RENOLIN CLP 150

Heavy duty EP industrial gear oils of highest performance, outstanding extreme pressure characteristics and load carrying capacity.

Description

The RENOLIN CLP products are industrial gear oils of the latest generation, having outstanding extreme pressure characteristics (EP/AW properties) and an extremely high load carrying capacity. They are industrial gear oils with excellent demulsifying properties which can be used in all types of enclosed gear drives with circulation or splash lubrication systems. The RENOLIN CLP products offer extraordinary wear protection. They surpass the requirements in the standard FZG A/8.3/90 scuffing test as well as the more severe FZG test A/16.6/140 (double velocity - 16.6 m/s - and increased starting oil sump temperature - 140 °C). The RENOLIN CLP products offer an extremely high micropitting protection (load stage “high” in the load stage test as well as the endurance test). They offer excellent wear protection for roller bearings. The wear rates in the FAG FE8 test are extremely low under these extreme test conditions (7.5 rpm, 80 °C, 80 h, 80 kN). Latest additive technology guarantees excellent wear protection and excellent corrosion protection (steel and copper-containing materials) The RENOLIN CLP products have good elastomer compatibility, stressed static and dynamic elastomers are lubricated and protected from wear. The lifetime of the components is increased. RENOLIN CLP oils can improve equipment reliability and increase productivity.

Application

The RENOLIN CLP oils are recommended for industrial spur-, helical- and bevel enclosed gears with circulation or splash lubrication, operating at oil temperatures up to 100 °C and peaks above (up to 120 °C). The RENOLIN CLP oils can be used for all applications where lubricants of the CLP type according to DIN 51517-3 are recommended by the gear manufacturer. These products meet and, in many cases, exceed the new requirements of well-known gearbox and bearing manufacturers. The RENOLIN CLP oils are particularly suited for gear sets working under heavy load or shock load. They also can be used in non-gear applications including highly loaded, low-speed plain and rolling contact bearings. These mineral oil-based products are designed to provide high quality, latest additive technology of industrial gear oil formulation. They meet the latest industrial standards of well-known OEMs.

Advantages/Benefits

- Excellent corrosion protection
- Low foaming, excellent air release
- Excellent demulsifying properties (water and water-containing fluids are separated fast)
- High oxidation resistance
- Extremely high load-carrying capacity, extreme pressure, and anti-wear performance
- Excellent bearing wear protection (under mixed friction conditions) - FE8
- Excellent protection from scuffing, excellent wear protection – FZG
- Excellent micropitting resistance in the load stage and endurance test
- High Brugger wear protection
- Excellent elastomer compatibility (static and dynamic)
- Good compatibility with paint materials
- Flender approved according to Revision 16.1

Specifications

- DIN 51 517-3: CLP
- ISO 6743-6: CKC/CKD
- ISO 12925-1: CKC /CKD / CKSMP
- AIST 224
- AGMA 9005/E02:EP
- David Brown S1 53.101

Approvals

- Flender GmbH, Revision 16.1
- Flender GmbH, Bocholt, Germany, Flender BA 7300, table A
- Hansen
- Muller Weingarten AG, Germany DT 55 005, 10/2003

FUCHS Recommendations

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Product Information

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Characteristics

ISO VG	DIN 51 519	150	-
Kinematic Viscosity @ 40 °C	DIN EN ISO 3104	150	cSt
Kinematic Viscosity @ 100 °C	DIN EN ISO 3104	14.5	cSt
Viscosity Index	DIN ISO 2909	96	N/A
Density @ 15 °C	DIN 51 757	894	kg/m³
Colour	DIN ISO 2049	2.0	ASTM
Flash Point	ASTM D93	>230	°C
Pour Point	DIN ISO 3016	-24	°C
Neutralization Number	DIN 51 558-1	0.6	mgKOH/g
Demulsibility @ 54°C	DIN ISO 6614	-	min.
Demulsibility @ 82°C	DIN ISO 6614	15	min.
Copper Corrosion 3h, 100°C (100 A3)	DIN EN ISO 2160	1	degree of corr.
Corrosion Protection Steel - Method A: distilled water	DIN ISO 7120	0	degree of corr.
Corrosion Protection Steel - Method B: sea water	DIN ISO 7120	0	degree of corr.
Foaming Tendency Seq. I/II/III	ASTM D 892	0/0	ml
FZG A/8.3/90 gear test rig - Start Temperature 90°C	DIN ISO 14635-1	> 14	Failure load Stage
FZG A/16.6/140 gear test rig - Start Temperature 140 °C	DIN ISO 14635-1	> 12	Failure load Stage
FZG-GFT test GT-C/8.3/90 Load Stage Test	FVA Information Sheet No 54/I-IV	GFT high	GF Class
FZG-GFT Test GT-C/8.3/90 Endurance Test	FVA Information Sheet No 54/I-IV	GFT high	GF Class
FE8 wear test, D-7.5/80-80 Roller Wear	DIN 51 819-3	< 5	mg
Testing in mixed friction area acc. to Brugger	DIN 51 347-2	≥ 55	N/mm²
Timken OK Load	ASTM D 2782	95	lbs
4-Ball EP Test	DIN 51 350-2	≥2400	N
Weld Load	ASTM D 2783-88	≥250	kg
Elastomer compatibility - dynamic and static 72NBR902 (1000h, 80°C - dynamic)	Fuchs Inhouse Test acc. to DIN ISO 1817 and acc. to Flender	pass	-
Elastomer compatibility - dynamic and static 75FPM585 (1000h, 90°C - dynamic)	Fuchs Inhouse Test acc. to DIN ISO 1817 and acc. to Flender	pass	-
Elastomer compatibility - dynamic and static 75FKM17055 (1000h, 90°C - dynamic)	Fuchs Inhouse Test acc. to DIN ISO 1817 and acc. to Flender	pass	-
Elastomer compatibility - dynamic and static SRE-NBR 28/SX acc. to DIN ISO 13226 (100°C, 7d - static)	DIN ISO 1817	pass	-

Product Code: 1920
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