Shell PANOLIN for mining
Balancing performance and sustainability

Shell PANOLIN

Why

Keeping the world moving
Lubricants play a vital role in keeping our equipment operating efficiently, today and tomorrow.

Increased demand
As the world's needs for mobility, construction and industrial production increase, so too will the demand for lubricants.

Reduced environmental impact
There is a need to balance this increased demand with the environmental impact of lubricants.

Key challenges

Mining faces tough challenges

Balancing output and environmental impact

Prioritising water and soil pollution prevention

Ensuring 24/7 equipment reliability, even in harsh conditions

While considering cost savings and long-term value, reducing risks in sensitive environments

Technology

Shell PANOLIN biodegradable lubricants are designed to provide equipment protection and offer a choice for customers eager to take tangible steps towards sustainability.

The Shell PANOLIN range of high-performance lubricants helps to run equipment without compromise.

More performance, less resources

More regulations, less risk

More productivity, less impact

Shell has developed a wide range of high-performance biodegradable lubricants in collaboration with industry partners, OEMs and customers.

Performance and protection

Shell PANOLIN, our range of biodegradable lubricants: trusted in mining for decades.

- **Biodegradable:**
  A broad choice of readily biodegradable, low-ecotoxicity lubricants and greases, including environmentally acceptable lubricants (EALs) certified by EU Ecolabel.[1,2]

- **Outstanding equipment protection:**
  Biodegradable technology designed to provide excellent equipment protection in harsh conditions.

- **Extended oil life:**
  Shell PANOLIN range helps to run equipment without compromise, especially our S4 and above.[3,4,5]

