



Laboratory Thermometers

LO-*tox*™
ECO-*therm*™
General Purpose
Teflon Coated
breaksafe™
initial brand™

Educational Products
SAMA
BS 1704
BS 593
ASTM & IP
Protective Cases



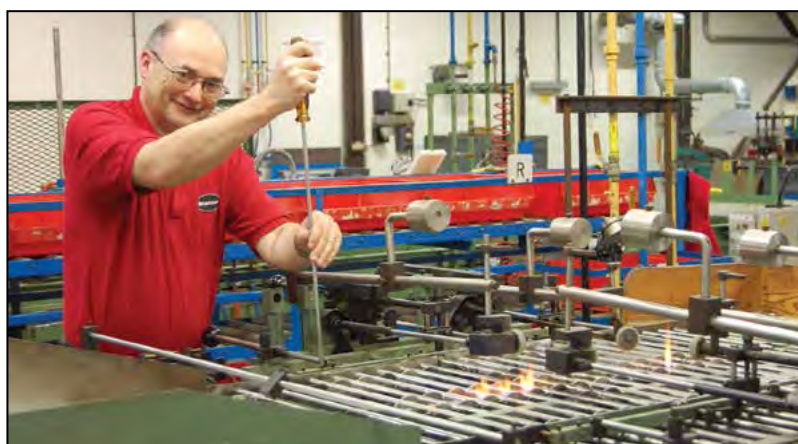
As one of the premier manufacturers of liquid-in-glass thermometers, **Brannan** is leading the way in innovation of new fillings to cover a wide range of temperatures providing alternatives to traditional, and now prohibited, mercury thermometers.

- **Highly resistant to aggressive chemicals**

All of our thermometers have a clear scale, fired directly into the glass

- **Wide choice of thermometer fillings**

- **LO-tox™** Laboratory Thermometers - Blue or brown filling
- **ECO-therm™** Laboratory Thermometers - Green filling
- General Purpose **Spirit** Laboratory Thermometers - Red or blue fillings



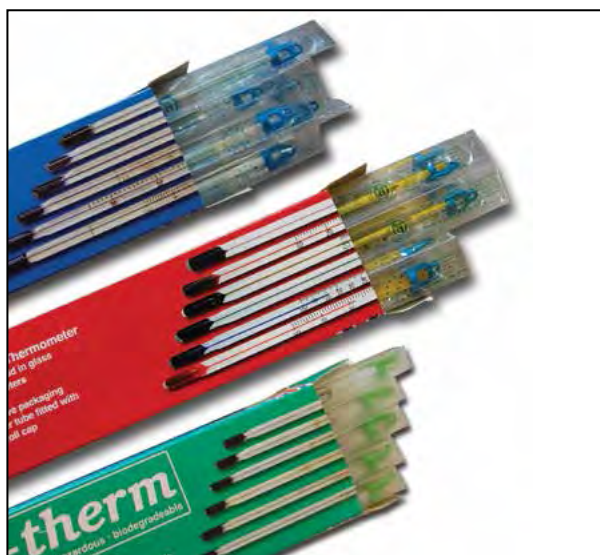
- **Made in England**

Over 100 years of manufacturing experience at our factory in the North of England.



- **Non-roll device fitted**

All thermometers fitted with either **Brannan** non-roll end cap which has a ring to allow the thermometer to be suspended, or a tri-top shaped thermometer end.



- **Individually packaged**

The thermometers are supplied boxed in pack of 10 in protective PVC packaging as standard but are also available in individual, resealable, telescopic tubes.

ECO-therm™ thermometers are supplied in telescopic tubes only.



UKAS Calibration Certification

All our laboratory thermometers can be supplied with full UKAS Certification, at an additional charge, on request. Our facilities conform to (BS) EN ISO/IEC 17025:2005 – ‘General requirements for the competence of testing and calibration laboratories’. For temperature measurement our laboratory can calibrate all types of liquid-in-glass thermometers i.e. both spirit and mercury. Certification is available for test temperatures between -60°C and +250°C. See Calibration section of this catalogue, or contact our Sales Team for more details.



