

INDUSTRIAL EP GEAR LUBRICANTS

ISO GRADES 68 - 680

ISO Grade	<u>Typical Properties</u>						
	68	100	150	220	320	460	680
AGMA Number	2 EP	3 EP	4 EP	5 EP	6 EP	7 EP	8 EP
Viscosity, cSt							
At 40 °C	67.6	101.8	147.8	220.9	320.9	475.3	678.3
At 100 °C	8.5	11.2	14.4	18.8	24.0	31.0	39.0
Viscosity, SUS							
AT 100 °F	353	460	788	1166	1707	2478	3691
At 210 °F	52	62	73	85	106	132	159
Viscosity Index	95	95	95	95	95	95	95
Pour Pt, Deg °F/°C	-15/-26	-15/-26	-10/-23	-5/-21	-5/-21	0/-18	+5/-15
Rust Test, ASTM D665	<-----Passes Procedures A & B----->						
Four Ball Weld, EP kgf	275	275	275	275	275	275	275
Four Ball Load Wear Index	55	55	55	55	55	55	55
Four Ball Wear, mm	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Foaming, Three Sequence	<-----0/0----->						
Gravity, API @ 60 °F	29	28	27	26	26	25	24

The values shown are typical of current production. Some are controlled in the manufacturing process, while others are not. All of them may vary within tolerable ranges.

Premium quality non-lead general purpose extreme pressure industrial gear oils made from highly refined base stocks and compounded with additives to impart special film strength, anti-wear, oiliness, anti-oxidant, corrosion inhibitor, and foam suppressant characteristics. The additive system consists of sulfur-phosphorous based EP technology for modification of gear rubbing surfaces to prevent welding and galling from inadequate film strength. The EP action is formed by chemical reaction between the additives and the metal surfaces under conditions of metal-to-metal contact resulting in boundary-film lubrication.

APPLICATIONS

Recommended for their excellent oxidation and thermal stability to minimize viscosity increase and sludge formation at operating temperatures up to 200°F. They separate readily from water. Industrial EP Gear Oils are suitable for heavily loaded gear units and for gears subjected to shock loading. The product is suggested for lubrication of various gear types such as spur, bevel, helical, worm, and industrial hypoid cases on mobile type equipment. Included also are gear systems incorporated in cement mills, ball mills, crushers, hoists, winches, and marine equipment. They are also suitable for application in plain and rolling contact bearings. Industrial EP Gear Lubricants meet the following requirements: AGMA 250.04, ANSI/AGMA 9005-D94; US STEEL 224; Cincinnati Machine (appropriate viscosity grades); Joy Technologies TO-LEP (ISO 68); DIN 51517 (Sec.3); and David Brown SL 53.101 .