



SEALING SOLUTIONS FOR OFF-HIGHWAY EQUIPMENT

Make the difference to business
performance

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SKF seals are also on the job

Engineered for every off-highway equipment challenge

Backed by more than 100 years of rotating machinery expertise, SKF is synonymous with the highest quality bearings. But we also supply the world's major industries with seals for rotating, reciprocating, static and other applications.

As the only major bearing supplier with seal manufacturing capabilities, SKF can support off-highway machine OEMs and end-users alike, with standard and customized seals —offering the convenience and efficiency of a single source for high-performance specialized industrial solutions. Applying both moulded and machined seal expertise, we offer everything from design and development to serial production and service parts.

Worldwide, SKF seals are at work in a range of off-highway industries and machines, including:

- Construction
- Agriculture
- Forestry
- Tunnel boring
- Fork lift trucks
- Utility vehicles

Optimized for your application

For off-highway sealing applications, operating forces and temperatures, combined with mud, moisture and other harsh elements, can greatly impact seal lifecycle and performance. Seal material and design can therefore mean the difference between poor, adequate or exceptional performance. SKF can help you make all the right choices.

We offer standard and customized seals in a wide range of materials. SKF can also work with you to evaluate sealing performance on your test rigs, or on our own testing equipment, including 3-D modelling and simulation software. Whether you need to improve an existing seal or create a new one, SKF sealing solutions can help deliver:

- Greater reliability
- Increased productivity
- Reduced maintenance
- Improved safety
- Longer service life
- Reduced TCO
- Lower warranty costs



Off-highway sealing solutions for a widerange of applications

Engines



Spring Loaded FKM Seals

This industry-standard FKM seal with spring-loaded lip ensures consistent shaft contact, oil retention, and contaminant protection. It offers excellent reliability, fluid resistance, and long-lasting performance across wide conditions..



SKF Rotostat integrated crankshaft seals

With dynamic and static seals bonded directly to a carrier or retainer, SKF Roto-stat seals reduce leak paths by 50% while allowing the integration of an engine management sensor and trigger wheels.



Standard and High-pressure Valve Stem Seals

Offering consistent oil metering for optimum valve lubrication and minimum engine emissions, SKF valve stem seals are available for diesel and gasoline engines, in standard and high-pressure designs.



Axial Cassette Seals

Durable cassette seals with hydrodynamic and spring-loaded design offer superior contamination protection, high-temperature FKM material, easy installation, and excellent performance under misalignment, run-out, and harsh conditions.



PTFE Seals

Advanced seals offer chemical resistance, low friction, and high-temperature performance. For crankshafts in muddy off-highway use, PTFE cassette seals with axial dust lips provide superior protection and easier installation.



Chassis and Suspension



Gas Spring Seals

Featuring a bonded metal insert to support the sealing lips, SKF gas spring seals can help maintain pressures of up to 200 bar within the spring, while providing low friction and break-away force.



Shock Absorber Seals

A heavy gauge metal insert allows the shock absorber tube to be assembled over the seal in several ways, while a static gas-ket provides a leak-tight seal between tube wall and bushing.



Power Steering Column

Radial shaft seals ensure reliable sealing in systems like power steering columns, offering robust design, chemical-resistant materials, superior pump rate, and adaptive coatings—meeting global standards for performance and durability.

Drivelines and undercarriages

Axles



Kingpin seals

Part of a combined offer that includes a self-lubricating spherical plain bearing, PTFE-coated kingpin seals from SKF eliminate the need for frequent lubrication of the steering axle kingpin and make it possible to include steering system sensors.



Combi Seals

Combi seals for half transmissions and pinions handle axial play up to 12 mm. Featuring multiple lips, PU wipers, and NBR/FKM materials, they ensure robust, reliable sealing performance.



Springless Grease Seals

Used primarily for grease-lubricated radial shafts in agricultural machinery operating at low speeds, SKF's offer includes a wide range of designs. All are generally installed with the sealing lip(s) facing outward for optimum contaminant exclusion.



SKF Mudblock Seals

Engineered for off-highway wheel ends and planetary gearboxes, SKF Mudblock seals provide exceptional protection in oil or grease applications. Their multi-lip design, integrated wear sleeve, and high-performance elastomeric materials ensure superior resistance to contaminants and extended service life. Available in both standard and high-speed versions, they meet the demands of higher vehicle speeds and lower friction—ideal for today's most challenging environments.



Pinion Seal

SKF offers a range of pinion seal designs tailored to diverse operating conditions. Depending on application needs, solutions include the high-speed Mudblock seal, the previously described Combi seal, and more complex unitized designs. In many cases, a cassette-style Mudblock seal is preferred, as it ensures the sealing lip runs on a controlled surface provided by SKF—minimizing dirt ingress and enhancing durability.



