RENOLIN UNISYN CLP PA Series

Fully synthetic gear and paper machine oil for thermally and mechanically highly-stressed machine units

Description

Fully synthetic, demulsifying industrial gear oil with excellent resistance to ageing, good load carrying capacity and excellent wear protection.
RENOLIN UNISYN CLP PA products are especially recommended for applications with a wide operating temperature range (excellent high and low temperature behaviour). In gear units with circulating and oil sump temperatures up to 90 °C the oil change intervals can be considerably extended.
In general, RENOLIN UNISYN CLP PA products are miscible and compatible with mineral oil-based gear oils which allows an easy change-over procedure.

Application

RENOLIN UNISYN CLP PA series was especially developed to meet the demands made on roller bearing lubrication in the wet and dry sections of paper machines. RENOLIN UNISYN CLP PA products exceed the requirements for gear oils according to DIN 51 517, part 3.

Specifications

RENOLIN UNISYN CLP PA series meets and exceeds the requirements according to DIN 51 517-3: CLP and ISO 12925-1 CTPR

RENOLIN UNISYN CLP 220 PA meets the requirements for lubricating oils in paper machines according to the FAG and SKF Specifications. RENOLIN UNISYN CLP 220 PA also meets the requirements according to specifications Voith VN 108 (2005) and Metso RAU4L00659.06EN (2010).

Advantages

- **Low foaming tendency**
- **Good air release properties**
- **Excellent resistance to ageing, high thermal stability**
- **Good corrosion protection**
- **Good filterability**
- **Excellent viscosity-temperature-behaviour**
- **High natural viscosity index (VI)**
- **Multigrade character**
- **Excellent wear protection**
- **Miscible with mineral oil- and ester-based gear oils**
- **Good demulsifying properties**
- **RENOLIN UNISYN CLP 220 PA meets the requirements for lubricating oils in paper machines according to the FAG (test temperature 120 °C) and SKF Specifications**
- **RENOLIN UNISYN CLP 220 PA meets the requirements according to specifications Voith VN 108 (2005) Metso RAU4L00659.06EN (2010)**

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Typical technical data:

Properties	Unit	RENOLIN UNISYN CLP				Test method
ISO VG		**150 PA**	**220 PA**	**320 PA**	**460 PA**	DIN 51 519
Kinematic viscosity at 40 °C at 100 °C	 mm^2/s mm^2/s	 150 19.8	 220 26.5	 320 34.2	 460 46.0	DIN EN ISO 3104
Viscosity index	-	152	154	151	156	DIN ISO 2909
Density at 15 °C	kg/m^3	857	859	864	866	DIN 51 757
Oxidation stability test Increase of kin.viscosity at 100 °C Precipitation	 % ml	 1.6 <0.05	 2.0 <0.05	 2.5 <0.05	 3.0 <0.05	ASTM D 2711-B
Colour	-	0.5	0.5	1.0	1.0	DIN ISO 2049
Flashpoint (Cleveland Open Cup)	°C	> 200	230	> 240	> 240	DIN ISO 2592
Pourpoint	°C	- 39	- 36	- 32	- 27	DIN ISO 3016
Neutralisation number	mgKOH/g	0.4	0.4	0.4	0.4	DIN 51 558-1
Air release at 75 °C	min	8	11	13	17	DIN ISO 9120
Demulsification at 82 °C	min	10	10	20	20	DIN ISO 6614
Copper corrosion	Degree of corr.	1-100 A 3	1-100 A 3	1-100 A 3	1-100 A 3	DIN EN ISO 2160
Steel corrosion (procedure A = distilled water procedure B = synth. sea water)	Degree of corr.	0-A 0-B	0-A 0-B	0-A 0-B	0-A 0-B	DIN ISO 7120
SKF Emcor Test (process water)	Rating	1	1	1	1	DIN 51802

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Wear test, VKA 4-Ball-Test (load 600 N): Scar diameter	mm	0.7	0.6	0.6	0.6	DIN 51 350
FZG mechanical gear test rig FZG A/8.3/90	Failure load stage	> 12	> 12	> 12	> 12	DIN ISO 14635-1
FE-8 roller bearing wear test, 7.5/80/80: wear roller element	mg	< 15	< 15	< 15	< 15	DIN 51 819-3
SKF filtration	min	12	14	-	-	SKF Inhouse Test
SKF roller test (8 weeks, 140 °C)	-	pass	pass	pass	pass	SKF Inhouse Test
SKF oil film ageing test (4 weeks, 140 °C)	-	pass	pass	pass	pass	SKF Inhouse Test
FAG Paper Machine Test at 120 °C (ISO VG 220), test report dated April 15, 2011	-	-	pass	-	-	FAG Inhouse Test
Flender foam test: foam volume	%	-	pass	-	-	Fuchs Inhouse Test
Elastomer compatibility SRE NBR 902 / 336 h/100 °C	-	pass	pass	pass	pass	DIN ISO 13226
Demulsibility – Procedure B (with EP-Additives), 90ml water, 360ml oil at 82° C, 5 hours						ASTM D 2711-B
Water in the oil	%	<0,5	<0,5	<0,5	<0,5	
Free water	ml	>80	>80	>80	>80	
Emulsion	ml	<1	<1	<1	<1	

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