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Setting New Standards in Reference Materials

Paragon Scientific Limited specialise in the production of premium quality reference materials that include Certified Reference Materials, Colour, Density, Flash Point, Refractive Index, Total Acid Number (TAN), Total Base Number (TBN) and Viscosity Standards.

Founded in 1994, we have developed an international reputation synonymous with quality, prompt delivery, affordability and first class customer service.

A combination of advanced manufacturing techniques, the use of primary laboratory test equipment and methodology plus our acute attention to detail enables us to produce reference materials with some of the lowest levels of uncertainty of measurement available.

Our products are used in multiple industries throughout the world, which we service both directly from our headquarters in the UK and via our appointed global distributor network.

Our Accreditations

The United Kingdom Accreditation Service (UKAS) is the only body recognised by the UK Government for certification and conformity to international agreed standards for testing, calibration and inspection.

UKAS accreditation denotes competence for customers to make an informed and confident choice in the procurement process. The UKAS mark ensures buyers have peace of mind.

UKAS also bridges international barriers, making trade easier, especially in new growth markets.

International Recognition

ISO 17025 is recognised, internationally for competence to carry out testing and or calibrations to the standard dictated by international methods. This requires accredited facilities to comply with all the requirements detailed within the varied sections of the standard.

These include: assuring test quality, calibration results, environmental conditions and purchasing. ISO 17025 is applicable to laboratories operating in a multitude of business sectors, including automotive, cosmetics, micro-electronics, pharmaceutical, petro chemical and power generation.

ISO Guide 34

In addition to ISO 17025, the highest level of quality assurance is achieved through ISO 17025 / ISO Guide 34. This confirms the expertise of the manufacturer, the integrity of the production systems and the reliability of the Certified Reference Materials produced.



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Certified Reference Materials (CRM's)

Paragon Scientific's range of Certified Reference Materials for Cold Filter Plugging Point (CFPP), Cloud Point, Density, Distillation, Element / Chemical, Flash Point, Freezing Point, Fuels Testing, Pour Point and X-Ray testing.

Ensures good inter-laboratory correlation.

Full traceability to national standards.

Manufactured using independent testing laboratories across Europe.

- Tested in accordance with ASTM / EN or IP test methods
- Certified by Round Robin Method by independent test laboratories
- Ensures good interlaboratory correlation
- Supplied in tamper evident UN compliant security pack
- Supplied in varying pack sizes from 50mL to 1000mL
- 1 year shelf life



Test Type	Test Method	Product Nature	Certified Value	Pack Size
Cold Filter Plugging Point	CFPP ASTM D 6371; EN 116/ IP 309	Diesel	-20.6°C	250 mL
Cloud Point	Cloud Point ASTM D 2500; NF EN23015	Diesel	-6.6°C	250 mL
Density	ASTM D 4052; ISO 12185	Gasoline (unleaded)	0.73576 g/mL @ 15°C	250 mL
Density	ASTM D 4052; ISO 12185	Diesel	0.83294 g/mL @ 15°C	250 mL
Density	ASTM D 4052; ISO 12185	Jet Aviation Fuel	0.7933 g/mL @ 15°C	250 mL
Density	ASTM D 4052; ISO 12185	Lubricant	0.8687 g/mL @ 15°C	250 mL
Distillation	Distillation ASTM D 86; NF EN ISO 3405	Diesel	164°C - 357°C	250 mL
Distillation	Distillation ASTM D 86; NF EN ISO 3405	Gasoline (unleaded)	30°C - 178.6°C	250 mL
Distillation	Distillation ASTM D 86; NF EN ISO 3405	Jet Aviation Fuel	151°C - 269°C	250 mL
Element/Chemical	Sulphur Content ASTM D 5433; ISO 20846	Diesel	309.0 mg/kg	50 mL
Element/Chemical	Sulphur Content ASTM D 5433; ISO 20846	Diesel	7.2 mg/kg	250 mL
Element/Chemical	Sulphur Content ASTM D 3277; ISO 3012	Kerosene	5.18 mg/kg	50 mL
Flash Point	Abel IP 170	Jet Aviation Fuel	41.9°C	250 mL
Flash Point	COC ASTM D 92	Lubricant	268°C	250 mL
Flash Point	PMCC ASTM D 93 Procedure A	Diesel	58.2°C	250 mL
Flash Point	PMCC ASTM D 93 Procedure B	Lubricant	203°C	250 mL
Flash Point	TAG ASTM D 56	Jet Aviation Fuel	43.1°C	250 mL
Freezing Point	Freezing Point ASTM D 2386	Jet Aviation Fuel	-54.7°C	250 mL
Fuels Testing	Acidity ASTM D 3242	Kerosene	0.0021 mg KOH/g	250 mL
Fuels Testing	Aniline Point ASTM D 611	Jet Aviation Fuel	62.30°C	250 mL
Fuels Testing	Aromatics Content ASTM D 5580	Gasoline	26.78%	250 mL
Fuels Testing	Benzene Content ASTM D 4053 / D 5580	Gasoline	0.633% Vol.	250 mL
Fuels Testing	Cetane Number ASTM D 613	Diesel	52.6	1000 mL
Fuels Testing	FIA Aromatics ASTM D 1319	Kerosene	15.18% Vol.	250 mL
Fuels Testing	Motor Octane Number ASTM D 2700	Gasoline (unleaded)	86.9	1000 mL
Fuels Testing	Res. Octane Number ASTM D 2699	Gasoline (unleaded)	98.0	1000 mL
Fuels Testing	Reid Vapour Pres. ASTM D 4953A, 323A	Gasoline	84.41 kPa	250 mL
Pour Point	Pour Point ASTM D 97	Diesel	-29.2°C	250 mL

