



## Shell **Morlina S4 B**

Advanced bearing and circulating lubricant based on synthetic technology

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# WORKS HERE

### APPLICATIONS

Shell Morlina S4 B is suitable for applications in a wide range of sectors, including mining, cement, general manufacturing, power, oil, gas, pulp and paper, marine and metals.



### SYNTHETIC TECHNOLOGY FOR BEARING AND CIRCULATION SYSTEMS

Shell Morlina S4 B is a high-performance synthetic bearing and circulating oil that offers excellent lubrication under challenging and variable operating conditions and wide temperature ranges. It can be used across sectors in multiple applications and adds value to your operations through wear protection, long oil life, good filtration properties and energy efficiency.

Shell Morlina S4 B has an excellent load-carrying capacity, which makes it suitable for use in moderately loaded helical and spur gearboxes where non-extreme-pressure oils are required. It offers longer running life without interruptions because of its good filterability in dry and wet conditions. Its filterability, combined with its outstanding hydrolytic stability, makes Shell Morlina S4 B especially suitable for use as a paper machine lubricant.

### SPECIFICATIONS AND APPROVALS

Shell Morlina S4 B meets the requirements of a wide range of industry bodies and equipment manufacturers, including DIN 51517-3 CLP

ISO 12925-1 (Category CKT specification for enclosed gears)

AGMA 9005 for anti-scuff/anti-wear (EP) oils

Emerson Power Transmission

Renold Gears – worm gear reducers

Peerless Winsmith – gear reducers and worm gears

Sharpe Mixers – worm gear reducers

David Brown – gear motors and gear reducers

Cone Drive – worm gear reducers

Formsprag – clutch gears

Aerzener Blowers

Tuthill Vacuum & Blower Systems

Becker Vacuum Pumps

GEA Westfalia Separator

Alfa Laval – separators

Foster Wheeler – bearings in coal pulverisers



#### EXTRA LONG LIFE

**64%** LESS VISCOSITY INCREASE<sup>1</sup>

<sup>1</sup>Compared with an international oil company oil in ASTM D2893 oxidation stability tests at 150°C (a higher temperature than is typically quoted for this test)



#### GEAR PROTECTION

**12+** FZG WEAR PROTECTION, LOAD STAGE



#### ENERGY EFFICIENCY

**3%** IMPROVEMENT IN AVERAGE ENERGY EFFICIENCY<sup>2</sup>

<sup>2</sup>Compared with the previous Shell Morlina S4 B formula in Radicon efficiency tests at 100°C in worm gears

## DESIGNED TO PROTECT FROM WEAR

Shell Morlina S4 B provides excellent protection from wear to give you long machine life. It exceeds the requirements of the FZG wear protection test, and demonstrates 33% better wear performance than the industry standard, as measured in the four-ball weld load test.

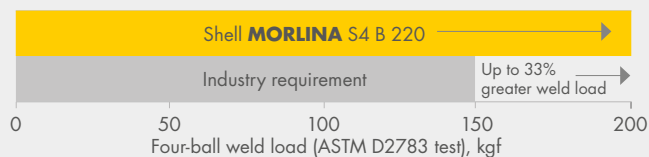
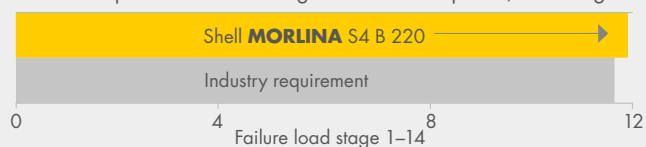
## LONG OIL LIFE

The longer the oil life, the less fluid maintenance is required to help your equipment to operate for longer without interruption. Shell Morlina S4 B offers long oil life in applications that are subject to extreme temperatures and, in industry tests, shows excellent oxidation stability.

## ENHANCING SYSTEM EFFICIENCY

Shell Morlina S4 B has a low traction coefficient, which means lower friction and increased energy efficiency, especially in applications with significant sliding losses such as worm gears. The latest formulation of Shell Morlina S4 B has 3% better efficiency in worm gears compared with the previous product.

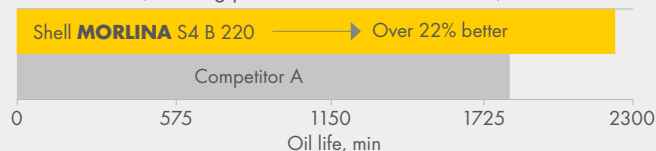
FZG wear protection test at single and double speeds, load stage



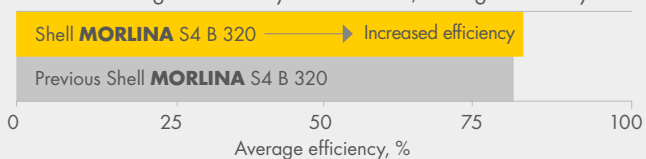
ASTM D2893, oxidation stability at 150°C, % viscosity increase



ASTM D2272, rotating pressure vessel oxidation test, min



Radicon worm gear efficiency test at 100°C, average efficiency %



Source: Shell

## TESTED IN THE FIELD

As well as extensive laboratory tests, Shell Morlina S4 B has also been subjected to a series of demanding field evaluations in the pulp and paper, mining and general manufacturing sectors in applications such as paper machine bearings, vacuum pumps and gearboxes.

Cone Drive, a manufacturer of double-enveloping worm gear technology in the USA, has tested Shell Morlina S4 B and has approved its use in its worm gear sets and reducers. Shell Morlina S4 B demonstrated improved gear efficiency, outperforming the baseline lubricant. At various speeds and load conditions, an average of 1.5% improved energy efficiency was demonstrated.



## FULL PRODUCT AND SERVICE PORTFOLIO

Whatever your needs or application, we can provide a full range of oils and greases, including synthetic, high-performance products and additional services.

Find out more by visiting  
[www.shell.com/lubricants](http://www.shell.com/lubricants)

## CONTACT

Talk to us about the benefits that Shell Morlina oils could have for your business.

