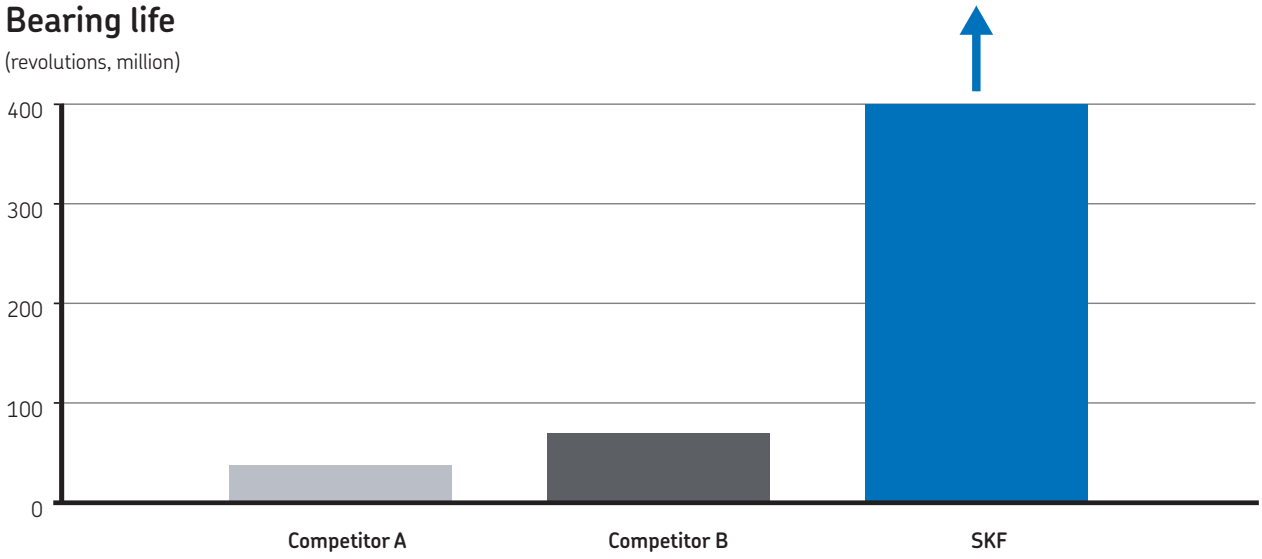
SKF Explorer spherical roller bearings run with lower friction than competitor bearings (see next page). The rollers are self-guided by a design principle that results in excellent friction control. This can mean that your machine runs more efficiently and that you don't need to relubricate as often.

Test results that speak for themselves

We have tested spherical roller bearings from different suppliers to see how long they last. When we compare the results from those tests, the outstanding reliability of the SKF Explorer spherical roller bearings becomes evident. After 400 million revolutions, the SKF bearings were still running, and the test was discontinued without the SKF Explorer having reached its maximum service life.

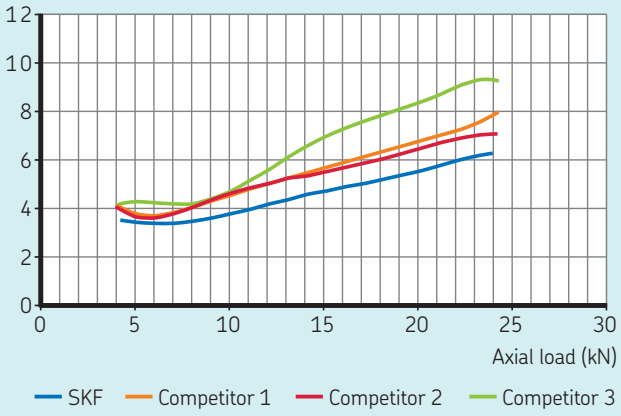
Bearing life

(revolutions, million)



