



SYNTHETIC AVIATION TURBINE OIL

NATO CODE O-148

DESCRIPTION

Turbonycoil 160 is a 3 cSt oil at 100°C and is made of neopolyol esters containing additives to improve its anti-oxidant, anti-corrosion and extreme-pressure properties. It is designed to withstand the high temperature experienced by the military engines.



APPLICATIONS

- Turbine oil of fighter engines (McDonnell Douglas F-15, Lockheed Martin F-16, etc.)
- Turbine oil of civil engines below -40°C ambient temperature
- Turbine and tail rotor gearbox of helicopter in cold weather
- APU of civil aircraft for easy in-flight restart
- Trimmable Horizontal Stabilizer (THS) of civil aircraft

SPECIFICATIONS * / OEM's & Airframers reference

- Approved MIL-PRF-7808 M Grade 3
- Meets OX-9
- Listed in Airbus CML 03ABB1
- Listed in ATR CML 03-003
- Listed in BOEING CML D00071 & CML D00109

* **Approved:** The product has been approved by the relevant authority. The product is referenced on the applicable qualified product list.

Meets: The product complies with all the requirements of the specification and has not been formally approved or approval is in progress or the specification is obsolete.

CHARACTERISTIC	UNIT	TYPICAL RESULT	MIL-PRF-7808 LIMIT	TEST METHOD
Appearance	-	conform	limpid	visual examination
Density at 20°C	kg/dm ³	0.957	report	ASTM D4052
Kinematic Viscosity at 100°C at 40°C at -51°C after 35 min. at -51°C after 3 h	mm ² /s	3.20 12.8 9600 9620	min. 3.00 min. 11.5 max. 13000 max. 13000	ASTM D445 ASTM D2532
Acid Number	mg KOH/g	0.19	max. 0.40	SAE ARP 5088
Flash Point	°C	228	min. 210	ASTM D92
Evaporation Loss, 6 h 30 at 204°C	%w	20.2	max. 30	ASTM D972
Static Foam Test at 80°C Foam Volume / Collapse Time	cm ³ / s	20 / 0	max. 100 / max. 60	FTM-S-791-3213
Lead Corrosion, 1 h at 163°C	g/m ²	- 0.8	max. +/- 9.3	FTM-S-791-5321

CHARACTERISTIC	UNIT	TYPICAL RESULT	MIL-PRF-7808 LIMIT	TEST METHOD
Oxidation & Corrosiveness Stability, 96 h at 200°C				
Acid Number Increase	mg KOH/g	2.0	max. 4.0	ASTM D4636
Viscosity Change	%	+ 14	- 5 to + 25	
Insoluble Matter	mg/100ml	None	max. 4.0	
Metal Weight Change	mg/cm ²			
Aluminium		0.0	max. +/- 0.2	
Silver		0.0	max. +/- 0.2	
Steel M/50		0.0	max. +/- 0.2	
Iron		0.0	max. +/- 0.2	
Titanium		0.0	max. +/- 0.2	
Brass		0.0	max. +/- 0.4	
Magnesium		0.0	max. +/- 0.4	
Solid Particle Contamination	mg/dm ³	0.3	max. 5.0	FTM-S-791-3013
Trace Metal Content Ag, Al, Cr, Cu, Fe, Mg, Mo, Ni, Pb, Si, Sn, Ti, Zn	mg/kg	0.0	max. 2.0	ASTM D5185 (Induction Coupled Plasma Spectroscopy)
Compatibility with standard elastomer SAE-AMS 3217/1 (NBR), 168 h at 70°C Swelling	% volume	28.0	12 to 35	FTM-S-791-3604
Compatibility with standard elastomer SAE-AMS 3217/4 (FKM), 72 h at 175°C				
Swelling	% volume	18.7	2 to 25	FTM-S-791-3432
Tensile Strength Change	%	- 30	max. 50	
Elongation Change	%	+ 12	max. 50	
Hardness Change	%	- 15	max. 20	
Compatibility with standard elastomer SAE-AMS 3217/5 (FS), 72 h at 150°C				
Swelling	% volume	8.8	2 to 25	FTM-S-791-3432
Tensile Strength Change	%	- 18	max. 50	
Elongation Change	%	- 14	max. 50	
Hardness Change	%	- 16	max. 20	
Corrosion Test, 50 h at 232°C				
Brass, weight change	g/m ²	0.0	max. 4.5	FTM-S-791-5305
Silver, weight change		0.0	max. 4.5	

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.