All certified values stated are nominal

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ISO Guide 34 Certified Reference Materials (CRM's)

Paragon Scientific's range of Certified Reference Materials has now been extended to include the world's first range of ISO Guide 34 Gas Oil Certified Reference Materials for Cold Filter Plugging Point, Cloud Point, Density, Distillation and Flash Point testing.

This range of Certified Reference Materials is premium level, certified and manufactured in strict accordance and compliance with ISO Guide 34:2000 (Reference Material Producer No. 4589) under our UKAS accreditation. They provide high traceability verification options for laboratory instruments, with their values certified to the highest level of accreditation integrity available globally.

Key benefits include:

- Fully certified in accordance with ISO Guide 34 under our accreditation by UKAS
- Highest level of accreditation guarantee, providing the most credible certified data currently available world-wide
- Low levels of uncertainty achieves maximum accuracy of data
- All data generated exclusively by UKAS ISO 17025 accredited laboratories
- Fully traceable to international standards
- Supplied in tamper evident UN compliant security pack
- 1 year shelf life
- Available from stock for immediate dispatch
- Manufactured in the United Kingdom
- Supplied with the latest EU fully compliant MSDS which are available in 24 languages

Multi-Parameter Certified Reference Materials (MPCRM's)

MPCRM's are premium level, dual certified reference materials certified in accordance with both ISO 17025 and ISO Guide 34 under our UKAS accreditation. They provide both calibration and verification options for laboratory test equipment, all from the same sample, with their values certified to the highest level of accreditation integrity available globally.

- Fully dual certified in accordance with ISO 17025 and ISO Guide 34 under our accreditation by UKAS
- Certified for Viscosity, Density, Flash Point, Cloud Point, CFPP & Distillation using ASTM / IP and EN test method protocols
- Highest level of accreditation guarantee, providing the most credible certified data currently available world-wide
- Low levels of uncertainty achieves maximum accuracy of data
- Multiple test parameters provide a flexible and cost effective solution
- All data generated exclusively by UKAS ISO 17025 accredited laboratories
- Fully traceable to international standards
- Supplied with the latest EU fully compliant MSDS which are available in 24 languages
- 1 year shelf life
- 500mL inert glass packaging with tamper evident cap provides absolute assurance of sample integrity
- Available from stock for immediate dispatch
- Manufactured in the United Kingdom

Please visit our website for up-to-date information: www.paragon-sci.com/certified-reference-materials/

Colour Standards

These Standards are ideal for the calibration or verification of colour measuring instruments, ensuring good inter-laboratory or inter-instrument correlation.

The range of liquid standards includes AOCS-Tintometer, ASTM, Gardner, Lovibond RYBN, Pt-Co and Saybolt Colour, the key colour scales applied to oils, fuels and chemicals. They are supplied with full traceability to internationally recognised standards, either UKAS to ISO 17025 / ISO Guide 34 (ASTM, Gardner & Saybolt Colour) or the ISO 9001 quality system (AOCS-Tintometer, Lovibond RYBN and Pt-Co Colour).

All standards are manufactured in the United Kingdom.

