CITGO® HyDurance® AW Fluids

OVERVIEW

- Superior anti-wear hydraulic and circulating oils specially formulated to offer excellent service in high-pressure, high-output industrial hydraulic circuits.
- Chemically stable with excellent resistance to sludge formation. Exhibit excellent protection and filterability.

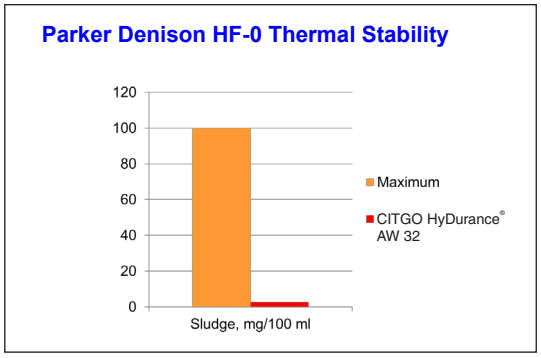
FEATURES & BENEFITS

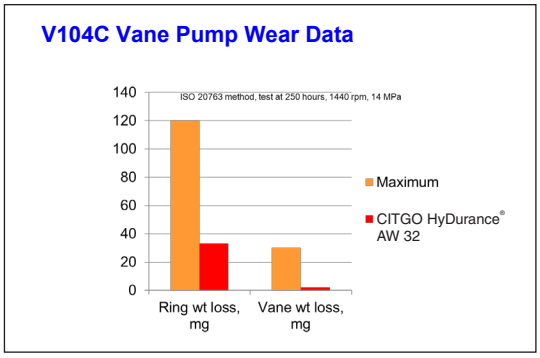
- Formulated with high-quality base stocks and premium additive components.
- Thermal stability for superior resistance to heat-related sludging in sensitive electro-hydraulic servos.
- Good hydrolytic stability means they will not contribute to the formation of metal-etching acids or corrosive reactants.
- Inhibited against rusting in both fresh and sea water, passing both A and B Procedures of the ASTM D665 Rust Test.
- Excellent anti-wear protection to pumps, motors, valves, and other hydraulic circuit components. Approved against stringent equipment performance requirements.
- Resistant to foaming and will not foster abnormal air entrainment in properly designed hydraulic circuits.
- Superior demulsibility to readily separate water, permitting draining of contaminating water from circulating systems.
- Premium performance in wet and dry filterability testing.

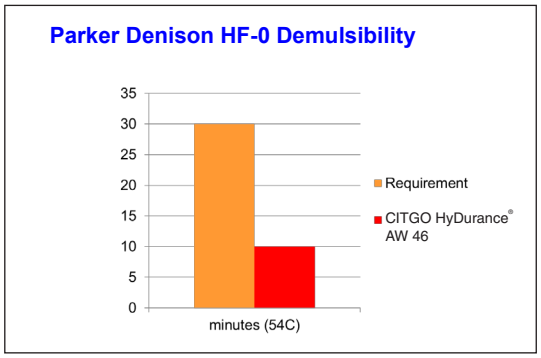
APPLICATIONS

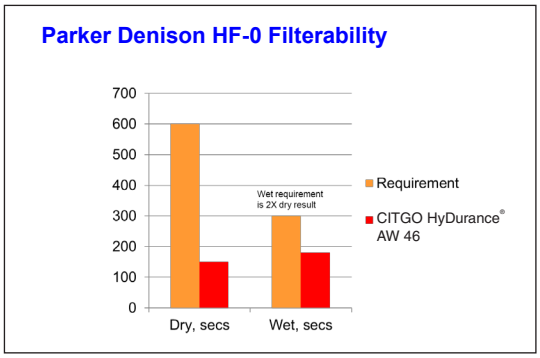
- Recommended for service in industrial and mobile hydraulic systems when used in accordance with equipment manufacturers' recommendations.
- Designed to provide enhanced service life to vane, piston, and gear pumps as well as other circuit components such as motors and servos.
- Recommended for use as a gear and bearing lubricant in industrial applications where rust- and oxidation-inhibited oils are required.
- Meet or exceed the following manufacturer specifications:

ASTM D6158 HM
Fives Cincinnati P-68, 69, 70
Parker Denison HF-0
DIN 51524-2
Eaton Brochure 03-401-2010
Bosch Rexroth RDE-90235
General Motors LS-2
JCMAS HK P041
ISO 11158 HM
SEB 181 222
US Steel 126, 127, 136

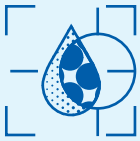








PROPERTIES



Typical Properties for CITGO HyDurance AW Fluids:

Grade	22	32	46	68	100	150
Material Code	633606001	633607001	633608001	633609001	633610001	633611001
Gravity, ASTM D4052, °API	33.7	32.6	31.2	30.8	28.6	29.3
Density, lb/gal	7.13	7.18	7.24	7.26	7.36	7.33
Flash Point, ASTM D92, °F (°C)	399 (204)	417 (214)	446 (230)	468 (242)	471 (244)	500 (260)
Viscosity						
cSt at 40°C	223	32.3	46.6	68	98	149
cSt at 100°C	4.45	5.59	6.96	9.0	11.1	14.8
Viscosity Index	110	111	106	107	98	99
FZG (A/8.3/90), pass load, ISO 14635-1	12	12	12	12	12	12
Pour Point, ASTM D97, °F (°C)	-40 (-40)	-40 (-40)	-36 (-33)	-36 (-33)	-36 (-33)	-31 (-24)
Color, ASTM D1500	L0.5	L0.5	L0.5	L0.5	L3.0	L2.5
Water Separability, ASTM D1401[1]	40-40-0	40-40-0	40-40-0	40-40-0	40-40-0	40-40-0
Oxidation Test, ASTM D943, Hrs.	6000	6000	6000	5000	4000	2850
Rust Test ASTM D665 A, B[2]	Pass	Pass	Pass	Pass	Pass	Pass
Meets Fives Cincinnati Requirement	—	P-68	P-70	P-69	—	—
AFNOR NF E 48-603	HM22	HM32	HM46	HM68	HM100	HM150
ISO VG No.	22	32	46	68	100	150

Notes: (1) 30 minutes max. separation time to ≤3ml emulsion. Test temperature is 130˚F for grades up through ISO 68. Test temperature is 180˚F for ISO 100 and 150.

(2) Pass - No Rust.(2) Procedure A (distilled water)