0582

CERTIFICATE OF CALIBRATION
 6040000 S. Brannan & Sons Ltd
 DATE OF ISSUE: 28 January 2015 Certificate Number: 07792

CERTIFICATE OF CALIBRATION
 UKAS ACCREDITED CALIBRATION LABORATORY No. 07792
 Certificate Number: 07792
 PAGE: 3 OF 3

Client: S. Brannan & Sons Ltd
 Address: Leamfield Industrial Estate, Chester Moor, Cumbria, CA25 5QE
 Clients Order No.: N/A
 Apparatus Tested: Mercury In Glass Thermometer
 Type / Specification: BS 1704 B075
 Range & Division/Frequency or Resolution: -35/0.01°C / 0.01°C
 Calibration Immersion: 75mm
 Serial No.: 330115

CALIBRATION CONDITIONS
 Date Instrument Received: 16 January 2015
 Date Calibration/Test Completed: 28 January 2015
 Laboratory Temperature: 20°C ± 0.1°C
 Laboratory Humidity: 20% to 85% (RH)

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

The thermometer was calibrated in controlled temperature environment together with two traceable standard thermometers having known and accurate values of accuracy. The comparison method of calibration was used.

The thermometer was read using a video system with the identifying lights turned on/checked prior to each reading.

The thermometer has not been tested, in order it is in compliance to the specified standard.

Any partial immersion thermometers (thermometers whose immersion length is less than the length of the sensing element) shall be calibrated in accordance with the length of the sensing element.

Calibration Temperature °C	Thermometer Reading °C	Emergent Column Temperature °C	Measurement Uncertainty ± °C
-24.97	-24.97	16.6	0.06
-20.00	-19.70	17.2	0.06
0.00	0.20	20.9	0.11
20.00	20.05	24.9	0.17
	END		

The uncertainty associated with reading the test thermometer does not exceed the Measurement Uncertainty plus one tenth of a division.

* This point calibrated at partial immersion and corrected for total immersion.

The temperature scale for use in the International Temperature Scale of 1990 (ITS-90) is as follows:

If the emergent column temperature of the thermometer is not in the range of 10°C to 30°C, then it is not calibrated, then the following correction "C" should be made:

Column correction "C" = 0.00018 for mercury thermometers scaled in °C
 = 0.00018 for mercury thermometers scaled in °F
 = 0.00018 for spirit thermometers scaled in °C
 = 0.00018 for spirit thermometers scaled in °F

The correction should be added or subtracted depending upon the relative value of T and T₀.

APPROVED SIGNATORY: J. Henderson
 The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Number of Points Calibrated	Product Number
1 point calibration	49/501/0
2 point calibration	49/502/0
3 point calibration	49/503/0
4 point calibration	49/504/0
5 point calibration	49/505/0
6 point calibration	49/506/0
7 point calibration	49/507/0
8 point calibration	49/508/0
9 point calibration	49/509/0
10 point calibration	49/510/0
11 point calibration	49/511/0
12 point calibration	49/512/0
13 point calibration	49/513/0

Statement of Conformity

Statement of Conformity available on request.

Product Number: 49/080/0

Statement of Conformity for your Thermometer

Guarantee of Quality
 S. Brannan & Sons Ltd guarantees that every thermometer we produce has been manufactured and inspected against British Standards standards to achieve a minimum of 95% ISO 9001:2008 Quality Management System.

This thermometer is suitable for use in the International Temperature Scale of 1990 (ITS-90) of the National Physical Laboratory (NPL) and through the CEN/CIPAC International Inter-Comparison of National Metrology Institutes (NMI) to provide accurate results of calibration including 10°C, 15°C, 20°C, 25°C, 30°C and 35°C.

Conformity
 In addition to this, the thermometer has been individually checked at specific temperature points of use against the accuracy of the thermometer to the level of accuracy of the International Temperature Scale of 1990 (ITS-90).

