



An ISO 9001:2015 Certified Co.

Product Data Sheet

DC Heavy Duty EP Gear Oil

- ISO Designation: ISO-L-CKSMP
- ISO Viscosity Grades: 32,46,68,100,150,220,320,460,680
- Performance Standards: ISO 6743-6: 2018; ISO 12925 Pt.1 CKSMP: 2018, IS 11159-7:2012, IS 8406: 1993, DIN 51517 Pt.3 CLP
- Usage Guidelines: Enclosed Gears having continuous lubrication by splash, circulation or injection (parallel straight or helical, internal or external, bevel straight or helical, worm, planetary), Stabilized oil temperature or ambient running temperature from -5°C to 120°C, hertz pressure of gears is generally above 500MPa i.e. load rate is said to be loaded
- Composition: Base Oil Group II, Additives: Gear Oil Additive Package (0.4 to 4%)

Physico-Chemical Properties: Heavy Duty EP Gear Oil

S.No	Characteristics	Test Method	32	46	68	100	150	220	320	460	680
1	Kinematic Viscosity @40°C, cSt, range	IS 1448 P:25	9 to 11	13.5 to 16.5	19.8 to 24.2	28.8 to 35.2	41.4 to 50.6	61.2 to 74.8	90 to 110	135 to 165	162 to 178
2	Viscosity Index, min	IS 1448 P:56	90								
3	Flash Point, Cleveland (open) cup, °C, min	IS 1448 P:69	180	180	200	200	200	220	220	230	230
4	Pour Point, °C, max	IS 1448 P:10	-6	-6	-6	-6	-6	-3	-3	0	0
5	ASTM Colour, max	IS 1448 P:12	4	4	4	4	4.5	4.5	4.5	4.5	4.5
6	Air Release value, minutes to 0.2% volume air-content at 50°C(upto 150cSt)/90°C, max	IS 1448 P:102	10	10	12	18	30	9	10	12	15
7	Inorganic Acidity, mg of KOH/g of oil	IS 1448 P:2	← Nil →								
8	Rust Protection	IS 1448 P:96	no rust after 24hrs with synthetic sea water								
9	Copper Strip Corrosion, 100°C, 3 hrs	IS 1448 P:15	← 1 →								
10	Oxidation Stability at 121°C, 312 hrs, 10 L air/hr	ASTM D2893	increase in Kinematic Viscosity at 100°C not exceed 6%								
11	Foaming Characteristics : Volume of foam after 10 minutes, rest, ml, max a) Sequence I at 24°C; b) Sequence II at 93°C, max; c) at 24°C after cooling down from 93°C, max	IS 1448 P:67	← 10 for all parts a), b) and c) →								
12	Demulsibility: a) % of water in oil after 5hrs of test	ASTM D2711	← 1 →								
13	Demulsibility: b) Cuff after centrifuging, ml, max	ASTM D2711	1	1	1	1	1	1	2	2	2
14	Demulsibility: c) Total free water collected during test (starting with 90 ml of water), min	ASTM D2711	80	80	80	80	80	80	70	70	70
15	Ash, % by mass, max	IS 11656:4	← 0.1 →								
15	FZG-Niemann EP test, pass load stage, min	DIN 51354	← 12th →								
16	Additive Solubility		filterable to 25 µm without loss of EP additives								
17	Timken EP test OK load, Kg, min	ASTM D2782	25	25	25	25	27	27	27	27	27
18	4-Ball Wear (54°C/1800 rpm/ 20Kg/rh) Scar diameter,mm,Max	ASTM D2266	← 0.35 →								
19	4-Ball Weld load EP and LWI test, Kg, min	ASTM D2783	← 250 and 45 →								

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