Gulf Harmony AW

High Performance Anti-Wear Hydraulic Oil

Product Description

Gulf Harmony AW series are high performance anti-wear hydraulic oils developed for high pressure hydraulic systems operating under moderate to severe conditions in mobile and industrial service. These oils are formulated with high quality base oils and carefully selected performance additives to provide excellent protection against oxidation degradation, rust & corrosion and wear. They also possess superior foam control, water separation and rapid air release properties. The lower viscosity grades (ISO 32 through 100) are formulated with field proven thermally stable zinc based anti-wear additive system and the higher viscosity grades (ISO 150 through 460) are based on ashless anti-wear additive system They exceed the performance requirements of global industry standards viz. DIN 51524 Part 2-HLP, AFNOR NFE 48-603 (HM) & ISO 11158 HM and majority of the international OEMs viz. Denison, FIVES CINCINNATI (Former MAG IAS, LLC) & Eaton (Vickers).

Features & Benefits

- Excellent thermo-oxidative stability controls the formation of sludge & varnish and improves oil life
- Exceptional anti-wear property results in longer pump and component life and reduces costs
- Superior demulsibility helps in faster separation of water from oil and resists formation of emulsions
- Special rust & corrosion inhibitors protect multi-metallurgy components even in presence of moisture
- Rapid air release property minimises chances of pump cavitation leading to trouble free operations
- Compatible with multi-metals and sealing materials commonly used in hydraulic systems

Applications

ISO VG 32 through VG 100

- Hydraulic systems operating under moderate to severe conditions in mobile and industrial service
- Older hydraulic systems where leakage is a problem and a cost-effective hydraulic oil providing all-round protection is required
- Mobile hydraulic fluid power transmission systems and general machine lubrication

ISO VG 150 through VG 460

- Recommended for a wide variety of following industrial applications requiring anti-wear type of oils
  - Circulating oil systems
  - Plain and rolling element bearings
  - Gear sets
  - General Machine lubrication

Specifications, Approvals & Typical Properties

Refer next page

Properties mentioned are typical only and minor variations, which do not affect product performance, are expected to arise in normal manufacturing processes. Please follow equipment manufacturer's recommendations for performance level and viscosity grade. The Safety Data Sheet for this product is available from your nearest Gulf Distributor. Please consult our local representative if any further information is required.

The information contained herein is believed to be correct at the time of publication and may be subject to modification from time to time. It is the user's responsibility to verify that this data sheet is current prior to using the product. No warranty expressed or implied is given concerning the accuracy of the information or the suitability of products. Gulf Oil International reserves the right to modify and change its products and specifications without prior notice.

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ISO Viscosity grades			32	46	68	100
Specifications						
DIN 51524 Part 2-HLP			**X**	**X**	**X**	**X**
AFNOR NFE 48-603 (HM), ISO 11158 HM						**X**
Eaton (Vickers) M-2950-S, M-2952-S, I-286-S			**X**	**X**	**X**	
FIVES CINCINNATI (Former MAG IAS, LLC)			**P-68**	**P-70**	**P-69**	
Denison HF-0, HF-1, HF-2			**X**	**X**	**X**	
Typical Properties						
Test Parameters		**ASTM Method**	**Typical Values**			
Viscosity @ 40 ºC, cSt		D 445	32	46	68	100
Viscosity Index		D 2270	100	100	99	97
Flash Point, ºC		D 92	202	210	218	230
Pour Point, ºC		D 97	-24	-24	-24	-21
Density @ 15ºC, Kg/l		D 1298	0.87	0.874	0.881	0.886
Rust Test		D 665A/B	Pass	Pass	Pass	Pass
Emulsion Test 30 minutes max	@ 54 ºC	D 1401	Pass	Pass	Pass	-
	@ 82 ºC		-	-	-	Pass
Foam Test, foam after 10 minutes of settling for all sequences		D 892	Nil	Nil	Nil	Nil
Turbine Oil Stability Test, hrs		D 943	2500+			2000+
FZG, fail load stage, minimum		DIN 51354 Part II	11	11	11	11

ISO Viscosity grades			150	220	320	460
Specifications						
DIN 51524 Part 2-HLP			**X**			
AFNOR NFE 48-603 (HM)			**X**			
ISO 11158 HM			**X**			
Typical Properties						
Test Parameters		**ASTM Method**	**Typical Values**			
Viscosity @ 40 ºC, cSt		D 445	150	220	320	460
Viscosity Index		D 2270	96	96	95	95
Flash Point, ºC		D 92	246	256	266	280
Pour Point, ºC		D 97	-18	-15	-15	-12
Density @ 15ºC, Kg/l		D 1298	0.89	0.894	0.898	0.902
Rust Test		D 665A/B	Pass	Pass	Pass	Pass
Emulsion Test 30 minutes max	@ 82 ºC	D 1401	Pass	Pass	Pass	Pass
Foam Test, foam after 10 minutes of settling for all sequences		D 892	Nil	Nil	Nil	Nil
Turbine Oil Stability Test, hrs		D 943	1500+	1000+		
FZG, fail load stage, minimum		DIN 51354 Part II	11	11	11	11

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