

RENOLIN UNISYN CLP

Fully-synthetic industrial gear lubricants based on polyalphaolefins

Description

The oils of the RENOLIN UNISYN CLP series are demulsifying, fully-synthetic industrial gear oils with elevated aging resistance, very good load-carrying capacity and wear protection. RENOLIN UNISYN CLP oils have good resistance to micropitting. Reliable lubrication of roller bearings is confirmed by the good results of the FE8 testing. The required failure load stages in the standard and intensified FZG test are reliably received. Moreover RENOLIN UNISYN CLP oils show a good filterability. RENOLIN UNISYN CLP oils are preferably used when increased requirements are set for high and low temperature usage limits. Due to the low pourpoint and the high viscosity index very good cold flow properties at cold start as well as a high lubrication film thickness at operating temperatures are possible. In gearboxes and circulating systems with sump temperatures up to 90 °C, longer oil-change intervals in comparison with previous mineral oils are achieved.

Miscibility with gearbox oils based on mineral oil and ester is generally given, which means that a simplified change-over to RENOLIN UNISYN CLP is possible. Nevertheless a complete change-over (perhaps with flushing procedure) is recommended to obtain the full performance of RENOLIN UNISYN CLP.

Advantages

- Excellent wear protection, high EP performance
- Low foaming
- Good air release capacity
- Very good aging resistance
- Excellent corrosion protection
- Excellent viscosity-temperature behavior
- High natural VI (viscosity index)
- Multigrade character
- Miscible with mineral oil- and ester-based gear oils
- (Lifetime lubrication) prolongation of the service intervals possible
- For high and low operating temperatures
- Very good filterability

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Application

The oils of the RENOLIN UNISYN CLP series are used for all applications in industry where a synthetic oil of the CLP type according to DIN 51517-3 is recommended by the manufacturer. Highly-stressed bearings, joints, pressure screws, spur gears, worm gears and planetary gears can be reliably, safely and economically supplied even at short-term peak temperatures up to 150 °C.

Specifications

The products meet and in many cases exceed the requirements according to:

- DIN 51517-3: CLP
- ISO 6743-6 and ISO 12925-1:
CKC / CKD / CKE / CKSMP
- AGMA 9005/E02: EP
- AIST 224
- David Brown S1 53.101
- FAG requirements: FAG-FE8-Test: stage 1-4 pass
(test report is available for ISO VG 320)
- SKF requirements: pass (100 °C-test)

The RENOLIN UNISYN CLP series is approved for example by Flender GmbH, Bocholt, Flender BA 7300, table A.

RENOLIN UNISYN CLP 680 is approved by GE for use in GEB25 / GDY106 Motorized Wheels (2016).

RENOLIN UNISYN CLP 320 is approved by Bucyrus/Caterpillar Inc. (Enclosed Gearcase Lubricants for Bucyrus, Marion and Ransomes-Rapier Draglines).

RENOLIN UNISYN CLP 320 is approved by CAT for Electric Rope Shovels (Enclosed Gearcase Lubricants).

For RENOLIN UNISYN CLP numerous approvals from well-known gear manufacturers and OEM are available, e.g. Bosch Rexroth, Chongchi, Echasa, Eickhoff, Flender, GET, Zollern, Moventas, Renk, ZF, Winergy, Eickhoff etc.).

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Typical technical data:

Product name		RENOLIN UNISYN CLP				Test method
		68	100	150	220	
Properties	Unit					
ISO VG		68	100	150	220	DIN 51519
Kinematic viscosity						DIN EN ISO 3104
at 40 °C	mm ² /s	68	100	150	220	
at 100 °C	mm ² /s	10.7	14.5	19.6	26.7	
Viscosity index	-	147	150	150	155	DIN ISO 2909
Density at 15 °C	kg/m ³	848	851	853	854	DIN 51757
Color index	ASTM	0.5	0.5	0.5	1.0	DIN ISO 2049
Flashpoint, Cleveland open cup	°C	240	250	250	260	DIN ISO 2592
Pourpoint	°C	-56	-53	-45	-42	DIN ISO 3016
Neutralization number	mgKOH/g	0.6	0.6	0.6	0.6	DIN 51558
Scuffing and scoring test FZG A/8.3/90	failure load stage		>12			DIN ISO 14635-1
FZG A/16.6/140	failure load stage		12			DIN ISO 14635-1
Micropitting load capacity C/8.3/90	GF Class		GFT high, >10			DIN 3990-16
C/8.3/60	GF Class		GFT high, >10			DIN 3990-16
FE-8 roller bearing test, D-7.5/80-80			pass (excellent)			DIN 51819-3
D-7.5/100-80			pass (excellent)			
Testing in mixed friction area acc. to Brugger	N/mm ²	40	40	40	50	DIN 51347-2

