SKF

SKF DEEP GROOVE BALL BEARINGS FOR HIGHLY CONTAMINATED ENVIRONMENTS

A robust solution supporting extended machine life in harsh conditions



Contamination causes early bearing failure



Contamination, particularly dirt and debris, poses a significant threat to bearings with- out proper defensive specifications. These precision components operate with different radial clearances, and the presence of foreign particles can cause abrasive wear, increased friction, and accelerated damage.

Similarly, frequent washing of machinery can force contaminants into the bearing assembly, displacing lubricating grease and leading to corrosion. To mitigate these risks, expertly engineered bearing designs complete with robust sealing systems and other protective measures are crucial. Only this way can operators maintain a clean environment within the bearing assembly and help prolong optimal performance.

For that reason, we are introducing the SKF Deep groove ball bearing for highly contaminated environments. A part of our SKF Explorer range, this solution complements a large variety of equipment, for example:

- Lawn and garden equipment – domestic (including robotic lawn mowers) and industrial
- Combine harvesters
- Tracks for off-highway and snowmobile vehicles
- Light excavators
- Light conveyors

3X

service life compared with the competition*

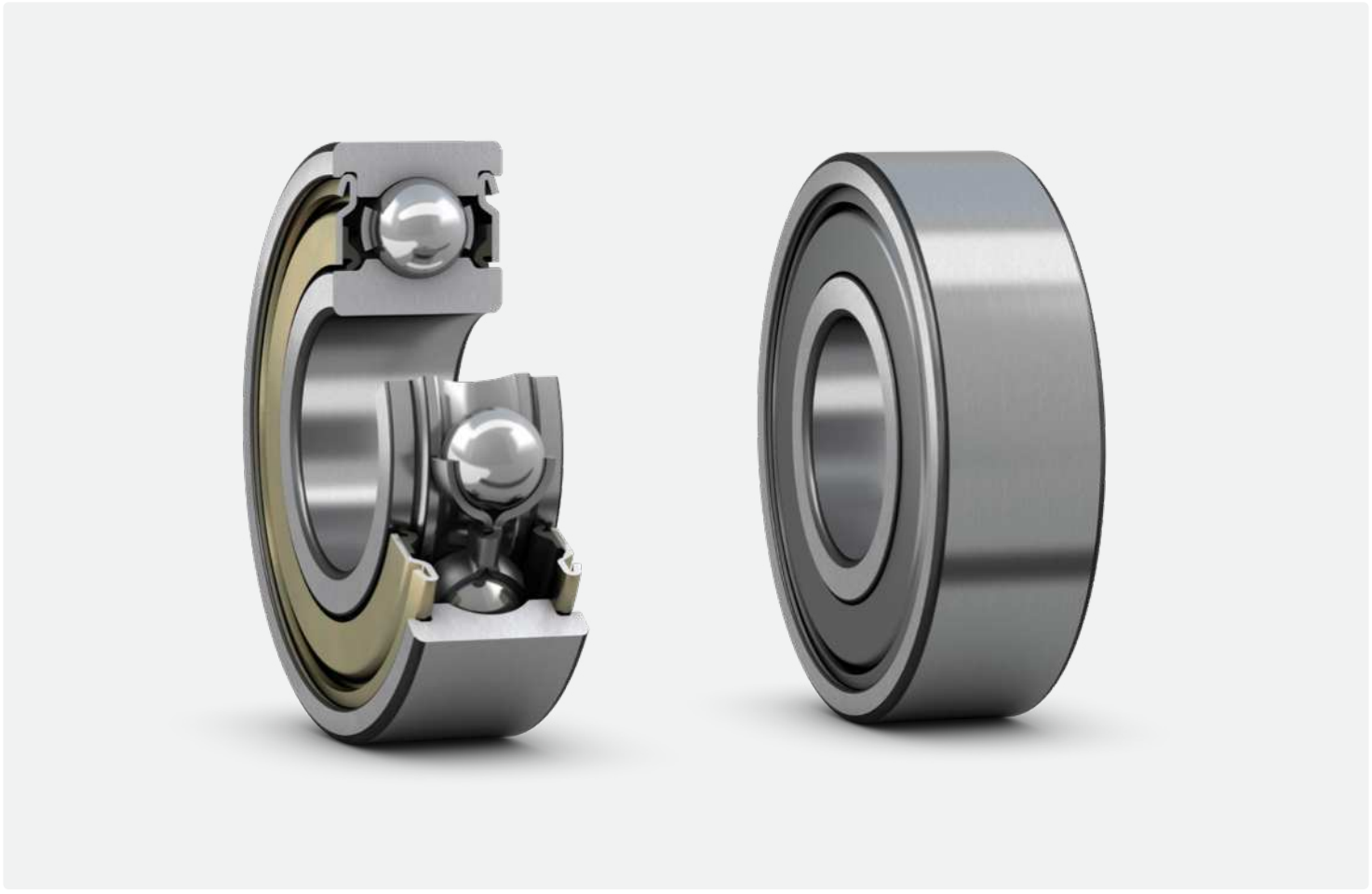
* More information on test performance available on page 6



