

## **ExxonMobil Spartan EP 680**

Category: Fluid, Lubricant

## **Material Notes:**

Exxon SPARTAN EP lubricants are a family of premium quality extreme pressure gear lubricants. They are formulated with high quality mineral oils, which help reduce sludge formation and oil thickening, therefore increasing oil service life. SPARTAN EP oils contain a sulphur / phosphorus extreme pressure additive system that gives high load carrying ability and protection against wear. In addition these oils provide excellent protection against corrosion of steel and copper containing alloys. SPARTAN EP oils have good water handling properties: water separates from them rapidly preventing contamination of the system, and they are resistant to foam formation. SPARTAN EP oils can be used in either splash or circulating systems. SPARTAN EP gear oils are suitable for use wherever an industrial gear oil is required, and are particularly useful for use at high temperatures, up to 95°C. SPARTAN EP grades are suitable for the lubrication of heavily loaded enclosed gear sets including spur, helical and bevel designs and provide protection in applications where shock loading occurs.

SPARTAN EP may also be used in worm gears, though a maximum temperature of 85°C is recommended for continuous operation. They may also be used for lubrication of plain bearings, and in rolling contact (anti-friction) bearings. They also find broad usage in marine gear applications. Exxon SPARTAN EP gear oils are used in a wide range of industrial spur, helical, bevel and steel-on-steel worm gearing as well as marine applications. Specific applications include: Drives for conveyers, agitators, dryers, fans, mixers, presses, pulpers, pumps, screens, extruders, oil well pumps; Industrial bearings journal and rolling contact, especially operating at low speeds and high loads; Drives for main propulsion, centrifuges, deck machinery such as winches, windlasses, cranes, turning gears, pumps, elevators and rudder carriers

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http://www.lookpolymers.com/polymer\_ExxonMobil-Spartan-EP-680.php

Physical Properties	Metric	English	Comments
Density	0.910 g/cc	0.0329 lb/in <sup>3</sup>	ASTM D4052
	@Temperature 15.6 °C	@Temperature 60.1 °F	AS 1M D4092
Viscosity Measurement	90	90	Index; ASTM D2270
Kinematic Viscosity at 40°C (104°F)	680 cSt	680 cSt	ASTM D445
Kinematic Viscosity at 100°C (212°F)	39.2 cSt	39.2 cSt	ASTM D445

Mechanical Properties	Metric	English	Comments
Four Ball Extreme Pressure, Load Wear Index	48	48	ASTM D2783
Four Ball Extreme Pressure, Weld Load	250 kg	551 lb (mass)	ASTM D2783
Timken Test	29500 g	65.0 lb	

Thermal Properties	Metric	English	Comments	
Pour Point	-9.00 °C	15.8 °F	ASTM D97	



Thermal Properties	785 °C Metric	English	Comments	
Descriptive Properties		Value	Comments	
Copper Strip Corrosion		1B	3 hrs @ 100°C	
Demulsibility Time (min)		30	to 3 mL emulsion @ 82°C	
Foam Sequence II, ASTM D893		0/0		
FZG Scuffing, DIN 5182, A/8.3/90	, Fail Stage	12+		
Rust Prevention, Synthetic Sea W	ater	pass	ASTM D665B	

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