



CITGO A/W HYDRAULIC OILS

Date 03/18

**DESCRIPTION:** CITGO A/W Hydraulic Oils are superior anti-wear hydraulic and circulating fluids specially formulated with thermally stable additives. These oils offer outstanding resistance to sludge formation, chemical stability, and anti-wear protection.

**QUALITIES:** CITGO A/W Hydraulic Oils are designed for service in high-pressure, high-output industrial hydraulic circuits. CITGO A/W Hydraulic Oils:

- Utilize thermally stable zinc-based additives, helping to protect against heat-related sludge formation in sensitive electro-hydraulic servo valves. These oils are recommended for use in CNC machine tools and other high-output equipment where sustained heat is prevalent.
- Inhibited against rust in both fresh and sea water and pass both Procedures A and B of the ASTM D665 Rust Test.
- Approved against stringent performance requirements including Eaton Brochure 03-401-2010 (formerly Vickers 2950-S, I-286-S), Fives Cincinnati P-68, P-69, and P-70, and Parker Denison HF-O Revision J.
- Resist foaming and will not foster abnormal air entrainment in properly designed hydraulic circuits.
- Readily separate water, allowing water contamination to be drained from the sump.

**APPLICATIONS:** CITGO A/W Hydraulic Oils are recommended for service in vane, piston, and gear pumps when used in accordance with equipment manufacturers' recommendations. Designed to provide excellent service life to these pumps as well as to other circuit components such as motors and servos.

CITGO A/W Hydraulic Oils are also recommended for use as a gear and bearing lubricant in industrial applications where rust and oxidation inhibited oils are required.

**TYPICAL PROPERTIES:**

**CITGO A/W HYDRAULIC OILS**

Grade	32	46	68
Material Code	633491001	633492001	633493001
Gravity, ASTM D4052, °API	32.6	31.2	30.8
Density, lb/gal	7.18	7.24	7.26
Flash Point, COC, ASTM D92, °F (°C)	417 (214)	446 (230)	468 (242)
Viscosity, ASTM D445			
cSt at 40°C	32.3	46.6	68
cSt at 100°C	5.59	6.96	9.0
Viscosity Index	111	106	107
Pour Point, ASTM D97, °F (°C)	-27 (-33)	-22 (-30)	-17 (-27)
Color, ASTM D1500	L0.5	L0.5	L0.5
Water Separability, ASTM D1401	40-40-0	40-40-0	40-40-0
Oxidation Test, ASTM D943, Hrs.	>3000	>3000	>3000
Rust Test, ASTM D665 A, B	Pass	Pass	Pass
Eaton Brochure 03-401-2010	Yes	Yes	Yes
Meets Parker Denison HF-O Requirement	Yes	Yes	Yes
Meets Fives Cincinnati Requirement	P-68	P-70	P-69
AFNOR NF E 48-603	HM32	HM46	HM68
ISO VG No.	32	46	68

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