Please visit our website for up-to-date information: www.paragon-sci.com/colour-standards/



AOCS-Tintometer Colour Reference Standards

- Certified under ISO 9001 Quality system
- Full traceability to international standards
- 500mL Pack Size supplied with MSDS
- 1 year shelf life
- Tamper evident security packaging

ASTM (ASTM D 6045, D 1500) Colour Reference Standards

- Certified according to ISO 17025 / ISO Guide 34 under UKAS
- Full traceability to international standards
- 500mL Pack Size supplied with MSDS
- 1 year shelf life
- Tamper evident security packaging

Gardner (ASTM D 1544, D 6166) Colour Reference Standards

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Full traceability to international standards
- 500mL Pack Size supplied with MSDS
- 18 month shelf life
- Tamper evident security packaging

Lovibond RYBN Colour Reference Standards

- Certified under ISO 9001 Quality system
- Full traceability to international standards
- 500mL Pack Size supplied with MSDS
- 1 year shelf life
- Tamper evident security packaging

Pt-Co/Hazen/APHA (ASTM D 1209) Colour Reference Standards

- Certified under ISO 9001 Quality system
- Full traceability to international standards
- 500mL Pack Size supplied with MSDS
- 1 year shelf life
- Tamper evident security packaging

Saybolt (ASTM D 6045, D 156) Colour Reference Standards

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Full traceability to international standards
- 500mL Pack Size supplied with MSDS
- 18 month shelf life
- Tamper evident security packaging

Density Standards

Paragon ISO 17025 / ISO Guide 34 dual certified Density standards are for the verification of instruments used to measure density of materials which are fluid at the desired test temperature within the range of 15°C to 150°C.

- Certified ISO 17025 / ISO Guide 34 under UKAS between 15°C to 100°C
- Density tested in accordance with ASTM D 1480
- Ensures full compliance to ASTM and IP test method protocols
- Supplied in tamper evident packaging with a 2 year shelf life
- Available as single bottle packs or triple pack kits
- Holographically marked to assure authenticity
- Manufactured in the United Kingdom
- In stock and available for immediate dispatch

Please visit our website for up-to-date information: www.paragon-sci.com/density-standards/





Flash Point Standards

Paragon Scientific produces both primary Certified Reference Materials (CRM's) and Secondary Working Standards (SWS's) for flash point in full accordance with the requirements of ASTM D 92 (Cleveland Open Cup Flash Point) and ASTM D 93 (Pensky Marten Closed Cup Flash Point).

In accordance with both methods we produce and certify:

Primary Certified Reference Materials (CRM's)

Certified Reference Materials (CRM's) which are certified primary standards. The data is established by a method-specific interlaboratory study in full compliance with ISO Guide 34 in accordance with our accreditation by UKAS. These materials are intended to be used at least once a year for instrument and/or method verification in accordance with ASTM D 92 or ASTM D 93.

ASTM D 92 Cleveland Open Cup Flash Point Certified Reference Material

- Certified Reference Material for annual verification checks in accordance with ASTM D 92
- Certified in accordance with our UKAS accreditation to ISO 17025 / ISO Guide 34 by means of a method specific inter-laboratory study
- Packaged in 3 x 80mL bottles - 'One shot', one bottle per test ensures zero contamination/high-end volatile loss
- Fully traceable to international standards
- Supplied with MSDS
- Tamper evident security packaging
- 1 year shelf life
- Manufactured in the United Kingdom

ASTM D 93 Pensky Marten Closed Cup Flash Point Certified Reference Material

- Certified Reference Material for annual verification checks in accordance with ASTM D 93
- Certified in accordance with our UKAS accreditation to ISO 17025 / ISO Guide 34 by means of a method specific inter laboratory study
- Packaged in 3 x 80mL bottles - 'One shot', one bottle per test ensures zero contamination/high-end volatile loss
- Fully traceable to international standards
- Supplied with MSDS
- Tamper evident security packaging
- 1 year shelf life
- Manufactured in the United Kingdom

Please visit our website for up-to-date information: www.paragon-sci.com/flash-point-standards/

Secondary Working Standards (SWS)

Secondary Working Standards (SWS's) which are standards manufactured and certified by Paragon according to ISO 17025 and ISO Guide 34. These standards are designed to be used on a frequent basis in order to verify test equipment functionality on an on-going basis.