Transmissions



Input and Output Shaft Seals

Suitable for several transmission input and output shaft applications, SKF radial shaft seals are available in an extensive range of designs and materials.

Bonded Piston Seals

SKF bonded piston seals integrate pressure-activated lips with metal cores, replacing aluminum pistons and loose seals for lower costs and longer life.

Undercarriage



SKF Trackstar Seal

SKF Trackstar seals for oil-lubricated track pins feature polyurethane rings, nitrile energizers, and optional metal reinforcement—reducing wear, contamination, and costs in standard and heavy-duty dozer applications.



Metal Face Seals

Designed for severe service conditions at relatively low circumferential speeds, SKF metal face seals offer reliable protection against solid and liquid contaminants and leak-proof retention of lubricants.

Off-Highway applications

Whether in agriculture, construction, forestry, mining, or material handling, SKF Seals ensure robust exclusion of external contaminants such as mud, dust, wood debris, and abrasive particles, while maintaining reliable retention of lubricants and resistance to aggressive hydraulic fluids, greases, and fuels.

SKF Off-highway Seals are designed to deliver optimal performance across the entire range of mobile machinery systems.

They support all key applications, including:

- Engine
- Gearbox
- Power Take-Off
- Axle and Wheel end
- Undercarriage
- Hydraulic Cylinders
- Attachments



Gearbox Seals

- Rubber-metal outer diameter
- Rubber outer diameter

Axle and Wheel end seals

- Mudblock seals
- Combi seals
- Pinion seals
- Kingpin seal

Hydraulic seals

- Rod seals
- Piston seals
- Wiper seals
- Guides

Undercarriage seals

- Trackpin seals
- Metallface seal

Engine seals

- Spring Loaded FKM seals
- SKF Rotostat integrated crankshaft seals
- Axial cassette seals
- Standard and high-pressure valve stem seal
- PTFE seal

Other seals and machine attachments



SKF Agri Hub
The SKF Agri Hub is a fully integrated hub bearing system, greased and sealed for life, using an SKF Mudblock design as the main seal. The seal is tested and validated to provide excellent grease retention and contaminant exclusion



Hydraulic rock hammers sealing solutions
Hydraulic rock hammers require hydraulic reciprocating seals that can handle short strokes and extremely high velocities. SKF offers a range of them, including seals fabricated from high-temperature polyurethane and bonded to a low-friction PTFE anti-extrusion ring for longer service life and less maintenance.



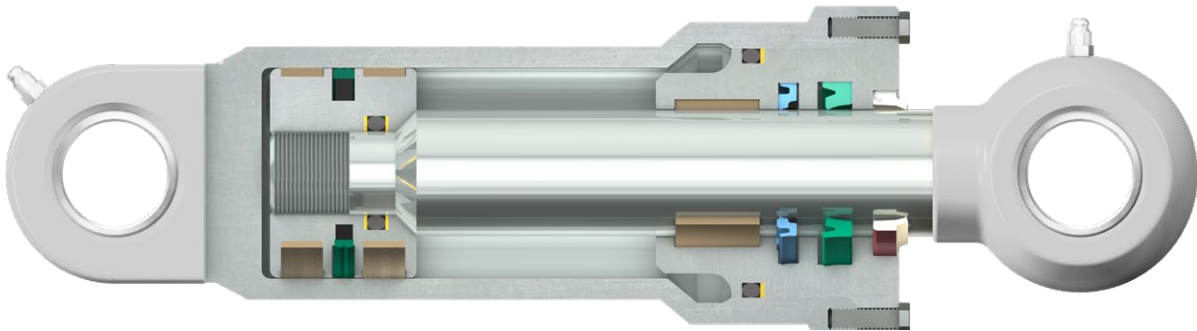
SKF Speedi-Sleeve
Able to solve the problem of worn transmission or axle shaft ends in minutes, SKF Speedi-Sleeve is a thin-walled sleeve that is pushed into position on the worn area. This simple yet effective solution provides a new sealing surface – without costly shaft disassembly, grinding or the need to change seal sizes.



V-ring
SKF V-rings serve as excluders, labyrinth, or secondary seals with axial lip contact. Easy to install, they come in five designs, NBR/ FKM materials, and sizes up to 2 025 mm.



