

# **ADNOC HYDRAULIC OIL ZF**

## **DESCRIPTION**

ADNOC Hydraulic Oil ZF is an antiwear hydraulic oil formulated with a zinc-free, ashless type antiwear additive designed to provide extended pump life in high pressure conditions. Ashless technology is designed to provide anti-wear, anti-rust and anti-oxidation protection that result in an outstanding performance.

## **APPLICATIONS**

ADNOC Hydraulic Oil ZF is recommended for use in hydraulic systems operating under moderate to severe conditions in mobile and industrial service even in environmentally sensitive applications. It can also be used in mobile hydraulic fluid power transmission systems and general machine lubrication. It is suitable for older design hydraulic pumps containing silver or silver-plated parts.

#### **BENEFITS**

- Excellent ant-wear protection and filterability
- Excellent thermal and hydrolytic stability
- Outstanding rust protection and foaming resistance
- Reduce fish toxicity versus zinc containing products
- Suitable for applications that contains yellow metals found in pumps
- Superior demulsibility helps in faster water separation and resists emulsion formation

#### PERFORMANCE LEVEL

- DIN 51524-2 HLP
- Parker Hannifin (Denison) HF-0; HF-1; HF-2
- Fives Cincinnati P-70
- Eaton (Vickers) I-286-S (Stationary); M-2950-S (Mobile)

#### PRODUCT TYPICAL CHARACTERISTICS

Specifications	Units	ISO VG	Test Methods	
Kinematic Viscosity @40°C	mm²/s	45.90	ASTM D445	
Kinematic Viscosity @100°C	mm²/s	6.680	ASTM D445	
Viscosity Index	-	97	ASTM D2270	
Pour Point	°C	-18	ASTM D97	
Flash Point, COC	°C	216	ASTM D92	
FZG Gear Test, Fail Load Stage	-	11	DIN 51354	
Rust Test	-	Pass	ASTM D665	
Zinc	ppm	10	ASTM D4951	

Minor variations in product typical test data are to be expected in normal manufacturing.

 $\label{lem:product} Product (s) \ manufactured \ in \ the \ United \ Arab \ Emirates \ by \ \textbf{ADNOC Distribution}.$ 

Always follow the Original Equipment Manufacturer's recommendation (OEM) for the equipment operating conditions, product specification, drain interval and customer's maintenance practices.



# **ADNOC HYDRAULIC OIL H**

## **DESCRIPTION**

ADNOC Hydraulic Oil H is a series of hydraulic fluids formulated with high quality base oils and special additives that provides, anti-wear, anti-corrosion, anti-rust and anti-oxidation characteristics. They also deliver excelent air release and water separability properties and can operate in a widely varying ambient temperatures.

#### **APPLICATIONS**

ADNOC Hydraulic Oil H is recommended for most types of hydraulic systems, moderately loaded gears and bearing lubricated by circulation bath and ring oiling. It is available in a wide range of viscosities to meet a variety of design and operating requirements of hydraulic systems of construction, agricultural, industrial, marine and machinery tools equipment fitted with gear, vane or piston pumps.

#### **BENEFITS**

- Good oxidation resistance under the most severe working conditions
- Load carrying and anti-wear properties protect pumps and other moving parts
- Superior protection against corrosion and rust
- Excellent resistance to foaming and air entrainment
- Compatible with normal hydraulic sealing materials
- Good hydrolytic stability means minimal degradation from contact with water and good water separation characteristics
- Excellent filterability

#### **PERFORMANCE LEVEL**

Considerations	ISO VG						
Specifications	10	15	22	32	46	68	100
AFNOR NF E 48 603 HM							
ASTM D6158 Type HM				Х	Х	Х	Х
Fives Cincinnati P-68				Х			
Fives Cincinnati P-69						Х	
Fives Cincinnati P-70					Х		
Parker Hannifin (Denison) HF0, HF1 and HF2				Х	Х	Х	
DIN 51524 Part 2 (HLP)		Х		Х	Х	Х	Х
Eaton Brochure 03-401-2010				Х	Х	Х	
Eaton E-FDGN-TB002-E				Х	Х	Х	
General Motors LS2 AW Hydraulic Oil							
ISO 11158 Categories HM and HV		Х		X	Х	Х	X



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## **ADNOC INDUSTRIAL GEAR OIL EP**

#### **DESCRIPTION**

ADNOC Industrial Gear Oil EP is a series of lead-free, premium-quality, heavy-duty industrial gear lubricants formulated from high-quality base oils and carefully selected additives which provide extreme pressure and anti-wear properties, rust and corrosion protection, increased oxidation stability, improved resistance to foam and excellent high load performance characteristics. It also have excellent oxidation stability and water separability properties.