These are secondary working standards, which have been characterised in accordance with ASTM D 92 or ASTM D 93. They are suitable for monitoring the equipment between annual verification checks as specified in ASTM D 92 or ASTM D 93.

ASTM D 92 Cleveland Open Cup Flash Point Secondary Working Standard (SWS)

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Secondary working standard characterised in accordance with ASTM D 92 for equipment performance checks
- Packaged in 3 x 80mL bottles - 'One shot', one bottle per test ensures zero contamination/high-end volatile loss
- Fully traceable to international standards
- Supplied with MSDS
- Tamper evident security packaging
- 1 year shelf life
- Manufactured in the United Kingdom

ASTM D 93 Pensky Marten Closed Cup Flash Point Secondary Working Standard

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation.
- Secondary working standard characterised in accordance with ASTM D 93, Procedure A, for equipment performance checks
- Packaged in 3 x 80mL bottles - 'One shot' one bottle per test ensures zero contamination/high-end volatile loss
- Fully traceable to international standards
- Supplied with MSDS
- Tamper evident security packaging
- 1 year shelf life
- Manufactured in the United Kingdom



Please visit our website for up-to-date information:
www.paragon-sci.com/flash-point-standards/

Laboratory Reagents

Lithium Chloride Electrolyte

A high quality analytical reagent manufactured and certified compliant for use in ASTM D 664 / IP 177, the "Standard Test Method for Acid Number of Petroleum products by Potentiometric Titration".

- A Lithium Chloride Electrolyte Analytical Reagent manufactured in accordance with ASTM D 664 / IP 177
- Provided with a certificate which includes an estimation of uncertainty of manufacture
- Ensures full compliance with ASTM and IP test method requirements for reagent preparation
- Convenient 30mL bottle size for direct filling into the electrode
- Multi pack option available
- Cost effective and time saving
- MSDS included
- 6 month shelf life

Synthetic Sea Water

A high quality analytical reagent manufactured and certified compliant for use in ASTM D 665 / IP 135, the "Standard Test Method for Rust-Preventing Characteristics of Inhibited Mineral Oil in the Presence of Water".

- A Synthetic Sea Water Analytical Reagent manufactured in accordance with ASTM D 665 / IP 135
- Provided with a certificate which includes an estimation of uncertainty of manufacture
- Ensures full compliance with ASTM and IP test method requirements for reagent preparation
- Conveniently packaged in single dose or multi dose packs
- Cost effective and time saving
- MSDS included
- 1 year shelf life

Please visit our website for up-to-date information: www.paragon-sci.com/laboratory-reagents/

Refractive Index Standards

Sucrose Brix / Oil RI Standards

Paragon Scientific produces a range of sucrose standards for use in the calibration and verification of all types of refractometer e.g. handheld, Abbe and high accuracy digital instruments. Sucrose standards are manufactured using traceable high purity materials to four decimal places following ICUMSA methods. These are the first standards available worldwide which carry a full certification according to ISO 17025 and ISO Guide 34 under UKAS accreditation.

Typically used within the food and beverage and pharmaceutical industries.

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Primary refractive index standards traceable to national standards
- Manufactured in accordance with ICUMSA Methods
- Supplied in tamper evident packs with 6 weeks shelf life
- Manufactured in the United Kingdom
- Monthly delivery contracts available for economy, convenience and reliability

Paragon Scientific are able to supply Oil Refractive Index Standards manufactured and certified by Bellingham + Stanley, certified according to ISO 17025 under UKAS accreditation.

Please refer to our website for further information and availability.

Please visit our website for up-to-date information: www.paragon-sci.com/sucrose-brix-standards/

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Total Base Number (TBN) Standards

Paragon TBN Standards are specifically manufactured for the verification of analytical instruments used to determine base number by potentiometric titration.

- Typically used in, but not limited to, the analysis of used oils and lubricants
- Tested and certified in accordance with ASTM D 2896 / IP 276
- Fully traceable to international standards
- Supplied in tamper evident packaging with a 2 year shelf life
- Available as a triple pack
- In stock and available for immediate dispatch

Please visit our website for up-to-date information: www.paragon-sci.com/total-base-number-standards/

Total Acid Number (TAN) Standards

Paragon TAN standards are specifically manufactured for the verification of analytical instruments used to determine acid number by potentiometric titration.