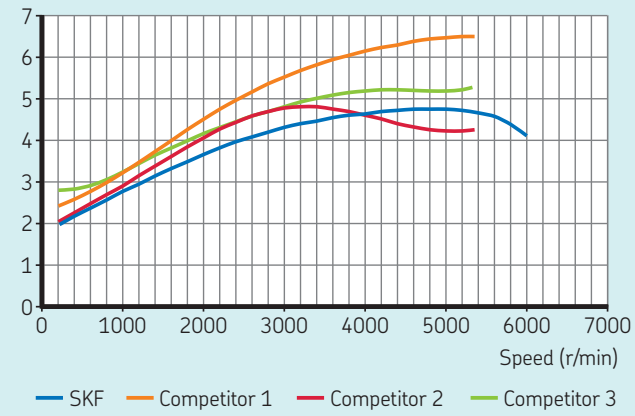
Test conditions
Oil-lubricated 22220 from SKF and competitor bearings of same size
Fr=140 kN, n=1500-2000 r/min, self-induced temperature based on running conditions (uncontrolled)

Friction (Nm)



Test conditions
Oil-lubricated 22220 E from SKF and competitor bearings of same size after running in Fr=42.5 kN, n=2000 r/min, 60 °C

Friction (Nm)



Test conditions
Oil-lubricated 22220 E from SKF and competitor bearings of same size after running in Fr=42.5 kN, Fa=4.25 kN, 60 °C

Seals that push reliability even further

Choosing a sealed SKF Explorer spherical roller bearing can improve reliability and increase bearing service life. It dramatically reduces your overall cost of purchasing and maintaining bearings and helps keep your machine up and running until your next maintenance stop. In contaminated environments, the service life of a sealed bearing is at least three times that of an open bearing.

The almost non-existent grease leakage means that sealed SKF Explorer spherical roller bearings also reduce your environmental footprint and minimise the costs for grease purchase and disposal.

The benefits in numbers

Get 3x
service life

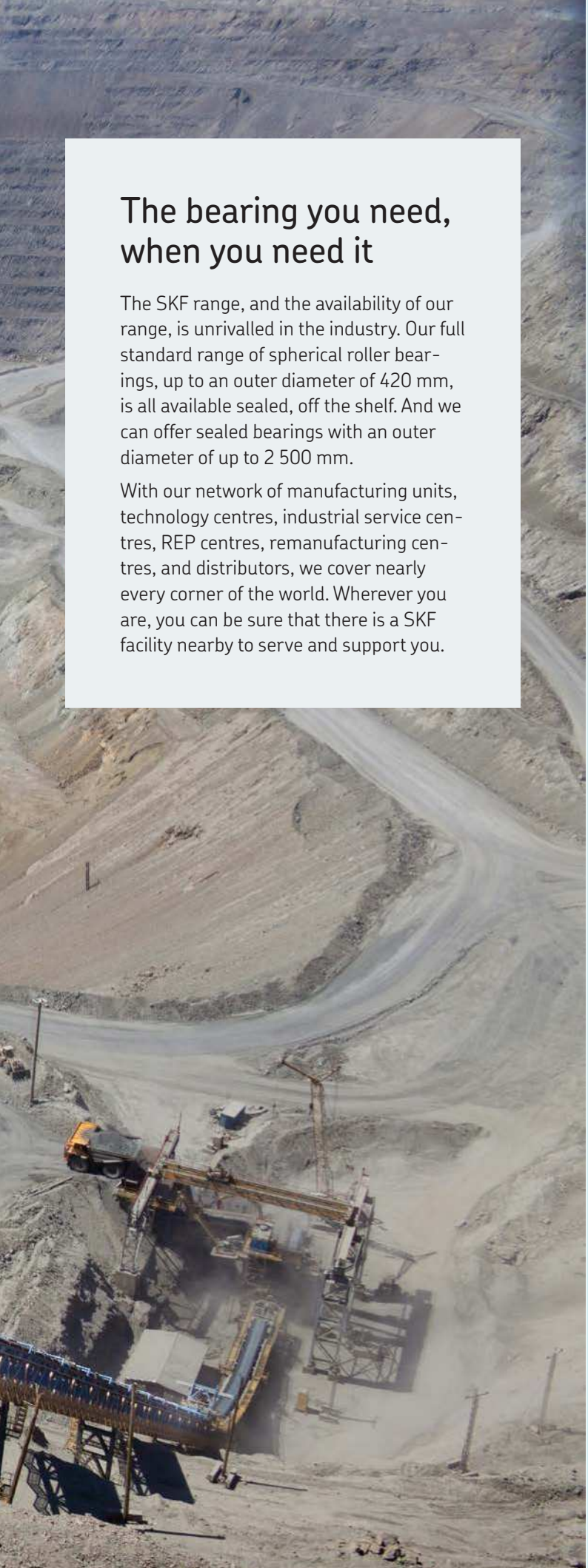
- Increased availability of machines
- Reduced risk of failure
- Lower overall bearing purchase cost
- Operate until planned maintenance stop