#### **APPLICATIONS**

ADNOC Industrial Gear Oil EP is recommended for industrial enclosed gear drives representing load and speed conditions of extreme severity and also suitable for the lubrication of worm gear units. Although designed primarily for the lubrication of gears, their high overall performance makes it possible to extend their use to system involving gears, plain bearings, rolling bearings and sliding surfaces.

#### **BENEFITS**

- Excellent load-carrying capacity
- Outstanding anti-wear properties
- Excellent oxidation stability
- Rust and corrosion protection
- Excellent lubricity and good anti-foam properties
- Minimize friction, resulting in reduced bulk oil temperature
- Effective demulsibility for rapid water separation

#### PERFORMANCE SPECIFICATIONS

- DIN 51517 PART3
- AGMA 9005-D94
- US Steel 224
- David Brown S1.53 101

## PRODUCT TYPICAL CHARACTERISTICS

Specifications	Units	ISO VG					Test				
		68	100	150	220	320	460	680	1000	1500	Methods
Density @15°C	kg/L	0.886	0.894	0.896	0.899	0.9025	0.903	0.925	0.935	0.935	ASTM D1298
Kinematic Viscosity @40°C	mm²/s	68.00	100.0	150.0	220.0	320.0	460.0	680.0	950.0	1500	ASTM D445
Kinematic Viscosity @100°C	mm²/s	8.655	11.25	14.80	18.75	23.90	30.35	35.85	44.19	58.23	ASTM D445
Viscosity Index	-	98	98	98	95	95	95	85	85	85	ASTM D2270
Pour Point	°C	-24	-24	-21	-18	-15	-12	-9	-3	-3	ASTM D97
Flash Point, COC	°C	234	240	240	238	238	238	240	240	240	ASTM D92

Minor variations in product typical test data are to be expected in normal manufacturing.

Product(s) manufactured in the United Arab Emirates by ADNOC Distribution.

Always follow the Original Equipment Manufacturer's recommendation (OEM) for the equipment operating conditions, product specification, drain interval and customer's maintenance practices.

# **ADNOC TRANSFORMER OIL UNINHIBITED**

#### **DESCRIPTION**

ADNOC Transformer Oil Uninhibited is a un-inhibitedrefined naphthenic oil specifically manufactured for use in electric transformers and switchgears as an insulating and heat transfer medium.

#### **APPLICATIONS**

ADNOC Transformer Oil Uninhibited is used as an insulating and cooling medium where oil of high thermal and oxidation stability is required. It is also suitable where good gas absorbing properties are necessary like transformer oil immersed switchgear, circuit breakers etc. Transformer oil meets class I and class II of BS 148 and IEC 296 specifications.

#### **BENEFITS**

- High dielectric strength
- Very low pour point
- Free from acids and corrosive sulfur
- Compatible with transformer construction material

#### **PERFORMANCE LEVEL**

- BS 148
- I.E.C. 60296(03

## PRODUCT TYPICAL CHARACTERISTICS

Properties	Units	Results	Test Methods
Density @15°C	kg/L	0.878	ASTM D1298
Kinematic Viscosity @40°C	mm²/s	9.000	ASTM D445
Pour Point	°C	-45	ASTM D97
Flash Point, PMCC	°C	144	ASTM D93
TAN	mg KOH/g	0.005	ASTM D974
Water	ppm	20	ASTM D1533
Electric Strength	KV	70	ASTM D1816

Minor variations in product typical test data are to be expected in normal manufacturing.

Product(s) manufactured in the United Arab Emirates by ADNOC Distribution.

Always follow the Original Equipment Manufacturer's recommendation (OEM) for the equipment operating conditions, product specification, drain interval and customer's maintenance practices.



## **ADNOC TRANSFORMER OIL INHIBITED**

#### **DESCRIPTION**

ADNOC TRANSFORMER OIL INHIBITED is a fully inhibited transformer oil manufactured from refined high quality oil, having inherently high thermal and oxidation stability needed to meet requirements for inhibited insulating oils. It meets the latest international standard IEC 60296 (03) superseding the previous International IEC 296 Class IA & Class IIA and BS 148 Class IA & Class IIA standards. It contains special anti-oxidant additive to make this grade have an exceptional oxidation stability.

ADNOC TRANSFORMER OIL INHIBITED has the lower viscosity and pour point needed for meeting Class IIA specifications and hence can be used in cold climates.

ADNOC TRANSFORMER OIL INHIBITED does not contain polychlorinated biphenyls (PCBs).

