



Product Data

Turbo Oil 2380

Aircraft-type gas turbine lubricant

Description

Turbo Oil 2380 gas turbine lubricant is a combination of a highly stable synthetic base fluid and a unique chemical additive package. The combination provides outstanding thermal and oxidation stability to resist deterioration and deposit formation in both the liquid and vapour phases, as well as excellent resistance to foaming. The effective operating range of Turbo Oil 2380 is between -40°C and +204°C. Pour point is -57°C. The product has a high specific heat in order to ensure good heat transfer from oil-cooled engine parts. The high degree of oxidation resistance of Turbo Oil 2380 permits long periods of operation without significant increase in viscosity or total acidity.

Application

Turbo Oil 2380 is recommended for aircraft gas turbine engines of the turbo-jet, turbo-fan, turbo-prop and turbo-shaft (helicopter) types in commercial and military service. It also is recommended for aircraft-type gas turbine engines in industrial or marine application.

Approvals

Turbo Oil 2380 is approved against U.S. Military Specification MIL-PRF-23699F-STD. It is also approved by a wide range of engine and accessory manufacturers including:

- Allison Engine Co.
- General Electric Company.
- Pratt & Whitney Group, United Technologies Corp.
- SNECMA.
- Pratt & Whitney, Canada.
- Rolls-Royce Limited.

Advantages

- Excellent thermal and oxidation stability minimizes formation of varnish and sludge deposits.
- Excellent load carrying performance increasing the life of bearings, gears and other highly loaded lubricated surfaces.
- Exceptional fluidity at -40°C enables use in critical applications where other Type II lubricants are excessively viscous.

Typical Characteristics

Name	Method	Units	Turbo Oil 2380
Density @ 15°C	ASTM D1298	g/ml	0.9749
Viscosity, Kinematic 100°C	ASTM D445	mm ² /s	4.97
Viscosity, Kinematic 40°C	ASTM D445	mm ² /s	24.2
Viscosity, Kinematic -40°C	ASTM D2532	mm ² /s	7950
Pour Point	ASTM D97	°C	-57
Flash Point	ASTM D92	°C	265
TAN	SAE ARP 5088	mgKOH/g	0.43
Evaporation Loss (6.5 h, 204°C)	ASTM D972	% wt	3.0
Foaming Characteristics Sequence 1 @ 24°C	ASTM D892		9/0
Foaming Characteristics Sequence 2 @ 93°C	ASTM D892		8/0
Foaming Characteristics Sequence 3 @ 24°C	ASTM D892		8/0
Load Carrying Ability, IAE Gear Machine % Ref Oil A, 2000 rpm	IP166		99
Load Carrying Ability, IAE Gear Machine % Ref Oil A, 6000 rpm	IP166		86
Rubber Swell - Nitrile Rubber, 192h @ 130°C	DERD Test, Method 4	%	10.5
Rubber Swell - Viton Rubber, 192h @ 200°C	DERD Test, Method 4	%	22.5
Rubber Swell - Silicone Rubber, 192h @ 175°C	DERD Test, Method 4	%	10.5
Rubber Swell - Viton LCS Rubber, 192h @ 200°C	DERD Test, Method 4	%	14

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.

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