



Product Data

Castrol Brayco Micronic 881

Hydraulic Fluid, Low Temperature
Fire Resistant, Synthetic Hydrocarbon Base

Description

Castrol Brayco™ Micronic 881 is a fire resistant, synthetic hydrocarbon base, low temperature ISO viscosity Grade 7, red-colored hydraulic fluid for aircraft, missile, ordnance, and industrial use. It is specifically designed for low temperature applications where low temperature stability is particularly important. This product also provides controlled rubber swell for long seal life, low foaming properties, excellent anti-wear, corrosion protection, and oxidation stability.

Temperature Range

Brayco Micronic 881 is designed to operate over the temperature range of -54°C TO 135°C (-65°F TO 275°F)

Application

Brayco Micronic 881 is designed as a low temperature fire resistant hydraulic fluid for aircraft and missile use, but has use in many industrial applications as well.

Specification

Brayco Micronic 881 is qualified to MIL-PRF-87257A.

Typical Characteristics

TEST METHOD (ASTM)	DESCRIPTION	MIL-PRF-87257A REQUIREMENT	RESULT
D 445	Kinematic Viscosity, cSt @ 100°C (212°F) @ 40°C (104°F) @ -40°C (-40°F) @ -54°C (-65°F) 3 hrs soak @ -54°C (-65°F), cSt 72 hrs soak @ -54°C (-65°F), cSt	2.0 Minimum 6.7 Minimum 550 Maximum 2500 Maximum Report Report	2.21 7.2 492 2350 2354 2377
FTM 350	Evaporation, % wt 6.5 hrs @ 135°C (275°F)	20 Maximum	15
D 92	Flash Point, COC, °C (°F)	170 (338) Minimum	172 (342)
D 92	Fire Point, COC, °C (°F)	180 (356) Minimum	190 (375)
D 4172	Four-Ball Wear-Test, AWSD, mm 1 kg load 10 kg load 40 kg load	0.21 Maximum 0.30 Maximum 0.65 Maximum	0.12 0.22 0.56
D 664	Neutralization Number, mgKOH/gm	0.20 Maximum	0.11
D 1744	Water Content, ppm	100 Maximum	46
FTM 3603	Rubber Swell, "L", %	19.0 – 30.0	28
FTM 3465	Low Temperature Stability, 72 hrs @ -54°C (-65°F)	No gelling, sediment, clouding, separation or crystallization	Pass
Spec 4.4.5	High Temperature Stability Viscosity Change @ 40°C (104°F), % Acid or Base No. Increase Precipitate or insoluble material	5 Maximum 0.1 Maximum None	+2.25 0.00 None
D 892	Foaming Characteristics Sequence I, Foaming Tendency after 5 min blowing, mL Foaming Stability after 10 min, mL	65 Maximum 0	25 0
D 2270	Viscosity Index		115

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Tel: (877) 641 1600 Fax: (877) 648 9801
www.castrol.com/industrial

TEST METHOD (ASTM)	DESCRIPTION	MIL-PRF-87257A REQUIREMENT	RESULT
D 287	API Gravity, degrees	Report	36.3
Table 3	Specific Gravity @ 16/16°C (60/60°F)	0.8503 - 0.8363	0.8433
Table 8	Pounds per Gallon @ 16°C (60°F)	Report	7.022
FTM 3603	Corrosion & Oxidation Stability 168 hrs @ 135°C (275°F) Corrosion, pitting, etching	None	None
	Corrosion Weight Change, mg/cm ²		
	Copper	+/-0.6	-0.02
	Steel	+/- 0.2	0.01
	Aluminum	+/- 0.2	-0.01
	Magnesium	+/- 0.2	-0.01
	Cadmium	+/-0.2	0.02
	Oxidation		
	Viscosity Change @ 40°C (104°F), cSt	-10 to +10%	+2
	Acid or Base No. Increase	0.20 Maximum	0.0
	No evidence of oil separation, insoluble materials, or gumming	None	Pass
D 130	Copper Strip Corrosion	Not greater than 3	2A
Table VII Spec 4.4.6	Solid Particle Contamination Size, Autocount, µm	Maximum number permitted per 100 mL	
	5 - 15	10,000	2500
	16 - 25	1,000	248
	26 - 50	150	59
	51 - 100	20	7
	Over 100	5	0
	Gravimetric Residue, mg solids	0.3 Maximum	0.1
	Filtration Time, minutes	15 Maximum	7
D 97	Pour Point, °C (°F)	-60 (-76) Maximum	-66 (-85)

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TEST METHOD (ASTM)	DESCRIPTION	MIL-PRF-87257A REQUIREMENT	RESULT
Spec 4.4.4	Bulk Modulus (Isothermal Secant) 0 to 6.9 x 10 ⁴ KpA @ 40°C, KpA 10,000 psi @ 100°F (38°C), psi	1.379 x 10 ⁶ Minimum 200,000 Minimum	Pass Pass
FTM 6052	High Temperature High Pressure Spray Ignition	No burn after ignition source is removed	Pass
Spec	Flame propagation rate, cm/sec	0.5 Maximum	0.26
E 659	Auto-Ignition Temperature, °C (°F)	- -	345 (653)
D 445	Low Temperature Viscosity Stability 3 hrs @ -54°C (-65°F), cSt 72 hrs @ -54°C (-65°F), cSt	2500 Maximum 2500 Maximum	2297 2331
Spec 4.4.3	Compatibility	Pass	Pass
D 1500	Color, ASTM, Basestock	1.0 Maximum	<0.5
Spec 4.4.7	Color, Finished Fluid	Red Standard	Pass

Subject to usual manufacturing tolerances.

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