#### **APPLICATIONS**

## ADNOC TRANSFORMER OIL INHIBITED is

recommended for use as an electrical insulating oil in electrical transformers and switchgear, and also in other types of equipment where an oil of high thermal and oxidation stability is required to act as a cooling and insulating medium. It is suitable for use where good gas absorbing properties are necessary.

#### **BENEFITS**

- Good insulating properties, indicated by high dielectric strength and low dielectric loss tangent (power factor).
- Good cooling, heat transfer and fluid flow characteristics due to low viscosity and density.
- Excellent oxidation stability minimizes development of sludge and acidity in storage and service.
- Good gas absorption properties.
- Good low temperature fluidity

#### **SPECIFICATIONS**

ADNOC TRANSFORMER OIL INHIBTED meets or exceeds the requirements of IEC 60296(03) the latest standard for IEC superseding the previous International IEC 296 Class IA & Class IIA and BS 148 Class IA & Class IIA standards. The physical and chemical properties shown in the table are average values based on recent production. They are not limiting values. Minor variations which do not affect product performance are to be expected in normal manufacture

## PRODUCT TYPICAL CHARACTERISTICS

Typical Inspections	ADNOC Transformer Oil Inhibited					
	Minimum	Typical	Maximum			
Density @ 20 oC , Kg/ liter		0.8765	0.895			
Kinematic Viscosity, cSt @ -30oC			1800			
Kinematic Viscosity, cSt @ 40oC		9.38	12.0			
Flash Point, PMCC, oC		152				
Pour Point, oC		-58	-40			
Antioxidant , % Wt	0.08	0.165	0.4			
Neutralization Value, mgKOH/g		0.006	0.01			
Corrosive Sulfur,		Non corrosive				
Dissipation Factor @ 90 oC			0.005			
Breakdown Voltage Before Treatment, kV	30	40-60				
Breakdown Voltage After Treatment, kV	70	72				
Water Content mg/Kg		12	30			
PCB, ppm		Not detectable	Not detectable			

# **ADNOC OGL AND WR COMPOUND**

## **DESCRIPTION**

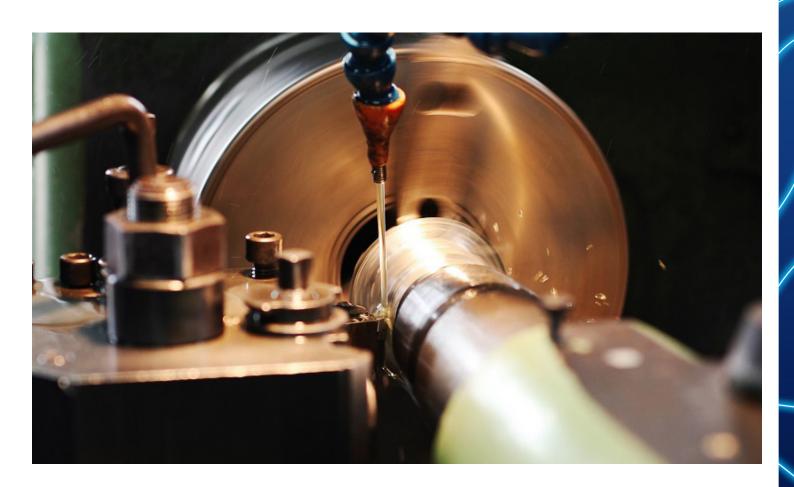
ADNOC OGL and WR COMPOUND is a bituminous base compound containing diluents primarily for Open Gear and Wire Rope lubrication. It has a wide range of usable temperature. It is recommended for Open Gears which work under load, where it forms a strong tenacious film on the metal surface which does not get squeezed out during usage. It has good penetration properties to lubricate between strands of wire ropes. This product can be applied by brushing, swabbing, dipping and spraying. Product is supplied in diluted form.

## **APPLICATIONS**

ADNOC OGL and WR Compound is recommended for use in Open Gear Lubrication and Wire Rope Lubrication. Can also be used in Chain and Sprocket systems where bituminous compounds are recommended

## PRODUCT TYPICAL CHARACTERISTICS

Physio Chemical Data	ADNOC OGL and WR Compound			
Appearance	BLACK			
Kinematic Viscosity, cSt at 25o C (Diluted supply viscosity)	500 - 600 cst			
Kinematic Viscosity, cSt at 100o C (Undiluted)	420 - 480 cst			
Density @ 15 deg C of Diluted Product	0.98 – 1.00			
Flash Point OPEN CUP	< 55 deg C			











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