X/C® 5606H & 5606A Aviation Hydraulic Fluids

Phillips 66® X/C 5606H and X/C 5606A Aviation Hydraulic Fluids are mineral oil-based, high viscosity index, ashless (zinc-free) antiwear hydraulic fluids designed to meet the severe demands of aerospace and industrial applications. They have excellent oxidation resistance and outstanding low-temperature properties for use over a wide temperature range. They provide excellent wear protection for hydraulic pumps and motors, protect hydraulic system components against rust and corrosion, and are resistant to excessive foam buildup that can cause poor or sluggish hydraulic system response.

X/C 5606H Aviation Hydraulic Fluid meets the cleanliness requirements for "super clean" hydraulic fluid for use in modern aircraft hydraulic systems. X/C 5606A Aviation Hydraulic Fluid is recommended for use in hydraulic systems that do not require a "super clean" fluid. Both fluids are dyed red for identification and leak detection purposes.

Applications

X/C Aviation Hydraulic Fluids are recommended for use in non-pressurized systems operating between -54°C and 90°C (-65°F to 194°F), and in pressurized systems operating between -54°C and 135°C (-65°F to 275°F) at pressures up to 3,000 psi.[1] Typical applications include:

- Aircraft and missile control systems, autopilots and shock absorbers
- Auto wreckers, boom trucks and electrical service equipment (cherry pickers) where all-weather performance is required
- Industrial robotics
- Hydraulic systems that require a "super clean" fluid for extended service life and reliability (X/C 5606H)

[1] **Note:** Do **not** use these fluids in hydraulic systems with natural rubber elastomers.

X/C 5606H Aviation Hydraulic Fluid meets the requirements of:

- U.S. Military Specification MIL-PRF-5606H (supercedes MIL-O-5606, AN-O-336, AN-VV-O-336 and AAF-3580)

X/C 5606A Aviation Hydraulic Fluid meets the requirements of:

- U.S. Military Specification MIL-H-5606A (obsolete)

Features/Benefits

• Very high viscosity index for use over a wide temperature range
• Outstanding low-temperature properties
• Excellent wear protection
• Resists deposit formation and viscosity increase due to oxidation
• Protects against rust and corrosion
• Good foam resistance
• Does not contain zinc or other heavy metals

X/C® 5606H Aviation Hydraulic Fluid
Typical Properties

ISO Grade	**15**
Gravity, °API	31.0
Specific Gravity @ 60°F	0.871
Density, lbs/gal @ 60°F	7.25
Color, Visual	Red
Flash Point (PMCC), °C (°F)	90 (194)
Pour Point, °C (°F)	-64 (-83)
Viscosity, Kinematic	
cSt @ -54°C	2,450
cSt @ -40°C	495
cSt @ 40°C	13.5
cSt @ 100°C	5.1
Viscosity Index	382
Acid Number, ASTM D664, mg KOH/g	0.05
Copper Corrosion, ASTM D130, 71°C (160°F), 72 hours	1b
Dielectric Strength, ASTM D877, kv[2]	49.6
Evaporation Loss, ASTM D972, 71°C (160°F), 6 hours, wt %	13.6
Foam Resistance, ASTM D892, 75°F	25-0
Four-Ball Wear, ASTM D4172, Scar Diameter, mm	0.65
Gravimetric Filtration, FTM 313, mg/100 ml, 0.45 microns @ 25°C,	
Filter time, minutes	6
Particle Contamination, FTM 3012, Automatic Counter,	
Particle Size, microns	
5-15	1,200
16-25	175
26-50	60
51-100	5
100+	0
Water Content, ASTM D6304, ppm	60

[2] At the point of manufacture

X/C® 5606A Aviation Hydraulic Fluid

Typical Properties

ISO Grade	**15**
Specific Gravity @ 60°F	0.871
Density, lbs/gal @ 60°F	7.25
Color, Visual	Red
Flash Point (PMCC), °C (°F)	90 (194)
Pour Point, °C (°F)	-64 (-83)
Viscosity, Kinematic	
cSt @ -40°C (-40°F)	495
cSt @ 54°C (130°F)	10.2
Viscosity Index	382
Acid Number, ASTM D664, mg KOH/g	0.05
Precipitation Number, ASTM D91	0

Health and Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via *http://w3apps.phillips66.com/NetMSDS*.