

Castrol Brayco Micronic 783

Hydraulic Fluid, Petroleum Base for Preservation and Operation

Description

Castrol Brayco™ Micronic 783 is a petroleum-based, low viscosity, ISO grade 15 red colored hydraulic and preservative fluid for aircraft and ordnance use. It is a blend of selected petroleum oils with additives which provide exceptionally good viscosity-temperature characteristics, good anti-wear properties, controlled rubber swell, good shear stability and excellent oxidation resistance. Brayco Micronic 783 is an excellent corrosion preventative and provides a high degree of detergency to maintain clean systems.

Application

Brayco Micronic 783 is designed for aircraft, ordnance and other general hydraulic use, and for preserving hydraulic components over a temperature range of -54°C to 135°C (-65°F to 275°F). It may be used as an operational preservative fluid for all tactical and support ordnance intended for use in MIL-PRF-5606 service. Brayco Micronic 783 can be used in hydraulic systems of missile ground support equipment and is particularly suitable for use in systems with long periods of inactivity during service.

Typical Characteristics

Test	Method	Units	Specification Requirements	Result
API Gravity	ASTM D287	degrees		29.5
Specific Gravity @16°C/60°F	Table 3		0.8650 - 0.8820	0.88
Density @16°C/60°F	Table 8	Lbs/gal		7.32
Kinematic Viscosity @40°C/104°F @100°C/212°F @-40°C/-40°F @-54°C/-65°F	ASTM D445	cSt	13 Minimum 800 Maximum 3500 Maximum	13.6 4.7 650 3450
Pour Point	ASTM D97	°C/°F	-59/-75 Maximum	-65/85
Flash Point, PMCC	ASTM D93	°C/°F	82/180 Minimum	100/212
Acid or Base Number	ASTM D664	mg KOH/gm	0.20 Maximum	0.08
Trace Sediment	ASTM D2273	mL	0.005 Maximum	0.001
Water by KFR	ASTM D1744	%	0.05 Maximum	0.01
Color, as Per Standard	Spec 4.5.1	Pass/Fail	Pass	Pass
Corrosion-Oxidation Stability, 168 hrs @ 121°C/250°F Weight Change	ASTM D4636			
Copper		mg/cm ²	0.6 Maximum	-0.01
Steel		mg/cm ²	0.2 Maximum	-0.01
Aluminum		mg/cm ²	0.2 Maximum	+0.01
Magnesium		mg/cm ²	0.2 Maximum	+0.01
Cadmium		mg/cm ²	0.2 Maximum	+0.02
Corrosion, Pitting, or Etching	Report	None	None	
Separation or Gummying	Report	None	None	
Change in Viscosity @40°C/104°F		%	-5 to +20	3.5
Increase in Acid Number	Report		0.20 Maximum	0.12

Test	Method	Units	Specification Requirements	Result
Copper Strip, 72 hrs @100°C/212°F	ASTM D130	Report	Less than 3a	1b
Corrosion Inhibition, 100 hrs @49°C/120°F Polished Panels Sandblasted Panels	ASTM D1748	Pass/Fail Pass/Fail	Pass Pass	Pass Pass
Low Temperature Stability 72 hours @-54°C/-65°F	Spec 4.5.7	Pass/Fail	No gelling, crystallization, or separation	Pass
Rubber Swell, 168 hours @70°C/158°F	Spec 4.5.5	%	19 – 28	24
Evaporation Loss, 22 hours @100°C/212°F	ASTM D972	% wt	75 Maximum	43
Corrosivity, 10 Days	Appendix A	Pass/Fail	No corrosion, etching, pitting, staining	Pass
Steel-on-Steel Wear, AWS D	ASTM D4172	mm	1 Maximum	0.77
Foam, Tendency/Stability Sequence 1 Sequence 2 Sequence 3	ASTM D892	ml	65/0 Maximum 65/0 Maximum 65/0 Maximum	40/0 20/0 40/0
Particle Contamination per 100 ml, Autocount 5 - 25 Microns 26 - 50 Microns 51 - 100 Microns 100 plus Microns	FTM 3009	#of particles	10,000 Maximum 250 Maximum 50 Maximum 10 Maximum	3900 50 13 2
Filtration Time	Spec 4.5.6.3	Minutes	15 Maximum	7.5
Gravimetric Residue	ASTM D4898	mg per 100 mL	0.5 Maximum	0.23
Viscosity Index	ASTM D2270			291
Corrosion Inhibitors: Chloride Content as Calcium Chloride Sulfate Content as Calcium Sulfate Acid Number	Spec 4.5.10.1 4.5.10.2.2	% %	0.02 Maximum 0.05 Maximum 0.10 Maximum	0.002 0.01 0.0
Workmanship	Spec 3.7	Pass/Fail	Pass	Pass

Subject to usual manufacturing tolerances.

Additional Information

Material Compatibilities

Brayco Micronic 783 is generally used with standard synthetic rubber "L". This petroleum base fluid may be used with conventional oil and grease resistant paints. Brayco Micronic 783 as all other MIL-PRF-6083 fluids should only be mixed with MIL-PRF-5606, MIL-PRF-46170 and MIL-PRF-83282 fluids.

Specifications

Brayco Micronic 783 meets the requirements of and is qualified to MIL-PRF-6083F. It also meets the requirements for a P-15 preservative under packaging specification MIL-P-116. This fluid is identified by Military Symbol: OHT and NATO Code Number: C-635.

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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

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