Product Data

Castrol Brayco Micronic 756

Hydraulic Fluid, Petroleum Base
Aircraft, Missile, and Ordnance

Description

Castrol Brayco™ Micronic 756 is a petroleum base, low viscosity, red colored ISO Grade 15 hydraulic fluid for aircraft, missile and ordnance use. It is a blend of highly refined, selected base stocks with suitable additives, which yield a product with exceptionally good viscosity-temperature characteristics, good anti-wear properties, low rubber swell, and excellent oxidation stability. The use of a polymeric viscosity index improver of low molecular weight provides stability in comparison to typical hydraulic fluids.

Application

Brayco Micronic 756 is designed for use in aircraft, missile, and ordnance hydraulic systems where long term stability and a low temperature fluid is required. Brayco Micronic 756 is filtered to meet rigid particle contaminant requirements. It is intended for use in automatic pilots, shock absorbers, brakes, flap-control mechanisms, missile hydraulic servo-controlled systems and other hydraulic systems using synthetic sealing materials. Fluids compounded to meet this specification undergo certain changes with use. Further information relative to usable life may be found in Fainman and Mackenzie, "The Characteristics and Performance of Specification MIL-H-5606 Hydraulic Fluid," Lubrication Engineering 22234 (1966).

Typical Characteristics

TEST METHOD	DESCRIPTION	MIL-H-5606G REQUIREMENTS	RESULT
D 287	API Gravity, degrees	30.5 Typical	30.1
Table 3	Specific Gravity @ 60/60°F	0.8735 Typical	0.87
Table 8	Pounds per Gallon @ 60°F	7.273 Typical	7.28
D 445	Kinematic Viscosity, cSt @ 100°C (212°F) @ 40°C (104°F) @ -40°C (-40°F) @ -54°C (-65°F)	 4.90 Minimum 13.2 Minimum 600 Maximum 2500 Maximum	 5.1 13.5 487 2275
D 97	Pour Point, °C (°F)	-60 (-75) Maximum	-60 (-75)
D 93	Flash Point, PMCC, °C (°F)	82 (180) Minimum	96 (205)
D 664	Acid or Base Number, mgKOH/g	0.20 Maximum	0.03
Spec	Color	Red per standard	Pass
FTM 5308	Corrosion & Oxidation Stability 168 hrs @ 135°C (275°F) Weight change, mg/cm² Copper Aluminum Alloy Magnesium Alloy Steel Cadmium Plated Steel Appearance Copper color, ASTM Pitting, etching, corrosion Viscosity change @ 40°C (104°F), % Neutralization number increase	 +/-0.6 +/-0.2 +/-0.2 +/-0.2 +/-0.2 3 Maximum None -5 to +20 0.20 Maximum	 -0.053 -0.023 -0.015 0.000 +0.007 Pass Pass +9.6 0.02

FTM 3459	Low-Temperature Stability -54°C (-65°F) for 72 hrs	No solids or separation	Pass
Spec	Shear Stability, % Viscosity Decrease @ 40°C (104°F) @ -40°C (-40°F) Change in Acid or Base Number	 15 Maximum 15 Maximum 0.20 Maximum	 0.9 1.23 0.00
FTM 3603	Synthetic Rubber Swell, "L" % Volume Increase of L-Rubber (Buna N)	19.2 to 30.0	28
D 972	Evaporation, 6 hrs @ 71°C (160°F)	20 Maximum	9.6
D 130	Copper Strip Corrosion, 3 sets, 72 hrs @ 135°C (275°F)	2e Maximum	2b
FTM 3009	Solid Particle Contamination Number of particles per 100 mL of fluid, auto count 5 - 15 microns 16 - 25 microns 26 - 50 microns 51 - 100 microns 100 & larger	 10,000 1,000 150 20 5	 4500 195 50 10 1
	Gravimetric Residue mg per 100 mL Filtering Time, minutes	0.3 Maximum 15 Maximum	0.2 8.0
D 2270	Viscosity Index		367
D 892 (alt)	Foaming Characteristics @ 24°C (75°F) Foaming Tendency, mL Foaming stability @ end of 10 minutes	 65 Maximum 0 Maximum	 35 0
D 1744	Water by KFR, ppm	100 Maximum	36
D 4172	Steel-on-Steel Wear Condition B, AWSD, mm	 1 Maximum	 0.77
Spec	Workmanship	Pass	Pass
MIL-STD-1844	Chlorine, ppm Coefficient of Expansion 15.5°C - 71.1°C per °F	 50 Maximum	10 0.00042

SPECIFIC HEAT		THERMAL CONDUCTIVITY	
Temp., °F (°C)	**BTU/LB/°F**	**Temp., °F (°C)**	**BTU-ft²/hr/°F**
-60 (-54)	0.361	-65 (-54)	0.0816
-30 (-34.4)	0.377	0 (-17.8)	0.0802
0 (-17.8)	0.392	100 (37.8)	0.0777
80 (26.7)	0.453	200 (93.3)	0.0753
150 (65.6)	0.493	300 (148.9)	0.073
200 (93.3)	0.523		
250 (121.1)	0.552		

BULK MODULUS, ADIABATIC, @ 24°C (76°F)			VAPOR PRESSURE
Pressure, PSI	**Bulk Modulus, PSI**	**Temp. °C**	**mm of Hg**
0	232,000	145.6	30.3
100	243,000	133.3	17.9
2000	255,000	123.3	12.2
3000	266,000	110	6.7
		90	2.9
		12.8	0.01
		-17.8	0.0006
		-54	0.000005

Subject to usual manufacturing tolerances.

Additional Information

Temperature Range

Brayco Micronic 756 is designed to operate over the temperature range of -54ºC to 135ºC (-65ºF to 275ºF)

Specification

Brayco Micronic 756 meets the requirements and is qualified under military specification MIL-PRF-5606H. This fluid is identified by Military Symbol: OHA and NATO Code Number: H-515.

Castrol Industrial North America Inc. 150 West Warrenville Road, 605 3E Naperville, IL 60563
Tel: (877) 641 1600 Fax: (877) 648 9801
www.castrol.com/industrial