Shell MORLINA® Oils SD

Premium quality bearing and circulating oils specifically developed to have superior demulsification

Shell MORLINA® Oils SD are premium quality rust and oxidation inhibited lubricating oils providing excellent lubrication in 'MORGOIL®' bearing and 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 promoting long service life.

Performance Features and Benefits

- Water contamination is the norm in steel mill bearing and circulating applications, causing corrosion and inadequate lubrication. Poor demulsibility can also lead to the formation of emulsions which reduce filtration effectiveness, restrict circulation and promote bacterial growth.
- Shell MORLINA® Oils SD have outstanding demulsibility. Water is rapidly shed from the oil. The free water can then be easily drained or centrifuged from the lubrication system protecting the installation against corrosion, premature wear and failure.
- Shell MORLINA® Oils SD are especially useful in smaller newer systems where excellent demulse is critical for effective operation. It is helpful in some neglected systems where the normal maintenance regimes have been relaxed.
- Shell MORLINA® Oils SD help to reduce new product purchases, component replacement as well as helping to reduce maintenance costs, parts and labor.
- High operating temperatures and extended oil drain intervals demand superior oxidation properties of the oil. Shell MORLINA® Oils SD have excellent thermal and oxidative stability which reduce the formation of sludge and other harmful oxidation products. The result is extended oil life, less maintenance and less downtime.
- Shell MORLINA® Oils SD exhibit excellent surface properties with rapid air release and a high resistance to foaming. This reduces problems associated with pump cavitation, premature oil oxidation and excessive wear.
- Poor corrosion performance in circulating oils leads to reduced levels of oil cleanliness which promote abrasive wear, consequent failure of components (e.g. damaged bearings and blocked control valves etc), sludge formation, accelerated oil oxidation and increased foaming. Shell MORLINA® Oils SD prevent the formation of rust. It guards against the onset of corrosion ensuring protection for equipment during operation and shut-downs hence minimizing maintenance.

Main Applications

- 'MORGOIL®' type bearing systems in steel mills
- Circulating oil systems where water separation is a key issue
- Plain and rolling element bearings
- Enclosed spur, helical, bevel and worm gearboxes where the use of a non-EP rust and oxidation inhibited oil is approved by the equipment manufacturer

Advice on applications not covered in this handbook may be obtained from your Shell representative.

Specifications, Approvals, and Recommendation

Shell MORLINA® Oils SD are approved by the following OEM's:

- Morgan 'MORGOIL®'; Advanced Lubricant (Super Demulsibility) Specification Revision 2.3; 26th March 2004
- Morgan 'MORGOIL®' Lubricant Specification Revision 1.1; 27th January 2005
- Danieli Wean United; Super Demulsifiable Oil Specification 6.124249.F
- Cincinnati Machine P-57 (150)
- ASLE H-700 (150)
- ANSI/AGMA 9005-D94 R&O

'MORGOIL®' is a registered trade mark of the Morgan Co

Handling and Safety Information

For information on the safe handling, storage, or use of this product, refer to its Material Safety Data Sheet at http://www.epc.shell.com/. If you are a Shell Distributor, please call 1+800-332-6457 for all of your service needs. All other customers please call 1+800-237-8645 for all of your service needs.

Protect the Environment

Do not discharge into drains, soil, or water.

Typical Physical Characteristics

Shell MORLINA® Oils SD			**100**	**150**	**220**	**320**	**460**	**680**
Gravity, °API			30.5	28.0	26.7	26.1	25.0	24.1
Viscosity:	@ 40 °C,	cSt	100	150	220	320	460	680
	@ 100 °C,	cSt	11.4	14.1	18.1	23.1	29.1	36.4
	@ 100 °F,	SUS	464	699	1019	1483	2123	3150
	@ 210 °F,	SUS	64.2	74.4	90.5	112	138	165
Viscosity Index			95	95	95	95	95	87
Color			2.0	3.0	4.0	4.0	5.0	5.0
Pour Point,		°C	-12	-9	-9	-6	-6	-6
Flash Point, (COC)		°C	230	240	250	255	290	300
Acid Number,		mg KOH/g	0.05	0.05	0.05	0.05	0.05	0.05
Cu Corrosion, 3 hrs @ 100°C			1b	1b	1b	1b	1b	1b
Rust Control, synthetic sea water			Pass	Pass	Pass	Pass	Pass	Pass
Water Demulsibility:								
(a) Demulsibility @ 82°C, minutes			10	10	10	20	30	30
(b) Demulsibility @ 52°C mL of free water before centrifuging			36	36	33	32	26	23
Foam Test, Sequence II mL foam at 0/10 minutes			30/0	20/0	0/0	10/0	0/0	0/0
Oxidation Control Tests:								
(a) Turbine Oil Stability Test, hrs			6000+	2250+	1500+	1200+	1100+	700+
(b) RBOT, minutes			800+	600+	500+	400+	350+	200+
ANSI/AGMA Lubricant No. 9005-D94			3	4	5	6	7	8

These characteristics are typical of current production. While future production will conform to Shell specifications, variation in these characteristics may occur.