



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 |

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|--|--|------------------|-------------|-------|
| 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.

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