Gulf Harmony ZF

High Performance Ashless Anti-wear Hydraulic Oil

Product Description

Gulf Harmony ZF series are high performance zinc free anti-wear hydraulic oils developed to provide excellent performance in hydraulic systems operating under moderate to severe conditions. They are formulated with an advanced ashless anti-wear technology and select base oils to provide reduced environmental impact in case of an accidental release into the environment. They exhibit excellent anti-wear property, thermo-oxidative stability, foam control and water separation properties. They are available in ISO 10 through ISO 220 viscosity grades and exceed the performance requirements of global industry standards viz. DIN 51524 part 2 (HLP), ISO 11158 HM, SIS SS 155434, etc.

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
- Advanced ashless additive technology reduces environmental impact in case of accidental spillage
- Special rust & corrosion inhibitors protect multi-metallurgy components even in presence of moisture
- Rapid air release property minimizes chances of pump cavitation leading to trouble free operations
- Compatible with multi-metals and sealing materials commonly used in hydraulic systems

Applications

- Hydraulic systems operating under moderate to severe conditions in mobile and industrial service even in environmentally sensitive applications
- Mobile hydraulic fluid power transmission systems and general machine lubrication
- Older design hydraulic pumps containing silver or silver-plated parts

Specifications & Typical Properties

ISO Viscosity grades		10	15	22	32	46	68	100
Meet the following Specifications								
DIN 51524 part 2 (HLP), AFNOR NF E 48-603 (HM), SIS SS155434, VDMA 24318, Hoesch HWN 2333, Thyssen TH N-256132, CETOP RP91 H (HM), U.S. Steel126, 127 and 136, Sperry Vickers M-2950-S and I-286-S, Denison Filterability TP 02100.		X	X	X	X	X	X	X
Typical Properties								
Test Parameters	**ASTM Method**	**Typical Values**						
Viscosity @ 40 ºC, cSt	D 445	10	15	22	32	46	68	100
Viscosity Index	D 2270	97	97	98	100	100	99	105
Flash Point, ºC	D 92	136	164	186	202	210	218	230
Pour Point, ºC	D 97	-42	-39	-36	-33	-30	-27	-24
Density @ 15ºC, Kg/l	D 1298	0.847	0.858	0.865	0.87	0.874	0.881	0.886
Rust Test	D 665A/B	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Emulsion Test 30 minutes max @ 54 ºC	D 1401	Pass	Pass	Pass	Pass	Pass	Pass	-
Emulsion Test 30 minutes max @ 82 ºC	D 1401	-	-	-	-	-	-	Pass
Foam Test, foam after 10 minutes of settling for all sequences	D 892	Nil	Nil	Nil	Nil	Nil	Nil	Nil
FZG, fail load stage, minimum	DIN 51354 Part II	-	-	-	11	11	11	11

ISO Viscosity grades		150	220
Meet the following Specifications			
DIN 51524 part 2 (HLP), AFNOR NF E 48-603 (HM), SIS SS155434, VDMA 24318, Hoesch HWN 2333, Thyssen TH N-256132, CETOP RP91 H (HM), U.S. Steel126, 127 and 136, Sperry Vickers M-2950-S and I-286-S, Denison Filterability TP 02100.		X	X
Typical Properties			
Test Parameters	**ASTM Method**	**Typical Values**	
Viscosity @ 40 ºC, cSt	D 445	150	220
Viscosity Index	D 2270	96	96
Flash Point, ºC	D 92	246	256
Pour Point, ºC	D 97	-21	-18
Density @ 15ºC, Kg/l	D 1298	0.89	0.894
Rust Test	D 665A/B	Pass	Pass
Emulsion Test 30 minutes max @ 54 ºC	D 1401	-	-
Emulsion Test 30 minutes max @ 82 ºC	D 1401	Pass	Pass
Foam Test, foam after 10 minutes of settling for all sequences	D 892	Nil	Nil
FZG, fail load stage, minimum	DIN 51354 Part II	11	11