

Jet A-1 Proficiency Testing Scheme SETA-1317-0085

Reliable performance monitoring for aviation fuel laboratories

The Stanhope-Seta Jet A-1 Proficiency Testing (PT) Scheme provides laboratories with an independent, cost-effective way to monitor analytical performance and demonstrate ongoing competence when testing aviation turbine fuel.

The scheme enables direct comparison of results across a global participant base and supports compliance with Defence Standard 91-091 and ASTM D1655.

Frequency: Bi-annual (two rounds per year).

Sample source: Jet A-1 fuel sourced from a supply network serving UK airports and terminals, providing a true representation of Jet A-1.

- Bi-annual Jet A-1 proficiency testing for laboratory performance monitoring
- Representative Jet A-1 samples sourced from UK airport supply networks
- Aligned with Defence Standard 91-091 and ASTM D1655 methods
- Clear statistical reporting with Z-scores, TPI and probability plots
- Prepared and distributed by an ISO 17025 and ISO 17034 laboratory



Why participate?

Participation in a proficiency testing scheme is a key requirement for laboratories seeking to maintain or achieve accreditation and to demonstrate confidence in routine test results.

The Jet A-1 PT Scheme helps to:

- Monitor laboratory and method performance over time
- Identify trends, bias, or opportunities for improvement
- Provide objective evidence for audits and accreditation
- Benchmark results against an international user base

Jet A-1 Proficiency Testing Scheme

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Participants may submit results for one or more of the below properties, depending on laboratory capability.

Property	Test Method(s)
Aromatics	IP 156; ASTM D1319
Colour	ASTM D6045; ASTM D156
Conductivity	ASTM D2624; IP 274
Copper Strip Corrosion	ASTM D130; IP 154
Density	ASTM D4052; IP 365
Distillation	ASTM D86; IP 123
Doctor Test	IP 30
FAME	ASTM D7797; IP 583
Flash Point	ASTM D56; ASTM D93; IP 170
Freezing Point	ASTM D2386; IP 16
Gum Residue	IP 540
Lubricity	ASTM D5001
Naphthalene Content	ASTM D1840
Particle Counting	ASTM D5452; IP 423; IP 565; IP 577
Smoke Point	ASTM D1322; IP 598
Sulfur, Mercaptan	ASTM D3227; IP 342
Sulfur, Total	IP 336
Thermal Oxidative Stability	ASTM D3241; IP 323
Total Acidity	ASTM D3242; IP 354
Total Aromatics	ASTM D6379; IP 436
Viscosity at minus 20 °C	ASTM D445; IP 71
Water Separation Index	ASTM D3948; ASTM D8073; IP 624

Who should participate?

- Aviation fuel testing laboratories
- Quality control and compliance laboratories
- Organisations supporting Jet A-1 supply chains
- Laboratories working towards or maintaining accreditation

Sample quality and handling

Jet A-1 samples are sourced from established supply networks serving UK airports and terminals, ensuring realistic and representative test material.

All sample preparation and distribution is carried out at Seta's Richardson Laboratory, accredited to ISO 17025 and ISO 17034.

Samples are supplied in:

- 1 L lacquer-lined UN-approved containers
- Tamper-evident seals to maintain integrity
- Additional containers available for multiple test submissions

Statistical evaluation and reporting

All submitted results are statistically assessed using procedures defined in BS EN ISO 4259-1 and ISO 4259-3.

Each participating laboratory receives a comprehensive report including:

- Z-scores for performance assessment
- Test Performance Index (TPI)
- Probability (P-P) plots for data visualisation

Outliers are screened using GESD in accordance with ISO 4259-1 and are clearly identified where applicable.

How the scheme works

- Register for the upcoming bi-annual round
- Receive Jet A-1 samples in UN-approved containers
- Test using routine methods
- Submit results by the specified deadline
- Receive a detailed performance report