- Typically used in, but not limited to, the analysis of used oils and lubricants
- Tested and certified in accordance with ASTM D 664 / IP 177
- Fully traceable to international standards
- Supplied in tamper evident packaging with a 2 year shelf life
- Available as a triple pack
- In stock and available for immediate dispatch

*Please visit our website for up-to-date information:
www.paragon-sci.com/total-acid-number-standards/*



Viscosity Standards

Paragon ISO 17025 / ISO Guide 34 dual certified viscosity standards are for the calibration and verification of glass capillary viscometers and other viscosity measuring equipment where operating temperature is controlled precisely.

At Paragon Scientific we understand the importance of accurate calibration in your laboratory so we only source the highest quality raw materials for use in the manufacture of all our viscosity standards. Using only the best quality materials means that our standards are highly stable in all environments, you will not experience 'flocking' (associated with cool environments), discolouration or sedimentation.

We fully test our products at every given data point, so you can be assured that the certified value given is the most accurate available.

Paragon Scientific Viscosity Standards are certified according to ISO 17025 and ISO Guide 34, accredited by UKAS and are tested in accordance with the primary method for viscosity.

CCS Viscosity Standards (Cold Cranking Simulator)

Paragon ISO 17025 / ISO Guide 34 dual certified CCS viscosity standards are for the calibration and verification of analytical equipment used in Cold Cranking Simulator (CCS) oil testing to ASTM D 5293 and SAE Specification J300.

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Full traceability to national standards
- Ensures full compliance to ASTM & IP test method protocol
- 2 year shelf life
- Tamper evident security packaging
- Holographically marked to assure authenticity
- Manufactured in the United Kingdom
- In stock and available for immediate dispatch



Cone & Plate Viscosity Standards (CAP)

Paragon ISO 17025 / ISO Guide 34 dual certified cone and plate viscosity standards are specifically formulated for the paint and coatings industry and represent the most comprehensive range of standards available for this application.

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Tested in accordance with ASTM D 2162 ("Standard Practice for basic calibration of master viscometers and viscosity standard oils")
- Density g/mL in accordance with ASTM D 1480
- Kinematic (cSt), Dynamic Viscosity (mPa·s) & Density (g/mL) quoted at all temperatures
- Ensures full compliance to ASTM & IP test method protocol
- Full traceability to national standards
- 2 year shelf life
- Tamper evident security packaging
- Holographically marked to assure authenticity
- Manufactured in the United Kingdom
- In stock and available for immediate dispatch

Flow Cup Viscosity Standards

Paragon ISO 17025 / ISO Guide 34 dual certified flow cup standards are especially designed for use in DIN, Ford, ISO, Shell and Zahn flow cups and are also dual purpose density standards. Certified at 20°C and 25°C, each value is tested to ASTM D 2162 for viscosity measurement and ASTM D 1480 for density measurement.

Each value at every test temperature is tested to ASTM D 2162.

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Tested in accordance with ASTM D 2162 ("Standard Practice for basic calibration of master viscometers and viscosity standard oils")
- Density g/mL in accordance with ASTM D 1480
- Kinematic (cSt), Dynamic Viscosity (mPa*s) & Density (g/mL) quoted at all temperatures
- Ensures full compliance to ASTM & IP test method protocol
- Full traceability to national standards
- 2 year shelf life
- Tamper evident security packaging
- Holographically marked to assure authenticity
- Manufactured in the United Kingdom
- In stock and available for immediate dispatch

General Purpose Viscosity Standards

Paragon ISO 17025 / ISO Guide 34 dual certified general purpose viscosity standards are tested in accordance with ASTM D 2162, ("Standard Practice for basic calibration of master viscometers and viscosity standard oils").

They are fully traceable to national standards and are test equipment compatible.

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Tested in accordance with ASTM D 2162 ("Standard Practice for basic calibration of master viscometers and viscosity standard oils")
- Density g/mL in accordance with ASTM D 1480
- Kinematic (cSt), Dynamic Viscosity (mPa*s) & Density (g/mL) given at all temperatures
- Standard Pack Size 500mL, available also in 5L, 10L and 20L
- Fully traceable to national standards
- Ensures full compliance to ASTM & IP test method protocol
- Tamper evident security packaging
- Holographically marked to assure authenticity
- 2 year shelf life
- Manufactured in the United Kingdom
- In stock and available for immediate dispatch





Low Temperature Viscosity Standards

These standards are widely used for the verification of viscometers at sub zero temperatures on a routine basis.

Paragon ISO 17025 / ISO Guide 34 dual certified, the use of these standards can also help provide confidence in overall system functionality including bath uniformity, bath stability, temperature measurement, timer accuracy and viscometer calibration.

