

AEROSHELL TURBINE ENGINE OILS FOR AERODERIVATIVE GAS TURBINES



Shell Aviation

Similar to aircraft engines, aeroderivative gas turbines (ADGT) are fast-starting, compact and reliable. This makes them ideal for meeting surges in power demand, providing emergency power for critical facilities such as hospitals, and use in remote areas and offshore applications.

ADGTs operate at high temperatures. Oils that cannot cope with this heat can break down, which results in increased acidity and viscosity before the next oil-drain interval. This can lead to high maintenance costs and unscheduled replenishment of oil.

ADGTs require specialist aero-engine oils. AeroShell Turbine Oil 560 and AeroShell Ascender are MIL-PRF-23699 approved High Thermal Stability (HTS) oils that provide added thermal protection and low coking propensity, along with optimum elastomer seal compatibility.



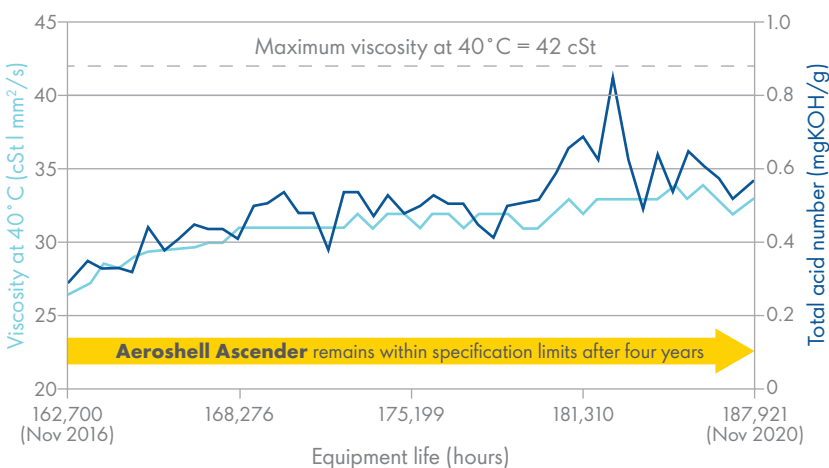
BEST PRACTICE SHARING FROM OPERATORS

Case study 1: AeroShell Ascender extends oil drain interval

In 2016, a paper mill operator performed an evaluation on AeroShell Ascender in its Siemens SGT-A05 (501-KB7S) turbine. After a two-year evaluation period, Siemens fully approved AeroShell Ascender¹. Now, four years on (after 25,221 hours of operation), the same oil is still performing well within the specification limits.

Previously, the paper mill had to replace a competitor's HTS oil every 18 months (or less) as it reached the kinematic viscosity limit of 42 cSt at 40°C.

This in-service demonstration proves that AeroShell Ascender can offer more than double the life of a conventional HTS oil.



Doubling the oil-drain interval. AeroShell Ascender is still within the specification limits after four years of in-service evaluation.

Case study 2: AeroShell Turbine Oil 560 avoids frequent equipment maintenance

Excessive coking can cause unplanned shutdowns and heavily coked components take longer to clean, thus impacting planned downtime. Having switched to AeroShell Turbine Oil 560, an operator of General Electric LM6000 series turbines saw that the HTS formulation helped to reduce carbon formation, thereby reducing the frequency and length of equipment maintenance.



Less carbon. General Electric LM6000 oil-drain adapter showing oil charring when using a competitor's non-HTS oil (top) and with significantly less carbon formation when using AeroShell Turbine Oil 560 (bottom).

¹ Product Advisory Bulletin PAB-05-0005-01

WHAT OUR CUSTOMERS SAY

“We have successfully used **AeroShell Turbine Oil 560** in our General Electric LMS100 turbine since 2012. The MIL-PRF-23699 specification has two options: STD and HTS oil. We selected **AeroShell Turbine Oil 560** HTS oil based on its benefits of improved thermal stability, low coking propensity and good elastomer compatibility.

AeroShell Turbine Oil 560 has provided proper compatibility with all seal materials. We are pleased with its performance and confirm that there have been no oil-related problems. We have a positive experience of working with Shell.”



Jaime Viramontes,
Manager, Rio Grande Power Plant,
El Paso Electric

“**AeroShell Turbine Oil 560** has been used in our General Electric LM2500 turbines since 2015. The decision to switch was driven by the goal to reduce the overall cost of power plant maintenance by reducing oil consumption.

We can report stable equipment operation, full seal compatibility and good thermostability properties, and no oil-related issues.”



M. A. Bulanov,
Technical Director,
TGK-11

SELECTED ADGT MANUFACTURER APPROVALS²

Manufacturer	Engine	AEROSHELL ASCENDER	AEROSHELL TURBINE OIL 560	AEROSHELL TURBINE OIL 500
		SAE AS5780 Grade HPC MIL-PRF-23699 Grade HTS	MIL-PRF-23699 Grade HTS SAE AS5780 Grade SPC	MIL-PRF-23699 Grade STD SAE AS5780 Grade SPC
General Electric	LM Series, including LMS100		✓	✓
Mitsubishi Power	GG and FT series		✓ ³	✓
Siemens	SGT-A65 (Industrial Trent 60)	✓		
	SGT-A35 (Industrial RB211)		✓	
	SGT-A05 (Industrial 501-K)	✓		✓

²For a complete list of ADGT approvals for AeroShell Turbine Engine Oils, please contact your Shell Aviation representative.
³AeroShell Turbine Oil 560 is approved on all GG and FT series except GG8 and PT8.

CONTACT US

If you would like further information, please contact your AeroShell representative or visit www.aeroshell.com.