Part of the

SKF EXPLORER

performance range



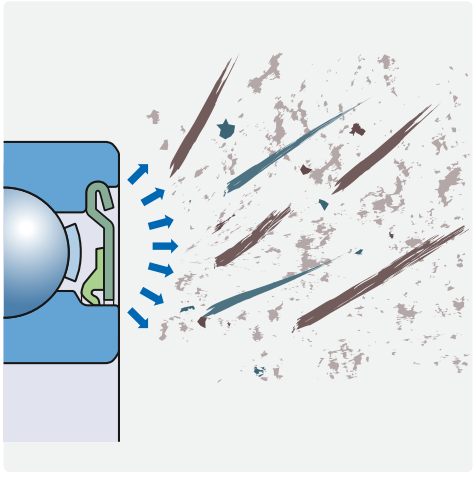
Get much more out of your operation

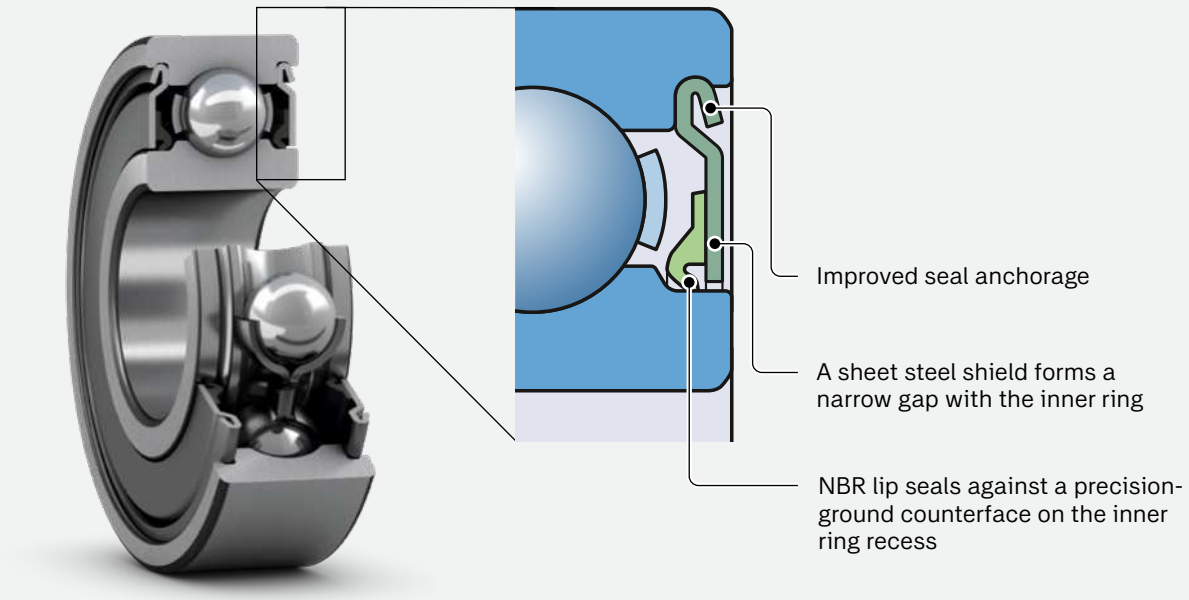
Thanks largely to an optimized sealing solution, this deep groove ball bearing is designed to meet the demands of high-contamination environments and provides enhanced protection for your machinery.



Keep out contamination

The RSF seal used in this product is specifically designed to excel in challenging industrial conditions where contamination is a concern. It helps provide a robust defense against dust, dirt, moisture, and other harmful particles. Crafted from premium nitrile rubber (NBR), the RSF seal exhibits great resistance to wear, tear, and contamination from solid materials. This high-quality material composition supports prolonged performance and durability, even in the most demanding applications.