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- Standard Pack Size 500mL, available also in 5L, 10L and 20L
- Fully traceable to national standards
- Ensures full compliance to ASTM & IP test method protocol
- Tamper evident security packaging
- Holographically marked to assure authenticity
- 2 year shelf life
- Manufactured in the United Kingdom
- In stock and available for immediate dispatch

Medical Viscosity Standards

Tested in accordance with ASTM D 2162, the primary method for viscosity standards calibration. These medical grade viscosity standards are fully traceable to national standards and are also test equipment compatible.

Typically used, but not limited to, the calibration and verification of viscosity measuring equipment used for measuring the viscosity of blood plasma.

- Certified according to ISO 17025 under UKAS accreditation
- Pack size available in 100mL and 500mL
- Full traceability to national standards
- 1 year shelf life
- Tamper evident security packaging
- Holographically marked to assure authenticity
- Manufactured in the United Kingdom
- In stock and available for immediate dispatch

Mineral Oil Rotational Viscosity Standards

Paragon Scientific's mineral oil rotational viscosity standards are the first choice option where end users are unable to have silicone in their process. Dual certified to both ISO 17025 and ISO Guide 34 under United Kingdom Accreditation Service (UKAS), they provide both calibration and verification options for rotational viscometer test equipment from this most comprehensive range of standards.

Key benefits include:

- Fully dual certified ISO 17025 and ISO Guide 34 under UKAS
- Broad spectrum viscosity range
- Low levels of uncertainty achieves maximum accuracy of data
- Kinematic Viscosity at temperatures 20.5°C to 24.5°C are calculated in accordance with ASTM D 341
- 500mL inert glass packaging with tamper evident cap provides absolute assurance of sample integrity
- Available from stock for immediate dispatch
- Fully traceable to international standards
- Supplied with the latest EU fully compliant MSDS
- 1 year shelf life
- Manufactured in the United Kingdom
- In stock and available for immediate dispatch

Silicone Rotational Viscosity Standards

Paragon ISO 17025 / ISO Guide 34 dual certified silicone viscosity standards are specifically formulated for use with rotational viscometers. Supplied in 600mL 'ready to use' packs specially designed to eliminate the requirement to transfer the sample to a test beaker.

Safer working, less mess, less waste, higher throughput.

- Certified according to ISO 17025 / ISO Guide 34 under UKAS accreditation
- 600mL of product supplied in a ready to use 'test in pack' container
- Tested and certified at 20°C and 25°C
- 1 year shelf life
- Ensures full compliance to international test method protocol
- Full traceability to national standards
- Tamper evident security packaging
- Holographically marked to assure authenticity
- Custom blending available
- In stock and available for immediate dispatch



Please visit our website for up-to-date information:
www.paragon-sci.com/viscosity-standards/

Special Blend Viscosity Standards

If you have a requirement for different temperatures or viscosity values we may be able to offer you a solution.

We also offer highly competitive rates for viscosity standard bulk blending where customers wish to have a supply of carefully prepared and guaranteed homogeneous Newtonian materials for use on a daily or high frequency basis.

There are many packaging options; from easy to use 100mL bottles for highly viscous materials where heating is necessary to load samples, to 2500mL safe-break Winchesters for use 'on plant' with in-line viscometers.

Glass Capillary Viscometers

BS/IP/RF U-Tube Reverse Flow Viscometer for Opaque Liquids

For the determination of kinematic viscosity of transparent and opaque Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

BS/IP/SL Viscometer for Transparent Liquids

For the determination of kinematic viscosity of transparent Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

BS/IP/SL(S) Viscometer for Transparent Liquids

For the determination of kinematic viscosity of transparent Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

BS/IP/MSL Viscometer for Transparent Liquids

For the determination of kinematic viscosity of transparent Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

BS/U-Tube Viscometer for Transparent Liquids

For the determination of kinematic viscosity of transparent Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement





BS/U/M Miniature Viscometer for Transparent Liquids

For the determination of kinematic viscosity of transparent Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

Cannon-Fenske Routine Viscometer for Transparent Liquids

For the determination of kinematic viscosity of transparent Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

Cannon-Fenske Opaque Viscometer for Transparent & Opaque Liquids

For the determination of kinematic viscosity of transparent and opaque Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

Ubbelohde Viscometer for Transparent Liquids

For the determination of kinematic viscosity of transparent Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

