Product Data

Brayco Micronic 783

Speciality Hydraulic Fluid

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.

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

Application

Brayco Micronic 783 is designed for aircraft, ordnance and other general hydraulic use and for preserving hydraulic components over a temperature range of -54ºC to 135ºC (-65ºF to 275ºF). 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 the hydraulic systems of missile ground support equipment and is particularly suitable for use in systems with long periods of inactivity during service.

Conditions of Use

Brayco Micronic 783 is generally used in contact with "L" type standard synthetic rubber material.

May be used with conventional oil and grease resistant paints.

As with all other fluids meeting MIL-PRF-6083 requirements, thsi product should only be mixed with other fluids meeting MIL-PRF-5606, MIL-PRF-46170 and MIL-PRF-83282 specifications.

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Typical Characteristics

Name	Method	Units	MIL-PRF-6083F specification	Brayco Micronic 783
API Gravity	ASTM D287	-	-	29.5
Specific Gravity @ 15°C / 59°F	ISO 3675 / ASTM D1298	-	0.8650 - 0.8820	0.88
Density @ 15°C / 59°F	ISO 12185 / ASTM D4052	kg/m³	-	730
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm²/s	13 min.	13.6
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm²/s	-	4.7
Kinematic Viscosity @ -40°C / -40°F	ISO 3104 / ASTM D445	mm²/s	800 max.	650
Kinematic Viscosity @ -54°C / -65°F	ISO 3104 / ASTM D445	mm²/s	3500 max.	3450
Pour Point	ISO 3016 / ASTM D97	°C/°F	-59 / -75 max.	-65 / -85
Flash Point - closed cup method	ISO 2719 / ASTM D93	°C/°F	82 / 180 min.	100 / 212
Acid Number	ISO 6619 / ASTM D664	mgKOH/g	0.20 max.	0.08
Trace Sediment	ASTM D2273	ml/200ml	0.005 max.	0.001
Water Content - Karl Fischer test (coulometric test)	ISO 6296 / ASTM D1744	ppm	0.05 max.	100
Colour	ASTM D1500	Pass	Pass	Pass
Corrosion & Oxidation Stability - 168 hrs @ 121°C / 250°F:	ASTM D4636-09			
Copper weight change		mg/cm²	0.6 max.	-0.01
Steel weight change		mg/cm²	0.2 max.	-0.01
Aluminium weight change		mg/cm²	0.2 max.	0.01
Magnesium weight change		mg/cm²	0.2 max.	0.01
Cadium weight change		mg/cm²	0.2 max.	0.02
Corrosion pitting or etching		Report	None	None
Separation or gumming		Report	None	None
Change in Viscosity		% Change	-5 to 20	3.5
Increase in acid number		Report	0.20 max.	0.12
Copper corrosion (72 hrs@100°C/212°F)	ISO 2160 / ASTM D130	Rating	Less than 3a	1b
Rust Protection - Humidity Cabinet test - Polished Panels	ASTM D1748-10 / FTM 5329	Pass	Pass	Pass
Rust Protection - Humidity Cabinet test - Sandblasted Panels	ASTM D1748-10 / FTM 5329	Pass	Pass	Pass
Low Temp Stability test	FTM 3458	Pass	No gelling, crystallisation or separation	Pass
Elastomer Compatibility with Rubber Swell (168 hrs @ 70°C)	FTM 3603	% Volume Change	19-28	24
Evaporation Loss, 22hrs @ 100°C / 212°F	ASTM D972	% wt	75 max.	43
Corrosivity, 10 Days	MIL-PRF-6083F Appendix A	Pass	No corrosion, etching, pitting, staining	Pass
Four Ball Wear test - Wear Scar Diameter (15 or 40 kgf / 75°C / 1200 rpm / 1 hr)	ASTM D4172	mm	1 max.	0.77
Foam Sequence I - tendency / stability	ISO 6247 / ASTM D892	ml/ml	65/0 max.	40/0
Foam Sequence II - tendency / stability	ISO 6247 / ASTM D892	ml/ml	65/0 max.	20/0
Foam Sequence III - tendency / stability	ISO 6247 / ASTM D892	ml/ml	65/0 max.	40/0
Particle contamination per 100 ml (5 - 25 microns)	FTM 3009	no. of particles	10,000 max.	3900
Particle contamination per 100 ml (26 - 50 microns)	FTM 3009	no. of particles	250 max	50
Particle contamination per 100 ml (51 - 100 microns)	FTM 3009	no. of particles	50 max.	13

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Particle contamination per 100 ml (100 plus microns)	FTM 3009	no. of particles	10 max.	2
Filtration Time	MIL-PRF-6083F spec 4.5.6.3	mins	15 max.	7.5
Gravimetric Residue	ASTM D4898	mg per 100 ml	0.5 max.	0.23
Viscosity Index	ISO 2909 / ASTM D2270	-	-	291
Corrosion inhibitors: Chloride content as Calcium Chloride	MIL-PRF-6083F spec 4.5.1.0.1.4.5.1.0.2.2	%	0.2 max.	0.002
Corrosion inhibitors: Sulphate content as Calcium sulphate	MIL-PRF-6083F spec 4.5.1.0.1.4.5.1.0.2.2	%	0.5 max.	0.01
Corrosion inhibitors: Acid Number	MIL-PRF-6083F spec 4.5.1.0.1.4.5.1.0.2.2	-	0.10 max.	0.0
Workmanship	MIL-PRF-6083F spec 3.7	Pass	Pass	Pass

Subject to usual manufacturing tolerances.

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