SKF Deep groove ball bearings
for highly contaminated environments
equipped with RSF seal

The seal's contact surface is meticulously grounded with a precise fit. With this strong seal, the risk of contamination ingress and water damage from frequent pressure washing are minimized, helping further fortify your equipment. Combining the advantages of a non-contact steel shield and a vulcanized seal lip, the RSF seal offers an optimized design. It effectively prevents contaminants from entering while maintaining a reasonable level of friction and heat generation. The seal is compatible with premium polyurea thickener greases, which are capable of contending with high and low temperatures.



SKF Deep groove ball bearings for
highly contaminated environments
equipped with RSF/AG seal

RSF/AG seal
To enhance the product range, SKF introduces the RSF/AG seal variant, engineered for superior performance in humid and wet environments. Rigorous testing in a water condensation chamber, following ISO 6270-2017, shows that the RSF/AG seal remains intact, without any corrosion marks, even after 360 hours of testing. The better corrosion resistance of the RSF/AG seal can contribute to longer bearing service life in contaminated humid environments.

This seal is identified by the suffix AG in the product tables page 6. For further details, visit skf.com or contact your SKF representative.

Designed to go the distance

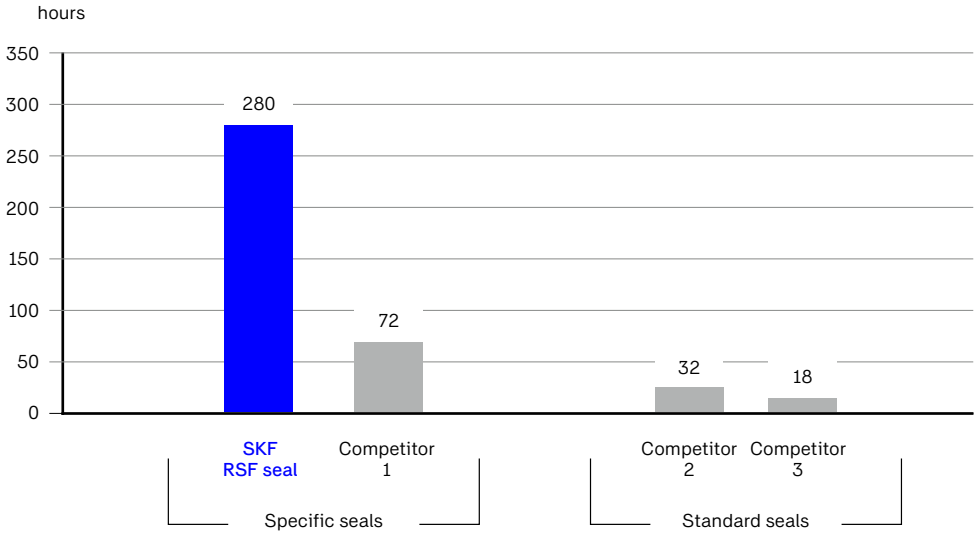


Whether out in the field or on the factory floor, poorly selected bearing and sealing solutions can lead to several costly problems, such as unplanned downtime and lost productivity. Failure of critical process machinery is expensive and can lead to high costs due to lost production. SKF Deep groove ball bearings for highly contaminated environments are rigorously tested alongside competitor solutions to help you meet your productivity targets.

Three times tougher
Mud slurry testing accelerates the effects that contaminants and debris have on a bearing. To achieve a valid test result, bearings are partially submerged in a mixture of abrasive test dust, water, and fertilizer – simulating high-contamination operating conditions.

The results of the mud slurry test demonstrate that the range of SKF Deep groove ball bearings for highly contaminated environments performed for at least three times longer than the main competitor bearings available on the market for contaminated environments.

Seal performance comparison in mud slurry test



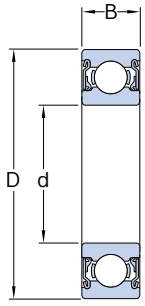
Mud slurry testing conditions
Internal test done by SKF. Bearings submerged in a mixture of Arizona Coarse test dust ISO 12103-1 A4 with fertilizer and calcium chloride.