For the certificate of conformity to be valid, the thermometer must be used in accordance with the instructions for use and the calibration must be carried out in accordance with the requirements of the International Temperature Scale of 1990 (ITS-90) and through the CEN/CIPAC International Inter-Comparison of National Metrology Institutes (NMI) to provide accurate results of calibration including 10°C, 15°C, 20°C, 25°C, 30°C and 35°C.

Thermometers marked with individual serial numbers are placed in our records and are available to the client in the event of a thermometer used during calibration.

Guarantee of Accuracy
 S. Brannan & Sons Ltd guarantees that the measurement of the thermometer is within the accuracy of the International Temperature Scale of 1990 (ITS-90) and through the CEN/CIPAC International Inter-Comparison of National Metrology Institutes (NMI) to provide accurate results of calibration including 10°C, 15°C, 20°C, 25°C, 30°C and 35°C.

The International Temperature Scale of 1990 (ITS-90) is an international standard for the measurement of temperature in the Kelvin and Celsius temperature scales. Additional copies for certificate copies, contact our Sales Team for prices.

J. Henderson
 Director of Calibration
 S. Brannan & Sons Ltd
 Leamfield Industrial Estate, Chester Moor, Cumbria, CA25 5QE, UK



Safe Packaging Service

To complement our calibration services, we are able to supply packaging for use when sending your thermometer to us to help reduce the risk of breakage during transit. The pack comprises of a box with a blank calibration label, a telescopic plastic tube and an inner polystyrene tray with a 'cut-out' for robust protection of the thermometer.

Also included is a "Fragile" label for use on your own outer packaging. The thermometer packaging is then used to return the calibrated instrument to the customer, together with the calibration certificate, after our laboratory personnel have completed the details on the box label with the relevant identification information.

Two sizes of packaging are available, to cover different thermometer lengths. Please contact our Sales Team for further details of prices, etc.

Product numbers:

Thermometer length under 305mm - 40/900/0

Thermometer length over 350 to 405mm - 40/901/0



The European Commission's objective of reducing the circulation of mercury in society by cutting supply and demand meant that from 10th April 2014 it became illegal throughout the EU to manufacture or supply mercury glass tube thermometers, except specification thermometers.

S.Brannan & Sons is leading the way in developing alternative fillings and styles to replace mercury thermometers. All laboratory thermometers can be supplied with UKAS Calibration Certificate or Statement of Conformity on request for an additional charge.

All these thermometers are made in the UK and are fitted with a **Brannan** non-roll end cap which has a ring to allow the thermometer to be suspended and are packed boxed in ten thermometers, either in PVC packaging or individual telescopic tubes.

UKAS
Calibration Certificate
upon request

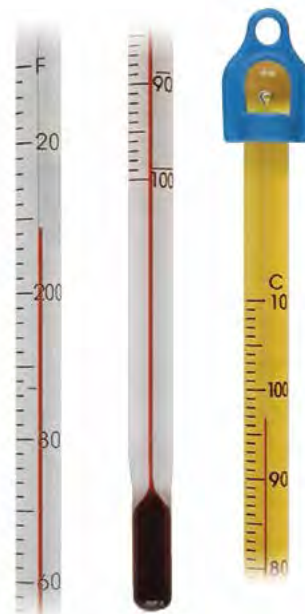
Statement
of Conformity
upon request

LO-tox™ Laboratory Thermometers



Brannan LO-tox™ Laboratory Thermometers use a specially selected organic filling, normally coloured blue although certain ranges have a brown filling. Stable over a wide temperature span and providing the lowest practical level of hazard, the quality and legibility of these thermometers provide an ideal alternative to mercury.

Spirit Laboratory Thermometers



These **Spirit** Laboratory Thermometers use filling materials covering temperatures down to -200°C. Normal fillings are coloured red on white back glass but some are also available on yellow back glass. Also available with blue spirit on white back glass. The -200°C range thermometers are filled with the colourless liquid.

