



## SYNTHETIC AVIATION TURBINE OIL

**SAE AS5780 Class HPC**

**NATO CODE O-154 – MIL-PRF-23699 G Class HTS**

### DESCRIPTION

Turbonycoil 640 is a lubricating oil with a viscosity of 5 cSt at 100°C. It is based on polyol esters with high thermal stability, fortified with carefully selected anti-oxidant, anti-wear and anti-corrosion additives.



### MAIN APPLICATIONS

TURBONYCOIL 640 has been designed for use in gas turbine engines in military aircrafts and helicopters as well as in stationary industrial applications. It is tailor-made to address the following requirements regarding low coking propensity, high resistance to oxidation and thermal degradation, elastomer compatibility and high electrical conductivity. Therefore TURBONYCOIL 640 is recommended for use in hot running engine designs where evidence of oil coking and/or oil degradation was noted.

- Turbine oil of military aircrafts and helicopters, recommended in hot engines
- Accessories (APU, IDG, starter, air cycle machine) of civil aircraft
- Main gearbox of helicopter
- Ground gas turbines (aero-derivative) : Rolls-Royce 501K-B7, 501K-B7S and 501K-B7C engines.

Characteristic	Unit	Typical Result	SAE AS 5780 HPC Limit	Test method
- Kinematic viscosity at 100°C at 40°C at - 40°C	mm <sup>2</sup> /s	4.98 24.6 9000	4.90 - 5.40 min. 23.0 max. 13000	ASTM D 445
- Density @ 20°C	kg/dm <sup>3</sup>	0.994	-	ASTM D 4052
- Viscosity stability, 72 hrs at -40°C, % change	%	0.6	max. +/- 6	FED-STD-791-3458
- Evaporation loss, 6 h 30 at 204°C	%w	3.1	max. 10.0	ASTM D 972
- Flash point, COC	°C	264	min. 246	ASTM D 92
- Pour point	°C	- 60	max. - 54	ASTM D 97
- Acid number	mg KOH/g	0.22	max. 1.00	SAE-ARP-5088
- Shear stability, viscosity loss	%	- 0.08	max. 4	ASTM D 2603
- AMS 3217/4 Rubber Swell, 72 hrs at 204°C	%	18.2	5 - 25	FED-STD-791-3604
- Foaming test (tendency/stability) at 24°C at 94°C at 24°C after 94°C	cm <sup>2</sup> /min	5/0 5/0 5/0	max. 25/0 max. 25/0 max. 25/0	ASTM D 892
- Thermal stability and corrosivity, - 96 h at 274°C Viscosity change at 40°C Acid number change Steel weight change	% mg KOH/g mg/cm <sup>2</sup>	0.04 0.4 0.02	max. +/- 5.0 max. 6.00 max. +/- 4.00	FED-STD-791-3411
- HLPS Dynamic coking at 375°C Deposit after 20 h Deposit after 40 h	mg	0.15 0.24	max. 0.4 max. 0.6	SAE-ARP-5996
- Electrical conductivity, at 20°C	pS/m	1500	-	ASTM D 2624

The values above are typical values. They do not constitute any contractual commitment.  
Sales specifications are available on request. The present technical data sheet replaces all the previous editions.