Cut 99%
of grease consumption

- Minimized purchase and disposal costs
- Reduced grease leakage
- Reduced overall environmental impact

Cut 90%
of relubrication tasks from your calendar

- Reduced maintenance needs
- Reduced risk of injury
- Possibility to optimize manpower



The bearing you need, when you need it

The SKF range, and the availability of our range, is unrivalled in the industry. Our full standard range of spherical roller bearings, up to an outer diameter of 420 mm, is all available sealed, off the shelf. And we can offer sealed bearings with an outer diameter of up to 2 500 mm.

With our network of manufacturing units, technology centres, industrial service centres, REP centres, remanufacturing centres, and distributors, we cover nearly every corner of the world. Wherever you are, you can be sure that there is a SKF facility nearby to serve and support you.

Sealed SKF Explorer spherical roller bearing range

Bore (mm)	Series 222	223	230	231	232	239	240	241	Bore dim.
25	↔ RS								05
30	↔ RS								06
35	↔ RS								07
40	↔ RS	↔ RS							08
45	↔ RS	↔ RS							09
50	↔ RS	↔ RS							10
55	↔ RS	↔ RS							11
60	↔ RS	↔ RS							12
65	↔ RS	↔ RS					RS		13
70	↔ RS	↔ RS							14
75	↔ RS	↔ RS					RS		15
80	↔ RS	↔ RS							16
85	↔ RS	↔ RS							17
90	↔ RS	↔ RS			RS				18
95	↔ RS	↔ RS							19
100	↔ RS	↔		RS	RS		RS	RS	20
110	↔ RS	↔	RS				RS		22
120	↔ RS		RS						24
130	↔								26
140									28
150									30
160									32
170									34
180									36
190									38
200									40
220									44
240									48
260									52
280									56
300									60
320									64
340									68
360									72
380									76
400									80
420									84
440									88
460									92
480									96
500									/500
530									/530
560									/560
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670									/670
710									/710
750									/750
800									/800
850									/850
900									/900
950									/950
1 000									/1 000
1 060									/1 060
1 120									/1 120
1 180									/1 180
1 250									/1 250

↔ = Wider than ISO - Prefix BS2 **RS** = Seal with designation suffix RS

□ = Please contact your SKF representative to request this size.