Hydraulic seals

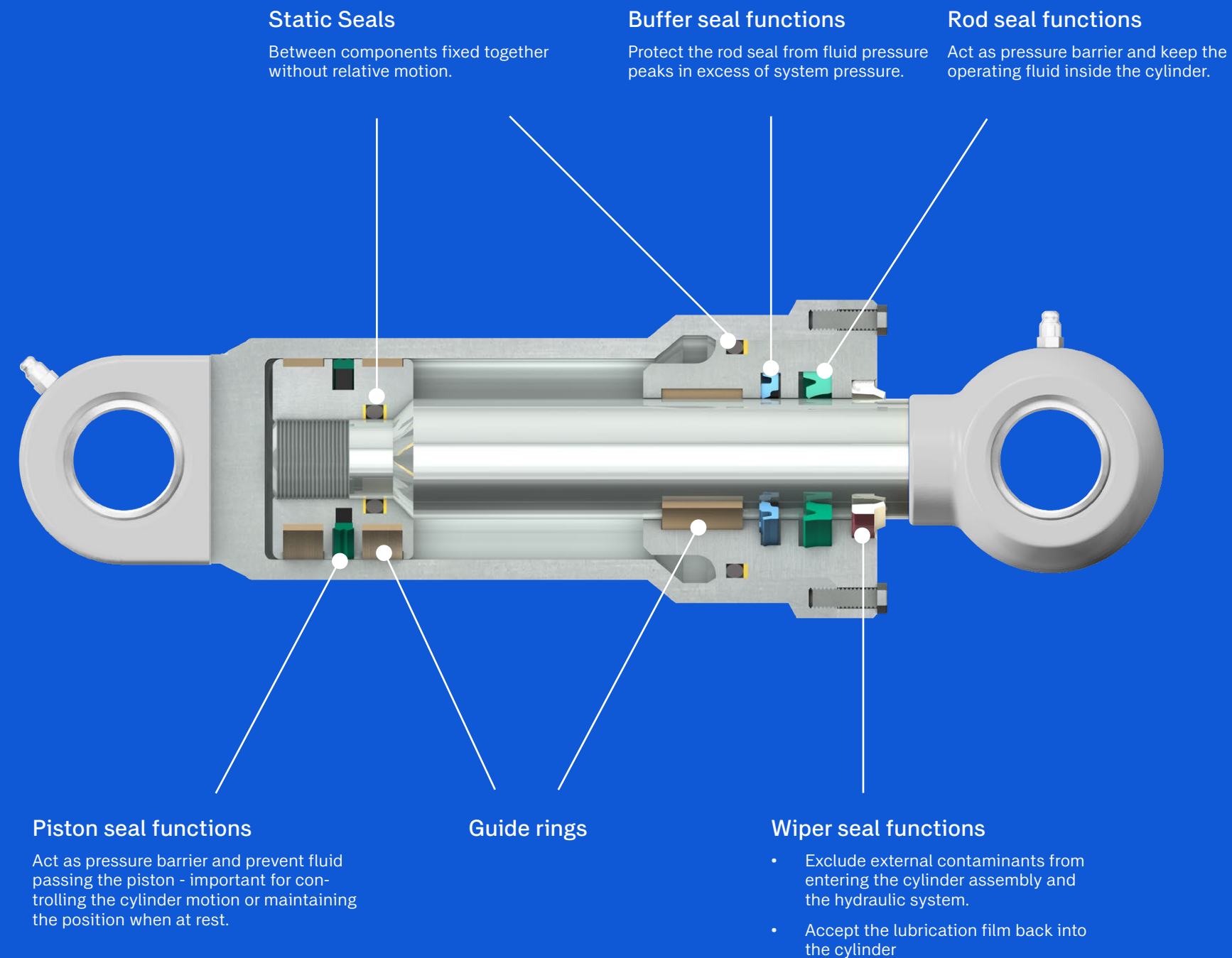


Hydraulic sealing system solutions

Off-highway hydraulic cylinders operate under extreme conditions—high pressures, aggressive fluids, and heavy contamination. SKF offers both standard and customized sealing solutions engineered to meet these demanding requirements. Our comprehensive portfolio includes dynamic seals such as buffer, piston, rod, and wiper seals, as well as static seals and guide rings. Together, they form a fully optimized sealing system that enhances performance, reliability, and service life.

Hydraulic sealing system

- Buffer and rod sealing system
- Piston sealing system
- Hydraulic guides



SKF – a global development partner



Manufacturing

The SKF seal manufacturing footprint extends across North America, Europe and Asia. Whether you require a large volume or a single seal, SKF can manufacture a range of standard or customized seals at sites worldwide. In addition to our extensive moulded seal manufacturing capabilities, we offer on-demand machined seal production services. Our innovative SKF SEAL JET concept custom machines polymer seals quickly, allowing fast, flexible production of prototypes, low-volume series or replacement seals, with no tooling costs.



Testing

At locations in North America, Europe and Asia, SKF testing facilities are equipped to fully validate seal function and performance. Advanced testing performed with 3-D modelling and simulation software is available, including key life testing that uses test profiles and operating conditions from real applications. SKF also conducts physical performance trials on our own sealing modules, as well as customer components and assemblies.



Application engineering

Expert SKF application engineers are available worldwide to assist with product development projects at every stage. Following a detailed analysis of operational requirements, our engineers use an extensive application database to find a suitable sealing solution. Alternatively, SKF can engineer customized seals for any off-highway machine application.