[1] Our finished lubricants biodegraded by over 60% after 28 days in the OECD 301 B carbon dioxide evolution test and are tested in accordance with OECD 202 to determine toxic potential. Biodegradability and ecotoxicity terminology is defined by ASTM D 6384-99, "Standard Terminology Relating to Biodegradability and Ecotoxicity of Lubricants". [2] Calculation based on volumes sold in 2023 of all 65 products including 25 which hold EU Ecolabel Certifications. [3] The product oil-drain interval and maintenance procedures are influenced by equipment type and operating conditions; results may vary. No guarantees are provided. Follow your equipment manufacturer's recommendations. [4] In comparison with unsaturated-ester-type HEES, Shell PANOLIN S4 HLP Synth fluids were developed to increase the oil life, with an outstanding dry TOST life of over 6,000 hours (modified ASTM D943 test). [5] Oxidation stability tested in accordance with ASTM D2070 and in comparison with unsaturated ester type HEES, particularly on our S4 products.
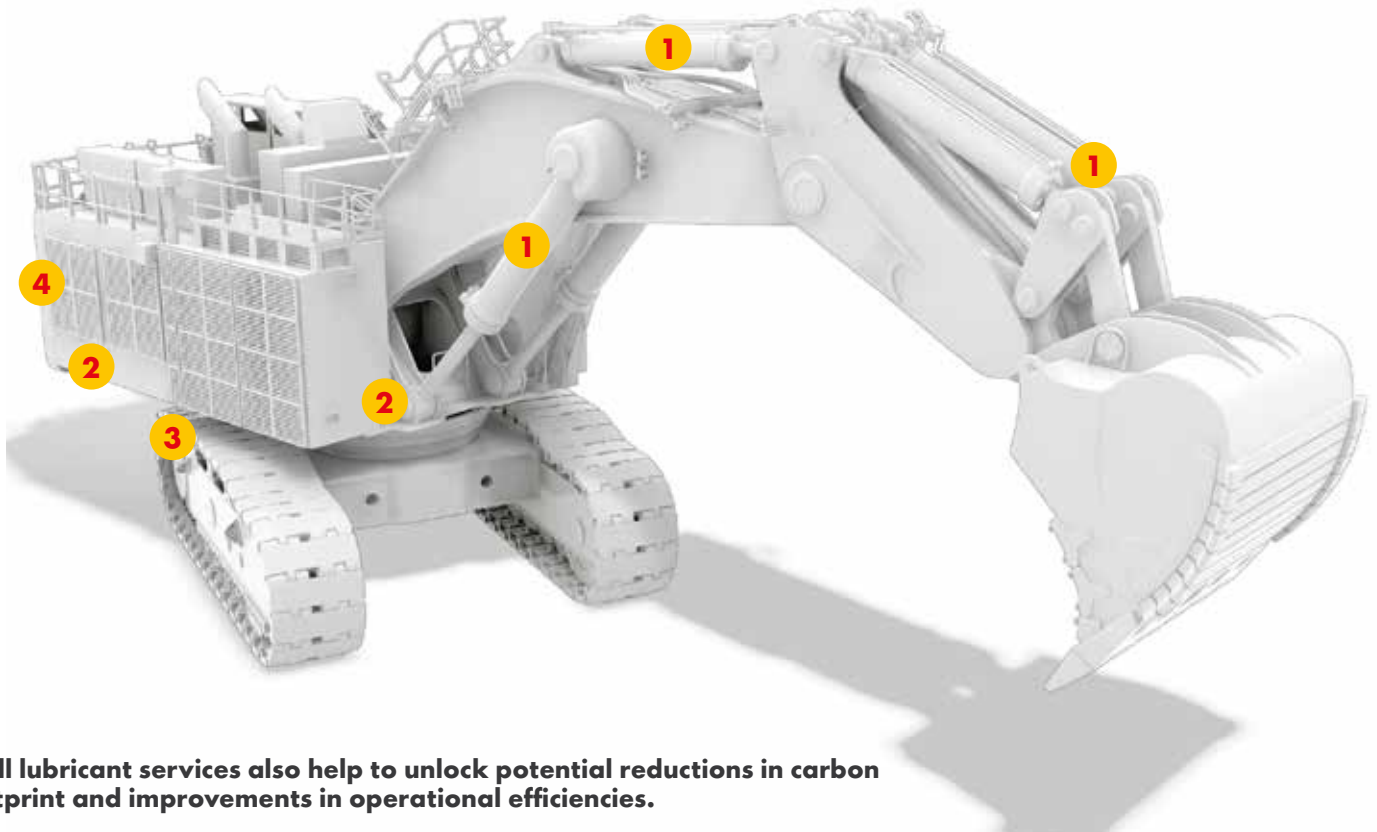
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Application guide

	Component	Shell recommendation
1	Hydraulic systems	Shell PANOLIN S4 HLP Synth (or EAL) 46, 68, 100 Shell PANOLIN S2 Hydraulic DU EAL 46, 68
2	Gears	Shell PANOLIN S4 Gear (or EAL) 150*
	Final drive and axles	Shell PANOLIN S4 Gear RS 80W90
3	Standard bearings	Shell PANOLIN S5 Grease EAL V120P 2
	Pin and bush	Shell PANOLIN S5 Grease EAL V320 2
4	Heavy duty diesel engine	Shell PANOLIN Biomot LX 10W-40

Product recommendations are typical examples only. Always check the manufacturer's manual for the required products and specifications.

Which products should I use?

Reducing the environmental impact of critical operations does not mean that you need to compromise on productivity or protection.

Shell has a broad portfolio of products designed for a wide range of operating conditions and applications; these include lubricants especially suited for environmentally sensitive areas and operations in or near water.

Shell lubricant services also help to unlock potential reductions in carbon footprint and improvements in operational efficiencies.

Services

Shell
Lube Analyst

Oil and equipment monitoring service

Shell
Lube Coach

Lubrication training

Shell
Lube Advisor

Expert advice from the Shell technical team

Shell
Lube Match

Find the right oil for your vehicle or equipment

Find out more by visiting

www.shell.com/business-customers/lubricants-for-business/sector-expertise/mining/product-and-services.html