



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 -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 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, this product should only be mixed with other fluids meeting MIL-PRF-5606, MIL-PRF-46170 and MIL-PRF-83282 specifications.

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/m ³	-	730
Kinematic Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm ² /s	13 min.	13.6
Kinematic Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm ² /s	-	4.7
Kinematic Viscosity @ -40°C / -40°F	ISO 3104 / ASTM D445	mm ² /s	800 max.	650
Kinematic Viscosity @ -54°C / -65°F	ISO 3104 / ASTM D445	mm ² /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
<u>Corrosion & Oxidation Stability - 168 hrs @ 121°C / 250°F:</u> Copper weight change Steel weight change Aluminium weight change Magnesium weight change Cadium weight change Corrosion pitting or etching Separation or gumming Change in Viscosity Increase in acid number	ASTM D4636-09	mg/cm ² mg/cm ² mg/cm ² mg/cm ² mg/cm ² Report Report % Change Report	0.6 max. 0.2 max. 0.2 max. 0.2 max. 0.2 max. None None -5 to 20 0.20 max.	-0.01 -0.01 0.01 0.01 0.02 None None 3.5 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
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.

Brayco Micronic 783

01 Nov 2012

Castrol, the Castrol logo and related marks are trademarks of Castrol Limited, used under licence.

This data sheet and the information it contains is believed to be accurate as of the date of printing. However, no warranty or representation, express or implied, is made as to its accuracy or completeness. Data provided is based on standard tests under laboratory conditions and is given as a guide only. Users are advised to ensure that they refer to the latest version of this data sheet. It is the responsibility of the user to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations. Material Safety Data Sheets are available for all our products and should be consulted for appropriate information regarding storage, safe handling, and disposal of the product. No responsibility is taken by either BP plc or its subsidiaries for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from hazards inherent in the nature of the material. All products, services and information supplied are provided under our standard conditions of sale. You should consult our local representative if you require any further information.

Castrol Industrial, Technology Centre , Whitchurch Hill , Pangbourne , Reading , RG8 7QR , United Kingdom

www.castrol.com/industrial