



SHELL OMALA[®] OIL JM

Emulsifiable gear oils for wet environments

Product Description

Shell Omala[®] Oil JM is specially formulated using high quality base stocks and a premium sulfur-phosphorous additive package, which provides both extreme pressure and anti-wear properties to the oils. The dispersant can help the oil tolerate up to 40 percent water and work with the additives to pass stage 12 in the FZG gear test. Furthermore, the additive package is non-corrosive to gear and bearing materials such as steel, copper, bronze, brass, babbitt or cadmium-nickel. While most gear oils are formulated to separate water, **Shell Omala[®] Oil JM** will not separate from water even after 48 hours in the ASTM D1401 Demulsibility Test.

Applications

In some applications, gear oils are exposed to high levels of water contamination and it is not possible to dry the oil while it is in service. The presence of free water can lead to rapid gear wear due to lack of lubrication; it can also promote rust formation. **Shell Omala[®] Oil JM** helps reduce the adverse effects of water by forming a stable emulsion with the free water and providing a continuous oil film on the heavily loaded parts. They are suitable for use in the following applications:

- any gear oil application where appropriate viscosity grade is available
 - any gear set that is operating under heavy shock load conditions and especially one where high levels of water contamination are present and can't be controlled or removed from the gearboxes easily
- especially useful in the cutter head gears and crawler drives of continuous mining machines
- spur, bevel, herringbone and worm gear designs in mill, mining and mobile equipment applications calling for ANSI/AGMA Lubricant No. 460 EP
- where U. S. Steel No. 224 lubricants are specified

Features/Benefits

- excellent EP/AW properties to help provide longer gear life even in wet environments
- protection against rust and corrosion
- resistance to foaming
- promotes long service life and cleaner gears and gear boxes

Product Maintenance

Unlike typical industrial gear oils, **Shell Omala[®] Oil JM** is designed to emulsify water. Thus, traditional water removal techniques such as heating and settling are not applicable to these products. It should be recognized that water in the lubricant, either in its free or emulsified form, is a contaminant and will significantly reduce equipment life. When water content becomes excessive, the used oil should be drained and the system recharged with fresh oil. **Shell Omala[®] Oil JM** will readily emulsify up to 40 percent by volume of water or more. The emulsified water still affects the viscosity of the oil and therefore systems should be operated at water contents well below this level.

Typical Properties of Shell Omala® Oil JM		
	Test Method	ISO Grade
		460
Product Code.		65181
AGMA Grade		460
Appearance		Very Darkled
Gravity, °API	D 1298	24.5
Flash, COC, °F	D 92	450
Pour Point, °F	D 97	-5
Viscosity		
@ 40°C, cSt	D 445	486
@ 100°C, cSt	D 445	33.4
@ 100°F, SUS	(calc)	2597
@ 210°F, SUS	(calc)	163
Viscosity Index	D 2270	102
Rust Test		
Distilled Water	D 665A	Pass
Synthetic Sea Water	D 665B	Pass
Copper Strip Corrosion 3 hrs at 212°F	D 130	1a
Foam Test, Seq II ml foam at 0/10 minutes	D 892	0/0
Demulsibility, vol free water, ml		
after 1 hr	D 1401	0
after 24 hrs	D 1401	0
after 48 hrs	D 1401	0
Four-Ball Wear, mm		
1 hr / 75° C / 600 rpm / 1 kg	D 4172	0.16
1 hr / 75° C / 600 rpm / 10 kg	D 4172	0.23
1 hr / 75° C / 600 rpm / 40 kg	D 4172	0.35
U. S. Steel Oxidation, 312 hrs/121°C Viscosity increase at 100°C, %	D 2893	7.2
Falex Pin and Vee, ft/lbs	D 3233B	3500
FZG, Last Load Stage Passed, Contaminated with 40% volume water	D 5182	12

Handling & Safety Information

For information on the safe handling and use of this product, refer to its Material Safety Data Sheet at <http://www.shell-lubricants.com/msds/>. If you are a Shell Distributor, please call **1+800-468-6457** for all of your service needs. All other customers, please call **1+800-840-5737** for all of your service needs. Information is also available on the World Wide Web: <http://www.shell-lubricants.com/>.