

Technical Data Sheet Eastman™ Turbo Oil 2389

Application/Uses

- APU
- Aviation

Key Attributes

- 3 cSt synthetic lubricant
- Cold weather

Product Description

Eastman™ Turbo Oil 2389 is a low viscosity gas turbine oil, offering exceptional cold-start capability.

Many large commercial airlines use Eastman™ Turbo Oil 2389 in their auxiliary power units (APUs), because of the reliability it affords this equipment when starting after long, cold-soaks at altitude. Eastman™ Turbo Oil 2389 is the only MIL-PRF-7808 Grade 3 qualified oil that is fully approved in all Honeywell and Hamilton Sundstrand APUs. Eastman™ Turbo Oil 2389 is formulated from synthetic base stocks and advanced technology additives, to provide the combined thermal and oxidation stability properties of commercial Type II lubricants, with the low temperature fluidity characteristics of a 3 centistoke oil. It also has load-carrying ability equal to, or better than, other approved MIL-PRF-7808 Grade 3 oils.

Typical Properties

| Property | Test Method | Typical Value, Units |
|----------------------------------|-------------------|--------------------------|
| Density @ 15°C | ASTM D 1298 | 0.9511 kg/L |
| Viscosity, Kinematic | | |
| @ 100°C | ASTM D 445 | 3.19 mm ² /s |
| @ 40°C | ASTM D 445 | 12.46 mm ² /s |
| @ -51°C after 3 hours | ASTM D 2532 | 7,800 mm ² /s |
| Pour Point | ASTM D 97 | -60°C |
| Flash Point | ASTM D 92 | 220°C |
| Total Acid Number (Average) | ASTM D 664 | 0.20 mg KOH/g |
| Deposition Test ^a | | |
| Acid Number Change | FED-STD-791, 5003 | 11.2 mg KOH/g |
| Average Viscosity Change | FTM 5003 | 17.77% |
| Oil Consumption | FED-STD-791, 5003 | 100 ml |
| Evaporation Loss 6.5 hrs @ 205°C | ASTM D 972 | 20.0% |
| Foaming Volume ^b | | |
| 80°C @ 1000 cc/min | FED-STD-791, 3214 | 15/8 ml/sec |
| 80°C @ 1500 cc/min | FED-STD-791, 3214 | 45/8 ml/sec |

| | |
|---------------------|------------------------------------|
| 80°C @ 2000 cc/min | FED-STD-791, 105/15 ml/sec 3214 |
| 110°C @ 1000 cc/min | FED-STD-791, 20/8 ml/sec 3214 |
| 110°C @ 1500 cc/min | FED-STD-791, 55/8 ml/sec 3214 |
| 110°C @ 2000 cc/min | FED-STD-791, 170/18 ml/sec 3214 |

Corrosion & Oxidative Stability ^c

| | |
|-------------------------|---|
| Aluminium Weight Change | FED-STD-791, 0.00 mg/cm ² 5307 |
| Silver Weight Change | FED-STD-791, -0.02 mg/cm ² 5307 |
| Bronze Weight Change | FED-STD-791, 0.04 mg/cm ² 5307 |
| Iron Weight Change | FED-STD-791, 0.02 mg/cm ² 5307 |
| M-50 Weight Change | FED-STD-791, -0.02 mg/cm ² 5307 |
| Magnesium Weight Change | FED-STD-791, -0.02 mg/cm ² 5307 |
| Titanium Weight Change | FED-STD-791, 0.00 mg/cm ² 5307 |
| Viscosity Change @ 40°C | FED-STD-791, 9.5% 5307 |
| Neut. No | FED-STD-791, 0.96 5307 |

^a Average deposition rating = 0.59

^b Dynamic foaming characteristics

^c 96 hrs @ 200°C

Eastman and its marketing affiliates shall not be responsible for the use of this information, or of any product, method, or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability of fitness of any product, and nothing herein waives any of the Seller's conditions of sale.

13-Oct-2014 4:26:14 PM