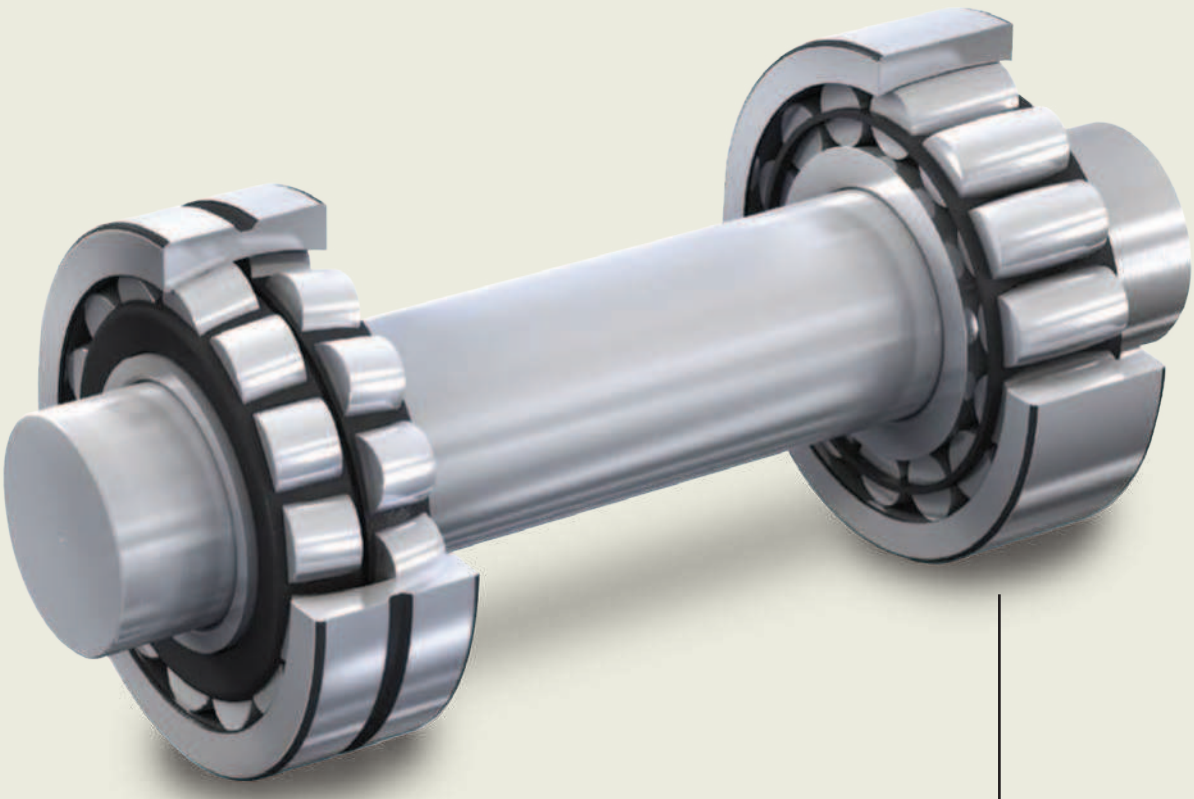
Add CARB for outstanding reliability

Do you have two spherical roller bearings in your arrangement: one keeping the shaft in place and another sliding in its housing?

This usually works well, but if the shaft heats up too much, it expands and forces the bearings apart. The heat, vibration, and extra loads can corrode and wear out your bearings.

Swap out one of the bearings with a CARB toroidal roller bearing instead. CARB is unlike any other bearing: It is excellent at managing heavy loads and misalignment without increased stress levels and allows the shaft to expand freely with virtually no friction.

This means longer life, more uptime, and less maintenance for your business.



SKF Explorer spherical roller bearing in the locating position

CARB toroidal roller bearing in the non-locating position

- Interchangeable with a spherical roller bearing
- Fits in standard housings

Supporting your sustainability goals

An SKF bearing first and foremost reduces friction. Over the lifetime of a machine or an application, this is how SKF contributes the most to lowering CO_2 emissions. But we contribute at every stage during the lifecycle of the bearing, starting with our sourcing and manufacturing. To that end, we aim to decarbonize all of our operations by 2030, and to have net zero emissions throughout the supply chain by 2050.

Sealing and lubricating

Sealed bearings run longer, reducing bearing waste and minimising grease leakage and grease waste.

Installation

Properly mounted bearings run longer, reducing CO_2 and bearing waste.

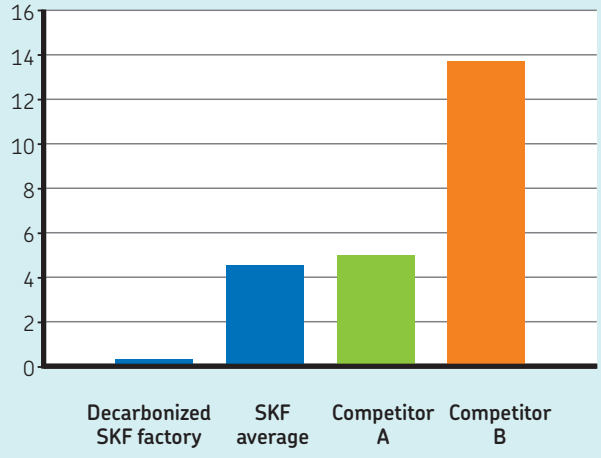
Monitoring and maintaining

Condition-based maintenance helps you act quickly to keep your bearings running longer, which means less CO_2 and less waste.

Reusing and recycling

Compared to new bearings, remanufacturing reduces the carbon footprint by up to 90%, consumes up to 90% less energy, and keeps bearing waste to an absolute minimum.

Scope 1 and 2: Tonnes CO_2 equivalent per million SEK of sales in 2021



You can read more about our 2030 and 2050 sustainability goals on skf.com/sustainability.

skf.com

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