



## CITGO A/W HYDRAULIC OILS

Date 01/13

**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, are chemically stable, and exhibit excellent anti-wear protection.

**QUALITIES:** CITGO A/W Hydraulic Oils offer trouble-free service in high-pressure, high-output industrial hydraulic circuits. CITGO A/W Hydraulic Oils have these outstanding properties:

Utilize thermally stable zinc-type additives, virtually eliminating heat-related sludge formation in sensitive electro-hydraulic servos. These oils are recommended for use in N/C machine tools and other high-output equipment where sustained heat is prevalent.

Inhibited against rusting in both fresh and sea water and pass both A and B Sequences of the ASTM D 665 Turbine Oil Rust Test.

Offer excellent anti-wear protection to pumps, motors, valves and other hydraulic circuit components. Approved against stringent performance requirements including Cincinnati Lamb P-68, P-69 and P-70, Denison HF-O, and Eaton M-2950-S and I-286-S.

Resist foaming and will not foster abnormal air entrainment in properly designed hydraulic circuits.

Readily separate water permitting contaminating water 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 the 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 D 4052, °API	32.6	31.2	30.8
Density, lb/gal	7.18	7.24	7.26
Flash Point, COC, ASTM D 92, °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 D 97, °F (°C)	-27 (-33)	-22 (-30)	-17 (-27)
Color, ASTM D 1500	L0.5	L0.5	L0.5
Water Separability, ASTM D 1401	40-40-0	40-40-0	40-40-0
Oxidation Test, ASTM D 943, Hrs.	>2500	>2500	>2500
Rust Test, ASTM D 665 A, B	Pass	Pass	Pass
Meets Eaton Requirements			
M-2950-S, I-286-S	Yes	Yes	Yes
Meets Denison HF-O Requirement	Yes	Yes	Yes
Meets Cincinnati Lamb Requirement	P-68	P-70	P-69
AFNOR NF E 48-603	HM32	HM46	HM68
ISO VG No.	32	46	68