In summary

- High protection against fluid and solid contamination
- Extended grease life and good retention
- Longer seal and seal lip life
- Sustained seal integrity against impact on seal
- Increased equipment life under normal operating conditions
- Fully interchangeable with standard bearing arrangement
- Lower total cost of ownership
- Reduced maintenance and machine downtime

SKF Deep groove ball bearings for highly contaminated environments
d 17–40 mm



Principal dimensions			Basic load ratings		Fatigue load limit	Limiting speed	Mass	Designation
d	D	B	dynamic	static				
mm			kN		kN	r/min	kg	-
17	40	12	9.95	4.75	0.2	4 000	0.069	6203-2RSF/C3GJN4
	40	12	9.95	4.75	0.2	4 000	0.069	6203-2RSF/C3GJN4/AG*
	40	12	9.95	4.75	0.2	4 000	0.069	6203-2RSF/C3GJN7
	40	12	9.95	4.75	0.2	4 000	0.069	6203-2RSF/C3GJN7/AG*
20	42	12	9.95	5	0.212	4 000	0.072	6004-2RSF/C3GJN7
	47	14	13.5	6.55	0.28	4 000	0.11	6204-2RSF/C3GJN7
	47	14	13.5	6.55	0.28	4 000	0.11	6204-2RSF/C5GJN7
25	52	15	14.8	7.8	0.335	3 700	0.14	6205-2RSF/GJN8
	52	15	14.8	7.8	0.335	3 700	0.14	6205-2RSF/GJN8/AG*
	52	15	14.8	7.8	0.335	3 700	0.14	6205-2RSF/C3GJN7
	52	15	14.8	7.8	0.335	3 700	0.14	6205-2RSF/C3GJN8
	52	15	14.8	7.8	0.335	3 700	0.14	6205-2RSF/C3GJN8/AG*
	52	15	14.8	7.8	0.335	3 700	0.14	6205-2RSF/C4GJN7
	52	15	14.8	7.8	0.335	3 700	0.14	6205-2RSF/C4GJN7/AG*
	62	17	23.4	11.6	0.49	3 700	0.24	6305-2RSF/C3GJN7
	62	17	23.4	11.6	0.49	3 700	0.24	6305-2RSF/C5GJN7
30	55	13	13.8	8.3	0.355	3 500	0.12	6006-2RSF/GJN
	62	16	20.3	11.2	0.475	3 500	0.21	6206-2RSF/GJN7
	62	16	20.3	11.2	0.475	3 500	0.21	6206-2RSF/GJN7/AG*
	62	16	20.3	11.2	0.475	3 500	0.21	6206-2RSF/C3GJN7
	62	16	20.3	11.2	0.475	3 500	0.21	6206-2RSF/C3GJN7/AG*
	62	16	20.3	11.2	0.475	3 500	0.21	6206-2RSF/C3GJN8
	62	16	20.3	11.2	0.475	3 500	0.21	6206-2RSF/C3GJN8/AG*
	62	16	20.3	11.2	0.475	3 500	0.21	6206-2RSF/C4GJN7
	62	16	20.3	11.2	0.475	3 500	0.21	6206-2RSF/C4GJN7/AG*
	72	19	29.6	16	0.67	3 500	0.37	6306-2RSF/C3GJN8
35	62	14	16.8	10.2	0.44	3 000	0.16	6007-2RSFTN9/C3GJN
	72	17	27	15.3	0.655	3 000	0.3	6207-2RSF/C3GJN7
	72	17	27	15.3	0.655	3 000	0.3	6207-2RSF/C4GJN7
40	68	15	17.8	11	0.49	3 000	0.2	6008-2RSF/C3GJN

* The suffix AG refers to bearings equipped with a specific bonded seal with higher corrosion resistance in harsh and humid environments.
Please visit skf.com for more information or contact your SKF representative

At your side in the hour of need



Supporting our customers requires more than just providing a good product. Machine operators, service companies, and OEMs can all optimize the safety, reliability, and profitability of their operations through a range of useful services and tools.

If you are in need of reliable and efficient engineering tools to enhance your bearing selection, interchange, mounting, and more – we can provide your ideal solution. Similarly, our technical expert network is always on hand to support you through your engineering challenges.



SKF's global distribution network – always close to you

Finding replacement parts can sometimes be a challenge. SKF is well positioned to bring you the right support and the right parts, no matter where your application is based. We have 17,000 distribution locations in 129 countries around the globe.

Get in touch

Any questions? If so, we invite you to get in touch with one of our experts.

skf.com/group/support/contact

skf.com

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