Zeitfuchs Cross-Arm Viscometer for Transparent & Opaque Liquids

For the determination of kinematic viscosity of transparent and opaque Newtonian liquids according to ASTM D 445, ISO 3104, IP 71, and BS188

- High Quality glass capillary viscometer
- Manufactured in accordance with ASTM D 445, D 446 and ISO 3104, 3105
- Available with a UKAS 17025 certificate of calibration or non calibrated
- UKAS calibration ensures low level of uncertainty of measurement

Please visit our website for up-to-date information: www.paragon-sci.com/glass-capillary-viscometers/

Hydrometers

Hydrometers from Paragon Scientific are manufactured to exacting specifications.

Each Hydrometer is available as non certified or with a UKAS certificate of calibration to ISO 17025.

We are able to supply the following range of Hydrometers:

L 20 @ 15°C Relative Density (SG) Hydrometers

M 50 @ 15°C Relative Density (SG) Hydrometers

L 50 @ 15°C Relative Density (SG) Hydrometers

L 20 @ 20°C Relative Density (SG) Hydrometers

M 50 @ 20°C Relative Density (SG) Hydrometers

L 50 @ 20°C Relative Density (SG) Hydrometers



Thermometers

ASTM & IP Mercury in Glass Thermometers

Precision mercury in glass thermometers for use in specific ASTM / IP test methods. These thermometers are of the highest quality and easily readable with an etched surface scale and yellow backing.

The ASTM designation ensures that these thermometers meet the strict guidelines of the American Society for Testing and Materials (ASTM). The IP designation indicates that the thermometer specification has been jointly agreed upon by the British Institute of Petroleum (IP) and ASTM.

To order a UKAS (ISO 17025) calibration certificate with a thermometer please select the type required from Calibration Services

- Stabilisation of the thermometer zero point by careful artificial ageing (molecular constant)
- The solid-stem types have the graduation indestructibly diffused into the glass surface and are acid and base resistant
- The enclosed-scale versions each have a prismatic capillary that makes for better reading
- Measurement accuracy within tolerances specified by AFNOR, ANSI, ASTM, BS, DIN, IP, ISO, TB, S.T.P.T.C. or other standardisation institutes

Digital Platinum Resistance Thermometers

Paragon Scientific has available, high accuracy Hand Held and Bench Top thermometers, together with a range of highly stable reference probes, available for a wide range of temperatures.

These thermometers are manufactured using the latest technology.

Please refer to our website for further information and availability.

ASTM Glassware

Paragon Scientific can offer a large range of ASTM Glassware for the petroleum and lubricants industry. This includes, but is not restricted to, ASTM D 86 Distillation Flask and Receivers, ASTM D 97 Pour Point Jars, ASTM D 524 Ramsbottom Cooking Bulbs and ASTM D 1319 FIA Analyser Tubes.

Paragon Scientific are able to supply ASTM Glassware to fit different manufacturers equipment.

Please refer to our website for further information and availability.



Testing & Calibration Services

Capillary Viscometer Recalibration

Designed specifically to keep your costs to a minimum. Send your viscometers to us for cleaning and full UKAS recalibration.

- Cleaning and full recalibration in accordance with ASTM D 445 / D 446
- Available with a UKAS 17025 certificate of calibration
- Repacking into a viscometer box
- Damaged viscometers can be assessed and quoted prior to repair and calibration

Flow Cup Calibration

We are able to offer a calibration service for Flow Cups. Our service has been designed specifically to keep your calibration costs to a minimum. Send your Flow Cup to us for cleaning and full recalibration.

We can offer this service for the following:

- Flow Cup to ASTM D 1200
- Flow Cup to ISO 2431
- Flow Cup to BS 3900
- Zahn Flow Cup

Hydrometer Calibration

Hydrometer Calibration Service, UKAS ISO 17025 Certified.

We are able to offer a calibration service for Hydrometers within a range of 0.6000 g/mL to 2.000 g/mL with best measurement capability from 0.00005 g/mL.

This service is available in conjunction with products from our Hydrometer Range and is also offered as a recalibration service.

Thermometer Calibration

Paragon Scientific can offer full ISO 17025 calibration on all Thermometers.

This service is available in conjunction with products from our Thermometer Range and is also offered as a recalibration service.

Contact us at:

Paragon Scientific Limited

2 Kelvin Park
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Wirral CH41 1LT

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www.paragon-sci.com

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