



Previous Name: Shell Morlina SD

Shell Morlina S3 BA 220

- Extra Protection
- Industrial Application
- Super Demulsification

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 other harmful oxidation 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 between highly loaded parts in heavily contaminated environments

Good air release characteristics to minimize cavitation and associated damage to circulating pumps

Helps protect against corrosion, even in the presence of water

- **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)

- **Heavily contaminated lubrication systems**

Shell Morlina S3 BA oils are recommended for circulating oil systems where water separation 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.

Specifications, Approvals & Recommendations

- Morgan MORGOIL® Lubricant Specification New Oil (Rev. 1.1)
- Morgan MORGOIL® Advanced Lubricant New Oil (Rev. 2.5)
- DIN 51517-1 - Type C
- DIN 51517-2 - Type CL
- 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	Morlina S3 BA 220	
Viscosity Grade		ISO 3448	220	
Gravity °API		ASTM D1298	26.7	
Kinematic Viscosity	@40°C	cSt	ASTM D445	220
Kinematic Viscosity	@100°C	cSt	ASTM D445	18.1
Kinematic Viscosity	@100°F	SUS	Calculated	1019
Kinematic Viscosity	@210°F	SUS	Calculated	90.5
Viscosity Index		ASTM D2270	95	
Colour		ASTM D1500	4	
Pour Point		°C	ASTM D5950	-9
Flash Point (COC)		°C	ASTM D92	250
Acid Number		mg KOH/g	ASTM D974	0.05
Cu Corrosion, 3 hrs	@100°C		ASTM D130	1b
Rust, Synthetic Sea Water			ASTM D665B	Pass
Water Demulsibility	@82°C	mins	ASTM D1401	10
Water Demulsibility (ml of free water before centrifuging)	@52°C		ASTM D2711	33
Foam Test, Seq II		ml foam at 0/10 mins	ASTM D892	30/0
Oxidation Control Test : TOST		hrs	ASTM D943	1500+
Oxidation Control Test : RPVOT		mins	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.

Viscosity - Temperature Diagram for Shell Morlina S3 BA

