

## Product Data

### **BP Turbo Oil 2389** Advanced APU Oil

#### **Description**

- BP Turbo Oil 2389 is a 3 cSt synthetic lubricant.
- BP Turbo Oil 2389 is approved against US military specification MIL-PRF-7808 grade 3 and incorporates a level of technology from Type II (5 cSt) commercial turbine lubricants.

#### **Application**

- This lubricant combines the thermal and oxidation stability of our commercial 5 cSt synthetic lubricant, BP Turbo Oil 2380, with the ability to flow at extremely low environmental temperature. In addition, it has gear-carrying ability equal to or better than other approved MILPRF-7808 Grade 3 oils.
- BP Turbo Oil 2389 thus affords the military operator the lower viscosity advantage of MIL-PRF-7808 Grade 3 oils while providing the higher quality advantages of the Type II commercial oils, especially with respect to better thermal and oxidation stability.
- BP Turbo Oil 2389 has a wide range of APU applications.

BP Turbo Oil 2389 has been approved by a wide range of engine and accessory manufacturers for their applicable equipment, including:

Rolls-Royce, GE, Pratt & Whitney, Pratt & Whitney Canada, Pratt & Whitney Aero Power APUs (formally Hamilton Sundstrand) United Technologies Aerospace Systems (formally Hamilton), Honeywell, CFMI, MTU and Turbomeca.

Please contact our local representatives shown in the Eastman Aviation Solutions website for approval details.

#### **Advantages**

- A major advantage of BP Turbo Oil 2389 is its ability to limit the formation of vapor phase deposits.
- BP Turbo Oil 2389 provides load carrying ability well in excess of requirements established by the engine and accessory manufacturers.
- The superior low temperature viscosity of BP Turbo Oil 2389 makes it a better product for low temperature application. Many APU operators prefer to use 3 cSt oil, such as BP Turbo Oil 2389 for lubrication in order to improve its cold start reliability.

#### **Storage**

- The shelf life of BP Turbo Oil 2389 can extend beyond ten years when stored in original, unopened quart cans under recommended storage conditions, i.e. in a well ventilated and covered area away from extreme heat and moisture etc. 55-gallon drums and 5-gallon pails have an expected shelf life of three years minimum.
- For all package styles, shelf life can be increased significantly beyond those stated above, depending upon storage conditions.

Please contact your Eastman representative if you have any questions about product usability.

## Typical Characteristics

Name	Method	Units	BP Turbo Oil 2389
Density @ 15°C	ASTM D1298	Kg/l	0.9511
Kinematic Viscosity @ 100°C	ASTM D445	mm <sup>2</sup> /s	3.19
Kinematic Viscosity @ 40°C	ASTM D445	mm <sup>2</sup> /s	12.46
Kinematic Viscosity @ -51°C after 3 hours	ASTM D2532	mm <sup>2</sup> /s	7,800
Pour Point	ASTM D97	°C	-60
Flash Point	ASTM D92	°C	220
Total Acid Number	SAE ARP5088	mgKOH/g	0.43
<b>Deposition Test, avg. deposition rating</b>			0.59
Acid Number Change	FED Test Method	mgKOH/g	11.2
Viscosity @ 40°C	STD.NO.791, 5003	% Change	96
Oil Consumption		ml	100
Evaporation Loss (6.5 hrs @ 205°C)	ASTM D972	%	20.0
<b>Foaming Characteristics (dynamic), Foam Volume</b>			
80°C @ 1000 cc/min	FED. Test Method STD.NO.791, 3214	ml/collapse time (sec)	15/8
80°C @ 1500 cc/min			45/8
80°C @ 2000 cc/min			105/15
110°C @ 1000 cc/min			20/8
110°C @ 1500 cc/min			55/8
110°C @ 2000 cc/min			170/18
<b>Corrosion &amp; Oxidative Stability (96 hrs @ 200°C)</b>			
Aluminium Weight Change	FED. Test Method STD.NO.791, 5307	mg/cm <sup>2</sup>	0.00
Silver Weight Change		mg/cm <sup>2</sup>	-0.02
Bronze Weight Change		mg/cm <sup>2</sup>	0.04
Iron Weight Change		mg/cm <sup>2</sup>	0.02
M-50 Weight Change		mg/cm <sup>2</sup>	-0.02
Magnesium Weight Change		mg/cm <sup>2</sup>	-0.02
Titanium Weight Change		mg/cm <sup>2</sup>	0.00
Viscosity Change @ 40°C		%	9.5
Neut. No		Change	0.96

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