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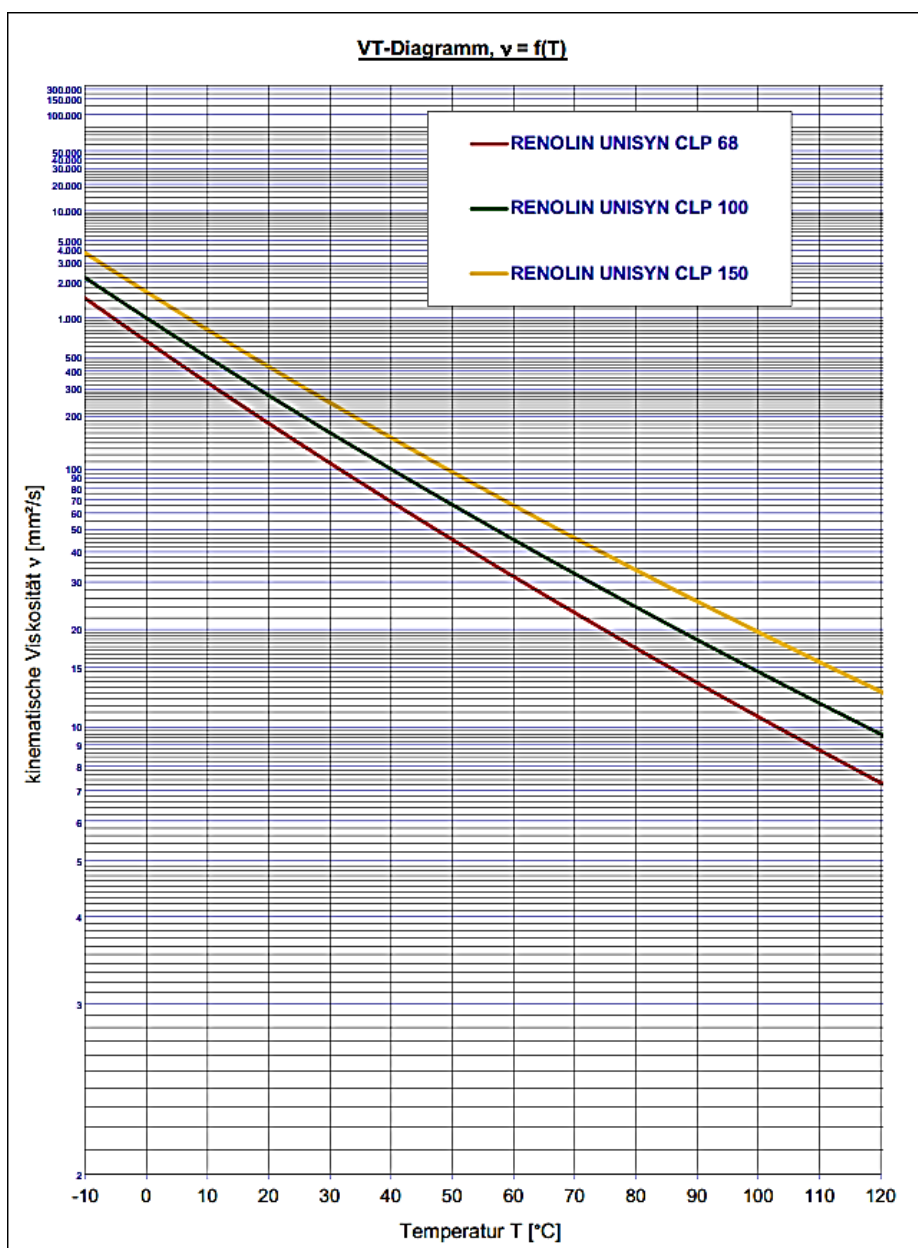
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Typical technical data:

