

Energol GR-XP

Premium Industrial Gear Oil

Description

A range of high quality, lead free extreme pressure (EP) oils having outstanding thermal stability and high load carrying capacity. The formulation provides excellent corrosion protection, anti-foam characteristics, demulsibility and oxidation resistance. Very good viscosity characteristics ensure that starting torques are not excessive in cold conditions. The additives are compatible with the ferrous and non ferrous metals used in industrial gear units. The EP properties are provided by a sulphur phosphorus additive.

Applications

These oils are formulated for the circulatory and bath lubrication of spur, helical and worm type industrial gears. Any questions of compatibility should be referred to the local BP Representative.

The Energol GR-XP oils meet the performance requirements of :

- DIN 51517 Part 3
- AGMA 250.04
- US Steel 224

They are approved by :

- David Brown Industries Ltd.
- PIV
- Sew Usocome

Oil temperatures should not exceed 120 °C. In any system that incorporates electric heaters for effecting rapid warm-up, it is important to avoid high rates of heat input. Heat fluxes in excess of 15 kW/m² (9.5 W/in²) are likely to cause separation of additives and this would affect the oil's lubrication performance.

Main Benefits

- Attention free operation between standard overhauls even at elevated temperatures and in adverse conditions.
- Maximum protection against corrosion and wear.

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

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Energol GR-XP

(Contd.)

Typical Characteristics

	Test Methods	Units	Grade : Energol GR-XP				
			68	100	150	220	320
Density at 15 °C	ASTM D 1298	kg/m ³	888	901	904	907	912
Flash Point (COC)	ASTM D 92	°C	224	224	238	241	243
Kinematic Viscosity at:40 °C	ASTM D 445	cSt	68	100	150	220	320
			100 °C	8.7	11.4	14.5	18.7
Viscosity Index	ASTM D 2270	-	100	98	95	95	95
Pour Point	ASTM D 97	°C	-24	-24	-21	-18	-15
Colour	ASTM D1500		<3.5	<4.0	<4.5	<4.5	<5.0
Corrosion- rust protection (B)	ASTM D 665		pass	pass	pass	pass	pass
Sulphated Ash	ASTM D 874	%wt	<0.01	<0.01	<0.01	<0.01	<0.01
Foam Tendency / Stability:							
Sequence I:	ASTM D 892	ml	-	-	-	5/0	-
Sequence II:		ml	-	-	-	5/0	-
Sequence III:		ml	-	-	-	5/0	-
Four ball EP test	IP 239	kg	220	230	230	240	240
Welding Load							
Timken OK Load	IP 240	lb	60-70	60-70	60-70	60-70	60-70
FZG gear test:	IP 334/DIN 51 354	load stage	>12	>12	>12	>12	>12
A/16.6/110 °C		failure					
			460		680	1000	
Density at 15 °C	ASTM D 1298	kg/m ³	919		926		940
Flash Point (COC)	ASTM D 92	°C	243		246		240
Kinematic Viscosity:40 °C	ASTM D 445	cSt	425		630		950
			100 °C	27.2		34.2	
Viscosity Index	ASTM D 2270		88		85		82
Pour Point	ASTM D 97	°C	-9		-9		-3
Colour	ASTM D1500		5.0		5.0		>8.0
Corrosion - rust protection (B)	ASTM D 665		pass		pass		pass
Sulphated Ash	ASTM D 874	%wt	<0.01		<0.01		<0.01
Foam Tendency / Stability:							
Sequence I:	ASTM D 892	ml	-		-		-
Sequence II:		ml	-		-		-
Sequence III:		ml	-		-		-
Four ball EP test	IP 239	kg	250		260		260
Welding Load							
Timken OK Load	IP 240	lb	60-70		60-70		60-70
FZG gear test:	IP 334/DIN 51 354	load stage	>12		>12		>12
A/16.6/110 °C		failure					

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