Castrol Brayco® Micronic 756

Hydraulic Fluid, Petroleum Base
Aircraft, Missile and Ordnance

PRODUCT DATA SHEET

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.

TEMPERATURE RANGE

-54ºC to 135ºC (-65ºF to 275ºF)

USE

Castrol 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. *Castrol 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).

PACKAGING

Castrol Brayco® Micronic 756 is available in 55 gallon drums, 6/1 gallon cases and 24/1 quart cases.

SPECIFICATION

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

CASTROL BRAYCO® MICRONIC 756
TYPICAL PROPERTIES

TEST METHOD	DESCRIPTION	MIL-H-5606G REQUIREMENTS	RESULT
D 287	API Gravity, degrees	30.5 Typical	30.1
Table 3	Specific Gravity @ 60/60ºF	0.8735 Typical	0.87
Table 8	Pounds per Gallon @ 60ºF	7.273 Typical	7.28
D 445	Kinematic Viscosity, cSt		
	@ 100ºC (212ºF)	4.90 Minimum	5.1
	@ 40ºC (104ºF)	13.2 Minimum	13.5
	@ -40ºC (-40ºF)	600 Maximum	487
	@ -54ºC (-65ºF)	2500 Maximum	2275
D 97	Pour Point, ºC (ºF)	-60 (-75) Maximum	-60 (-75)
D 93	Flash Point, PMCC, ºC (ºF)	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 @ 135ºC (275ºF)		
	Weight change, mg/cm2		
	Copper	±0.6	-0.053
	Aluminum Alloy	±0.2	-0.023
	Magnesium Alloy	±0.2	-0.015
	Steel	±0.2	0.000
	Cadmium Plated Steel	±0.2	+0.007
	Appearance		
	Copper color, ASTM	3 Maximum	Pass
	Pitting, etching, corrosion	None	Pass
	Viscosity change @ 40ºC (104ºF), %	-5 to +20	+9.6
	Neutralization number increase	0.20 Maximum	0.02
FTM 3459	Low-Temperature Stability	No solids or	Pass
	-54ºC (-65ºF) for 72 hrs	separation	
Spec	Shear Stability, %		
	Viscosity Decrease		
	@ 40ºC (104ºF)	15 Maximum	0.9
	@ -40ºC (-40ºF)	15 Maximum	1.23
	Change in Acid or Base Number	0.20 Maximum	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 @ 71ºC (160ºF)	20 Maximum	9.6
D 130	Copper Strip Corrosion, 3 sets, 72 hrs @ 135ºC (275ºF)	2e Maximum	2b
FTM 3009	Solid Particle Contamination		
	Number of particles per 100 mL of fluid, auto count		
	5 - 15 microns	10,000	4500
	16 - 25 microns	1,000	195
	26 - 50 microns	150	50
	51 - 100 microns	20	10
	100 & larger	5	1

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TYPICAL PROPERTIES

TEST METHOD	DESCRIPTION	MIL-H-5606G REQUIREMENTS	RESULT
	Gravimetric Residue mg per 100 mL	0.3 Maximum	0.2
	Filtering Time, minutes	15 Maximum	8.0
D 2270	Viscosity Index		367
D 892 (alt)	Foaming Characteristics @ 24ºC (75ºF)		
	Foaming Tendency, mL	65 Maximum	35
	Foaming stability @ end of 10 minutes	0 Maximum	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	50 Maximum	10
	Eoefficient of Expansion		
	15.5ºC - 71.1ºC per ºF		0.00042

SPECIFIC HEAT		THERMAL CONDUCTIVITY	
Temp., ºF (ºC)	BTU/LB/ºF	Temp., ºF (ºC)	BTU-ft^2/hr/ºF
-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)	0.0730
200 (93.3)	0.523		
250 (121.1)	0.552		

BULK MODULUS, ADIABATIC, @ 24ºC (76ºF)			VAPOR PRESSURE
Pressure, PSI	Bulk Modulus, PSI	Temp. ºC	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	110.0	6.7
		90.0	2.9
		12.8	0.01
		-17.8	0.0006
		-54.0	0.000005

Castrol Industrial North America Inc.
Specialty Products Division
1100 West 31st Street
Downers Grove, Illinois 60515
Telephone: **(800) 636-5823** Fax: **(630) 241-4140**