RENOLIN UNISYN CLP						
Product name		320	460	680	1000	
Properties	Unit					Test method
ISO VG		320	460	680	1000	DIN 51519
Kinematic viscosity at 40 °C	mm ² /s	320	460	680	1000	DIN EN ISO 3104
at 100 °C	mm ² /s	35.0	45.6	62.2	92.0	
Viscosity index	-	155	155	160	179	DIN ISO 2909
Density at 15 °C	kg/m ³	860	861	862	864	DIN 51757
Color index	ASTM	1.0	1.0	1.0	1.0	DIN ISO 2049
Flashpoint, Cleveland open cup	°C	260	300	300	300	DIN ISO 2592
Pourpoint	°C	-42	-39	-33	-33	DIN ISO 3016
Neutralization number	mgKOH/g	0.6	0.6	0.6	0.6	DIN 51558
Scuffing and scoring test FZG A/8.3/90	failure load stage			>14		DIN ISO 14635-1
FZG A/16.6/140	failure load stage			>12		
Micropitting load capacity C/8.3/90	GF Class			GFT high, >10		DIN 3990-16
C/8.3/60	GF Class			GFT high, >10		DIN 3990-16
FE-8 roller bearing test, D-7.5/80-80				pass (excellent)		DIN 51819-3
D-7.5/100-80				pass (excellent)		
Testing in mixed friction area acc. to Brugger	N/mm ²			50		DIN 51347-2

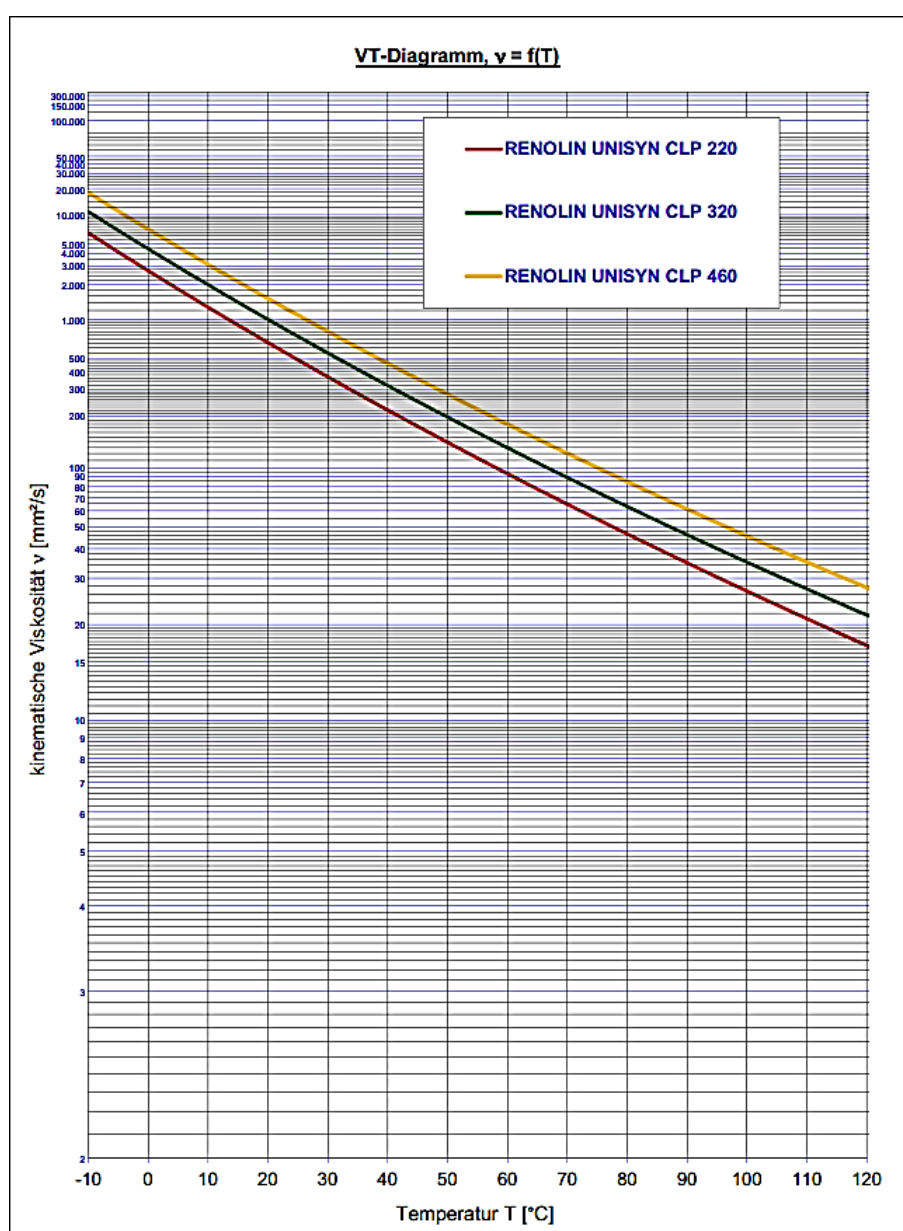
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