



## AIRCRAFT SYNTHETIC OIL

**NATO CODE O-148 – MIL-PRF-7808 L Grade 3 – OX 9**

### 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 of combat jet aircraft and retain fluidity at very low temperature (operation down to - 54°C).



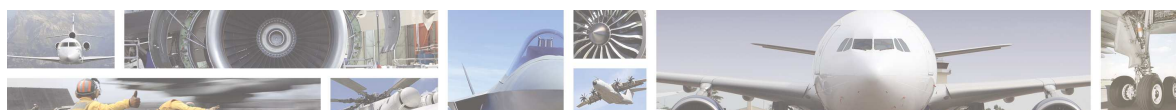
### APPLICATIONS

- Helicopter systems
- Turbine oil (power plant, APU, starter, IDG...)
- Tail Horizontal Stabilizer (THS)
- Fighter engines
- Auxiliary power units (APU), low temperature (cold weather or switch on inflight)

Turbonycoil 160 is intended for the lubrication of turbine gas engines powering military aircraft as well as accessories and auxiliary power unit

Characteristic	Unit	Typical Result	MIL-PRF-7808 Limit	Test method
- Appearance	-	conform	limpid	visual examination
- Density at 20°C	kg/dm <sup>3</sup>	0.957	report	ASTM D 4052
- Kinematic viscosity at 100°C	mm <sup>2</sup> /s	3.20	min. 3.00	ASTM D 445
at 40°C		12.8	min. 11.5	ASTM D 2532
at -51°C after 35 min.		9600	max. 17000	
at -51°C after 3 h		9620	max. 17000	
- Acid number	mg KOH/g	0.19	max. 0.30	ASTM D 664
- Flash point	°C	228	min. 210	ASTM D 92
- Evaporation loss, 6 h 30 at 205°C	%w	20.2	max. 30	ASTM D 972
- Static foam test at 80°C Foam volume / Collapse time	cm <sup>3</sup> / s	20 / 0	max. 100 / max. 60	FTM-S-791-3213
- Lead corrosion, 1 h at 163°C	g/m <sup>2</sup>	- 0.8	max. +/- 9.3	FTM-S-791-5321

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.





Characteristic	Unit	Typical Result	MIL-PRF-7808 Limit	Test method
<b>- Oxidation &amp; corrosiveness stability, 96 h at 200°C</b>				
Acid number increase	mg KOH/g	2.0	max. 4.0	ASTM D 4636
Viscosity change	%	+ 14	- 5 to + 25	
Insoluble matter	mg/100ml	None	max. 4.0	
<b>Metal weight change</b>				
Aluminium	mg/cm <sup>2</sup>	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	
<b>- Solid particle contamination</b>	mg/dm <sup>3</sup>	0.3	max. 5.0	FTM-S-791-3013
<b>- Trace metal content</b>				
Ag, Al, Cr, Cu, Fe, Mg, Mo, Ni, Pb, Si, Sn, Ti, Zn,	mg/kg	0.0	max. 2.0	Induction Coupled Plasma Spectroscopy
<b>- Compatibility with standard elastomer SAE-AMS 3217/1 (NBR), 168 h at 70°C</b>				
Swelling	% volume	28.0	12 to 35	FTM-S-791-3604
<b>- Compatibility with standard elastomer SAE-AMS 3217/4 (FKM), 72 h at 175°C</b>				
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	
<b>- Compatibility with standard elastomer SAE-AMS 3217/5 (FS), 72 h at 150°C</b>				
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	
<b>- Corrosion test, 50 h at 232°C</b>				
Brass, weight change	g/m <sup>2</sup>	0.0	max. 4.5	FTM-S-791-5305
Silver, weight change		0.0	max. 4.5	

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