



# Shell Morlina S3 BA 220

- Long Oil Life
- Excellent Corrosion Protection
- Outstanding System Efficiency
- Super Demulsibility

## Special Application Bearing & Circulating Oils

Shell Morlina S3 BA oils are premium quality rust & oxidation inhibited lubricating oils providing excellent lubrication in MORGOIL® bearing & steel mill circulating systems. They are designed to have appropriate viscosity/temperature characteristics, low foaming tendencies and excellent water separation properties. In addition, they protect equipment against corrosion and oil oxidation resulting in long service life. Meets the requirements of the Morgan and Danieli for super demulsibility applications.

## DESIGNED TO MEET CHALLENGES

### Performance, Features & Benefits

- **Long oil life – Maintenance saving**

Shell Morlina S3 BA oils are designed to give superior oxidation resistance under high operating temperatures to give extended oil drain capability compared to basic bearing and circulating oils. The excellent thermal and oxidative stability helps reduce the formation of sludge and formation of acidic oxidative by-products. The result is extended oil life, less maintenance and less downtime.

- **Excellent rust & corrosion protection**

Shell Morlina S3 BA oils are formulated with an effective additive package to help prolong the life of bearings and circulating systems through:

Enhanced water separation characteristics that help ensure that critical oil films are retained in systems with high levels of water contamination. Robust protection against corrosion, especially in the presence of water. Good air release characteristics to minimize cavitation in circulating pumps.

- **Enhancing system efficiency**

Shell Morlina S3 BA oils have outstanding demulsibility and allow water to be shed rapidly from the oil. The water then may be removed by drainage or centrifuge from the lubrication system, thus protecting the installation against corrosion, premature wear & failure. The excellent demulsibility also helps minimise the formation of emulsions which reduce filtration effectiveness, restrict circulation & promote bacterial growth. The use of fine filter filtration helps ensure effective contaminant free lubrication to critical machine parts.

### Main Applications



- **MORGOIL® type bearing systems**

Approved for use in Morgoil® type bearing commonly found in steel mill applications. (MORGOIL is a registered trademark of the Morgan Construction Company, now Primetals.)

- **Heavily contaminated lubrication systems**

Shell Morlina S3 BA oils are recommended for circulating oil systems where water contamination is a key issue.

- **Plain and rolling element bearings**

- **Industrial gear boxes**

Enclosed spur, helical, bevel and worm gearboxes where the use of a non-EP rust & oxidation inhibited oil is approved by the equipment manufacturer. A special application is for enclosed light duty load gearboxes such as those in cooling tower gearboxes.

- **Cylinder lubrication for reciprocating Gas Compressors**

### Specifications, Approvals & Recommendations

- Morgan MORGOIL® Lubricant Specification New Oil (Rev. 1.1)
- Morgan MORGOIL® Advanced Lubricant New Oil (Rev. 2.5)
- DIN 51517-1,2 - Type C, CL
- ISO 12925-1 Type CKB
- AGMA 9005 for inhibited (R&O) Oils
- Danieli Standard Oil 6.124249F
- Danieli Super Demulsibility Oil 6.124249F

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

## Compatibility & Miscibility

- **Paint Compatibility**

Shell Morlina S3 BA Oils are compatible with seal materials and paints normally specified for use with mineral oils.

## Typical Physical Characteristics

Properties			Method	Shell Morlina S3 BA 220
Density	@15°C	kg/m <sup>3</sup>	ASTM D1298	880
Kinematic Viscosity	@40°C	cSt	ASTM D445	220
Kinematic Viscosity	@100°C	cSt	ASTM D445	19
Viscosity Index			ASTM D2270	95
Colour			ASTM D1500	3
Pour Point		°C	ASTM D5950	-12
Flash Point (COC)		°C	ASTM D92	265
Acid Number		mg KOH/g	ASTM D974	0.07
Cu Corrosion, 3 hrs	@100°C		ASTM D130	1b
Rust, Synthetic Sea Water			ASTM D665B	Pass
Demulsibility (time to no more than 3 ml emulsion)	@54°C	minutes	ASTM D1401	20
Demulsibility (ml of free water before centrifuging)	@52°C		ASTM D2711	38
Dynamic Demulsibility Endurance			Clark Labs, USA	
Water in Oil, %				1
Oil in Water, %				0
Foam Test, Sequence II		ml foam at 0/10 minutes	ASTM D892	0/0
Oxidation Control Test : TOST		hours	ASTM D943	1000+
Oxidation Control Test : RPVOT		minutes	ASTM D2272	500
ANSI/AGMA Lubricant NO. 9005-D94				5

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

## Health, Safety & Environment

- Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from <http://www.epc.shell.com/>

- **Protect the Environment**

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

## Additional Information

- **Advice**

Advice on applications not covered here may be obtained from your Shell representative.