RENOLIN MR

Special lubricating and hydraulic fluids with excellent corrosion protection

Description

The products of the RENOLIN MR-series are special HLP-D lubricating and hydraulic fluids according to DIN 51 502 with excellent corrosion protection, outstanding contaminant-removing and transportation properties (detergent / dispersant properties).

RENOLIN MR contains zinc and is used as a problem solver in hydraulic systems where standard oils fail.

Application

RENOLIN MR are lubricating oils for circulation and bearing lubrication, superbly suited for applications in mobile and stationary hydraulic systems where the use of a detergent / dispersant hydraulic oil with low friction coefficients, good stick-slip behaviour and excellent corrosion protection properties is required.

RENOLIN MR is also suited for use as high-speed spindle oil, break-in oil, and corrosion protection oil.

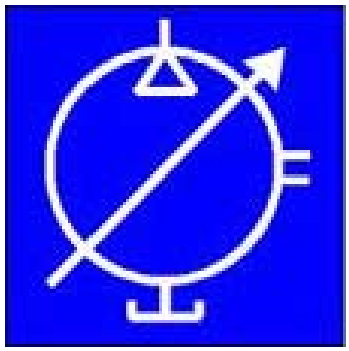
Advantages/Benefits

- Excellent corrosion protection (see: test results, page 2)
- Low foaming tendency
- Good air release properties
- High ageing resistance
- Good viscosity-temperature behaviour
- Protects against wear
- Excellent contaminant-removing and transportation properties (detergent / dispersant properties)
- Low friction coefficient
- Reduces stick-slip effects

Specifications

The products meet or exceed the requirements according to:

- DIN 51 524-2: HLP (exception: demulsifying properties according to DIN 51 599)
- ISO 6743-4: HM



FUCHS LUBRICANTS (UK) PLC
New Century Street, Hanley
GB-Stoke-on-Trent, Staffordshire, ST1 5HU

Tel: +44-1782 -20 37 00
Fax: +44-1782 -20 20 73
Email: contact-uk@fuchs-oil.com

Excellent Corrosion Protection

The RENOLIN MR oils have excellent corrosion protection properties that are typically expected only of special designed corrosion-protection oils. The excellent corrosion protection properties of the RENOLIN MR oils ensure that corrosion does not occur on steel and nonferrous metals in the system, even in the presence of water. We therefore recommend the use of RENOLIN MR oils as break-in oils and operational fluids. The metallic surfaces coated with these oils are safely protected against corrosion when stored properly.

For comparison:

RENOLIN MR 15 VG46

Test method	According to	Unit	
Corrosive effect on copper, 100A24	DIN EN ISO 2160	Degree of corrosion	1
Steel corrosion	DIN ISO 7120	Degree of corrosion t	0-A
Hydrobromic acid immersion test	DIN 51 357	Degree of corrosion / number of sheets	0/3
Sea-water immersion test	DIN 51 358	Degree of corrosion / number of sheets	0/3
Damp heat atmosphere	DIN 50 017 SFW	Degree of corrosion / number of sheets, cycles	0/3 after 8 x 24h

FUCHS LUBRICANTS (UK) PLC
New Century Street, Hanley
GB-Stoke-on-Trent, Staffordshire, ST1 5HU

Tel: +44-1782 -20 37 00
Fax: +44-1782 -20 20 73
Email: contact-uk@fuchs-oil.com

CHARACTERISTICS: RENOLIN MR

RENOLIN		MR0	MR1	MR3 VG10	MR5 VG22	
Characteristics	**Unit**					**Test Method**
ISO VG		-	-	10	22	DIN 51 519
Kinematic Viscosity						DIN EN ISO 3104
at 40ºC	mm^2/s	2	5	10	22	
at 100ºC	mm^2/s	-	1.6	2.6	4.3	
Viscosity Index		-	83	91	100	DIN ISO 2909
Density at 15ºC	kg/m^3	817	837	852	868	DIN 51 757
Colour	ASTM	1.0	1.0	1.0	1.0	DIN ISO 2049
Flashpoint, Cleveland Open Cup	ºC	75	85	166	165	DIN ISO 2592
Pour point	ºC	-42	-36	-30	-30	DIN ISO 3016
Neutralisation number	mg KOH/g	0.3	0.7	0.7	0.7	DIN 51 558
FZG gear test rig, A/8,3/90	Failure load stage	-	-	-	-	DIN ISO 14635-1

FUCHS LUBRICANTS (UK) PLC
New Century Street, Hanley
GB-Stoke-on-Trent, Staffordshire, ST1 5HU

Tel: +44-1782 -20 37 00
Fax: +44-1782 -20 20 73
Email: contact-uk@fuchs-oil.com

CHARACTERISTICS: RENOLIN MR continued

RENOLIN		MR10 VG32	MR15 VG46	MR20 VG68	MR30 VG100	
Characteristics	**Unit**					**Test Method**
ISO VG		32	46	68	100	DIN 51 519
Kinematic Viscosity						DIN EN ISO 3104
at 40ºC	mm^2/s	32	46	68	100	
at 100ºC	mm^2/s	5.4	6.9	8.9	11.4	
Viscosity Index		102	105	105	100	DIN ISO 2909
Density at 15ºC	kg/m^3	875	877	881	883	DIN 51 757
Colour	ASTM	1.5	1.0	1.5	1.5	DIN ISO 2049
Flashpoint, Cleveland Open Cup	ºC	210	220	225	248	DIN ISO 2592
Pour point	ºC	-30	-27	-24	-18	DIN ISO 3016
Neutralisation number	mg KOH/g	0.7	0.5	0.5	0.5	DIN 51 558
FZG gear test rig, A/8,3/90	Failure load stage	11	11	11	11	DIN ISO 14635-1

FUCHS LUBRICANTS (UK) PLC
New Century Street, Hanley
GB-Stoke-on-Trent, Staffordshire, ST1 5HU

Tel: +44-1782 -20 37 00
Fax: +44-1782 -20 20 73
Email: contact-uk@fuchs-oil.com

CHARACTERISTICS: RENOLIN MR continued

RENOLIN		MR40 VG150	MR90 VG320	MR140 VG460	
Characteristics	**Unit**				**Test Method**
ISO VG		150	320	460	DIN 51 519
Kinematic Viscosity at 40ºC at 100ºC	 mm^2/s mm^2/s	 150 14.8	 320 24.8	 460 31.0	DIN EN ISO 3104
Viscosity Index		98	99	95	DIN ISO 2909
Density at 15ºC	kg/m^3	889	903	907	DIN 51 757
Colour	ASTM	2.5	3.5	5	DIN ISO 2049
Flashpoint, Cleveland Open Cup	ºC	250	265	297	DIN ISO 2592
Pour point	ºC	-18	-12	-9	DIN ISO 3016
Neutralisation number	mg KOH/g	0.5	0.5	0.5	DIN 51 558
FZG gear test rig, A/8,3/90	Failure load stage	 11	 11	 11	DIN ISO 14635-1

WARNING: Never mix zinc-free hydraulic fluids with those containing zinc-based additives.

FUCHS LUBRICANTS (UK) PLC
New Century Street, Hanley
GB-Stoke-on-Trent, Staffordshire, ST1 5HU

Tel: +44-1782 -20 37 00
Fax: +44-1782 -20 20 73
Email: contact-uk@fuchs-oil.com