

# KOYOTO AXEL IND GEAR 680 SERIES

High Performance Industrial Gear Oils



## Product Data Sheet

### Product Description

KOYOTO Axel IND GEAR 680 of lubricants are supreme performance industrial gear oils, formulated with high quality base stocks fortified with sulfur-phosphorus additive system. They are designed to work efficiently in all types of enclosed gear drives with circulation or splash lubrication systems, where outstanding extreme pressure characteristics (EP/AW properties), extremely high load carrying capability and excellent demulsifying properties are desired. Moreover they offer extremely high protection against micropitting, wear and corrosion in enclosed gears and all types of oil lubricated bearings. Suitable for use in large & small spur bevel, spiral, helical & herringbone gears.

### Features & Benefits

- High thermal & oxidation stability protects against deposit formation and oil thickening, thus enhances the life and performance of lubricant.
- Excellent protection from bearing wear and high load carrying property extends the life of components.
- Excellent gear protection from micropitting & scuffing and outstanding extreme pressure performance.
- Excellent rust and corrosion protection for longer component life.
- Compatible with elastomer seals and gaskets, leads to minimum leakage and reduced contamination.
- Excellent demulsifying properties, low foaming and good air release characteristics.

### Specifications

**KOYOTO Axel IND GEAR 680 meets or exceeds following International and Builder specifications:**

- DIN 51517-3 (CLP)
- ISO 6743-6 & ISO 12925-1 (CKC/CKD)
- US Steel 224
- David Brown
- Flender BA 7300, table A
- David Brown S1.53.101

### Typical Characteristics

KOYOTO Axel IND Gear	Test Method	Units	46	68	100	150	220	230	460	680
AGMA 9005	-	-	-	2 EP	3 EP	4 EP	5 EP	6 EP	7 EP	-
ISO Viscosity Grade	ISO 3448	-	46	68	100	150	220	320	460	680
Density @ 15 °C	ASTM D 4052	gm/cc	0.878	88.0	0.887	0.894	0.898	0.900	0.904	0.910
Viscosity @ 40 °C	ASTM D 445	cSt	46.8	68.9	8.001	150.2	220.5	320.9	460.8	680.5
Viscosity @ 100 °C	ASTM D 445	cSt	6.78	8.72	51.11	14.56	18.75	23.95	30.45	37.85
Viscosity Index	ASTM D 2270	-	98	98	95	95	95	95	95	92
Pour Point	ASTM D 97	°C	-27	-27	-24	-24	-24	-24	-15	-12
Flash Point (COC)	ASTM D 92	°C	216	218	226	238	248	248	256	282
FZG Scuff Fail Stage	A/8.3/90	-	12+	12+	12+	12+	12+	12+	12+	12+
Timken OK Load	ASTM D 2670	lb/kgf	65	65	65	75	75	75	75	75
Cu Strip Corrosion	ASTM D 130	-	1B	1B	1B	1B	1B	1B	1B	1B
Rust Test-Proc B	ASTM D 665	-	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Foam Seq I,II,III	ASTM D 892	ml/ml	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0

*The above figures are typical of blends with normal production tolerance and do not constitute a specification.*