



BAOSTEEL IMPROVES STEEL MILL LUBRICATION BY USING SHELL MORLINA S2 BA*

TOTAL REPORTED ANNUAL CUSTOMER SAVING

US\$53,185



COMPANY: Baosteel Group Corporation

COUNTRY: China

APPLICATION: No-Twist® wire mills

SAVING: US\$53,185 total reported annual customer saving

KEY EDGE: Shell Morlina S2 BA, Shell LubeAdvisor

Steel producer Baosteel Group Corporation in Shanghai, China, was experiencing problems with the lubrication of its high-speed wire rolling mill. The lubricant quality had quickly deteriorated because of cooling water ingress from the seal in the finishing mill block. In addition, the lubricant filters were frequently blocked, which led to reduced filter life and reduced the oil cleanliness grade. Baosteel was also experiencing two bearing failures a year in the rolling mill.

Baosteel asked Shell Lubricants for help in addressing the problems. The Shell product application specialist (PAS) audited the plant, tested samples of the company's existing oil and established that the current lubricant did not meet its requirements. The Shell technical team also provided advice on how to reduce the water ingress, improve seal quality and enhance equipment maintenance. Baosteel's engineers compared the performance of several alternative lubricants and decided to change to Shell Morlina S2 BA 100. The company also took advantage of the Shell LubeAnalyst oil condition monitoring service.

By changing to Shell Morlina S2 BA 100, Baosteel has so far eliminated bearing failures and consequent downtime; improved its lubricant system performance; and extended the oil-drain interval, which has helped to reduce annual lubricant consumption by 20%. These benefits delivered reported savings of US\$53,185 in 2009.



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*Shell Morlina S2 BA 100 is the new name for the Shell lubricant formerly known as Shell Morlina T 100.

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CHALLENGE

At Baosteel's high-speed wire rolling mill, the lubricant quality had quickly deteriorated because of cooling water ingress from the seal in the finishing mill block. The lubricant filters were frequently blocked and Baosteel was also experiencing two bearing failures a year.

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SOLUTION

The Shell PAS audited the plant, tested samples of the company's existing oil and established that the current lubricant did not meet its requirements. The Shell technical team also provided advice on how to reduce the water ingress, improve seal quality and enhance equipment maintenance.

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OUTCOME

After comparing the performance of several alternative lubricants, Baosteel decided to change to Shell Morlina S2 BA 100. The company also took advantage of Shell's oil analysis and reporting system, Shell LubeAnalyst, which enables it to monitor the physical condition of the oil.

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VALUE

Baosteel has so far eliminated bearing failures and consequent downtime; improved its lubricant system performance; and extended the oil-drain interval, which has helped to reduce annual lubricant consumption by 20%. These benefits delivered reported savings of US\$53,185¹ in 2009.

¹The savings indicated are specific to the calculation date and mentioned site. These calculations may vary from site to site, depending on the application, the operating conditions, the current products being used, the condition of the equipment and the maintenance practices.



SHELL MORLINA S2 BA

SPECIAL APPLICATION BEARING AND CIRCULATING OILS

Shell Morlina S2 BA oils are high-performance oils designed to provide outstanding protection for the most challenging industrial bearing and circulating applications such as those found in No-Twist® wire rod mill systems. It meets the requirements of original equipment manufacturers such as Morgan and Danieli.



Applications

- No-Twist® wire rod rolling mill systems. Shell Morlina S2 BA oils meet the demanding requirements for the lubrication of No-Twist® finishing mills where a single lubricant (ISO 100) is required to protect the highly loaded gear box and roller bearings working at high speeds and to work satisfactorily even when contaminated with cooling water and iron oxides from the mill.
- General industrial bearing and circulating systems. Shell Morlina S2 BA oils are also suitable for use in many general industrial lubrication systems where an anti-wear lubricant with mild extreme-pressure (EP) properties is required.
- Enclosed industrial gear systems. Low or moderately loaded enclosed gears where mild EP performance is sufficient.

Performance features and benefits

- Reduces lubricant consumption. Shell Morlina S2 BA has excellent water separation properties, which help to maintain its quality and reduce lubricant consumption.
- Extends oil life – maintenance saving. Shell Morlina S2 BA oils are formulated with a well-proven rust and oxidation inhibitor package that helps to provide consistent performance and protection throughout the maintenance interval.

- Reliable wear and corrosion protection. Shell Morlina S2 BA oils help protect equipment by prolonging the life of bearings and circulating systems through
 - enhanced water separation characteristics, which help to ensure critical oil films are retained between highly loaded parts at high speed in heavily contaminated environments
 - good air release characteristics to minimise cavitation and the associated damage to circulating pumps
 - protection against rusting, oxidation and emulsion formation, even in the presence of water
 - reduced wear of bearings during mill operation.
- Maintains system efficiency. Shell Morlina S2 BA oils are blended with high-quality, solvent-refined base oils that promote good water separation and air release to ensure the efficient lubrication of the machines and systems. Shell Morlina S2 BA oils are also suitable for use with fine filters to help ensure effective, contaminant-free lubrication

Specifications and approvals

Shell Morlina S2 BA oils meet the requirements of Morgan Morgoil® New Oil (Rev. 1.1) and Morgan No-Twist® mill specification MMC 40003; Danieli Standard Oil N Type 2/0.002117.R; SEB 181-226; and DIN 51517-2 type CL and DIN 51517-3 type CLP.

Complementary products

Application	Lubricants
Hydraulic fluids	Shell Tellus S2 M
Gear oils	Shell Omala S2 G
Greases	Shell Gadus S2 V220 2, Shell Gadus S3 V220C 2