ECO-therm™ Laboratory Thermometers



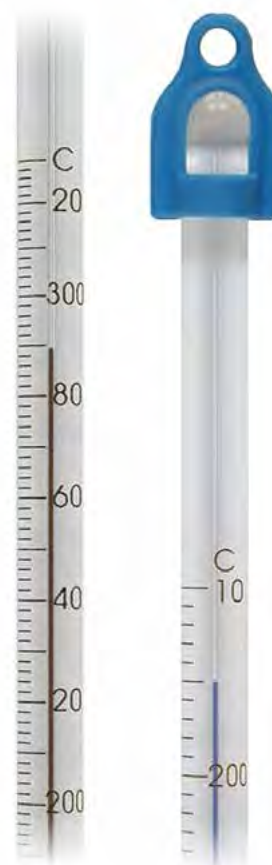
The **ECO-therm™** Laboratory Thermometers are filled with food safe oils, recently developed by **Brannan's** own product development team. Using a green coloured liquid, this thermometer covers the most popular temperature ranges at present, although it is intended to add further ranges in the future.



LO-tox™ is an organic filling specially chosen to achieve a wide temperature span and provide the lowest practical levels of hazard. The quality and legibility make these an ideal substitute for mercury thermometers. Each **LO-tox™** thermometer is fitted with a **Brannan** non-roll end cap which has a ring to allow the thermometer to be suspended. The thermometers are supplied as standard in protective PVC packaging but are also available in individual, resealable, telescopic tubes. Both styles of packaging are boxed in pack of 10 thermometers.

These thermometers can be supplied with UKAS Calibration Certificate or Statement of Conformity on request, for an additional charge.

The tables below show our standard thermometers, however other ranges are available on request.



Range °C only	Division	Length	LO-tox Colour	76mm Immersion		Total Immersion	
				Accuracy	Product No	Accuracy	Product No
-10 to +50°C	1.0°C	155mm	Blue	-	-	+/-1.0°C @ 35°C	44/850/7
-10 to +110°C	1.0°C	155mm	Blue	-	-	+/-1.5°C @ 35°C	44/830/7
-35 to +50°C	1.0°C	305mm	Blue	+/-1.0°C @ 35°C	44/801/8	+/-1.0°C @ 35°C	44/809/8
-10 to +50°C	0.5°C	305mm	Blue	+/-0.5°C @ 35°C	44/800/8	+/-0.5°C @ 35°C	44/808/8
-20 to +110°C	1.0°C	305mm	Blue	+/-1.0°C @ 35°C	44/802/8	+/-1.0°C @ 35°C	44/810/8
-20 to +110°C	0.5°C	305mm	Blue	+/-1.0°C @ 35°C	44/802/9	+/-1.0°C @ 35°C	44/810/9
-20 to +150°C	1.0°C	305mm	Blue	+/-1.0°C @ 35°C	44/803/8	+/-1.0°C @ 35°C	44/811/8
-10 to +210°C	1.0°C	405mm	Blue	+/-2.0°C @ 90°C	44/805/8	+/-2.0°C @ 90°C	44/812/8
-10 to +260°C	1.0°C	405mm	Blue	+/-2.0°C @ 90°C	44/804/8	+/-2.0°C @ 90°C	44/813/8
-10 to +300°C	1.0°C	305mm	Brown	+/-2.0°C @ 90°C	44/815/0	+/-2.0°C @ 90°C	44/818/0
-10 to +330°C	2.0°C	305mm	Brown	+/-2.0°C @ 90°C	44/814/0	+/-2.0°C @ 90°C	44/827/0
-10 to +360°C	2.0°C	305mm	Brown	+/-2.0°C @ 90°C	44/826/8	+/-2.0°C @ 90°C	44/819/0
-1 to +51°C	0.1°C	405mm	Blue	+/-1.0°C @ 35°C	44/820/0	+/-0.5°C @ 35°C	44/821/0
-1 to +51°C	0.2°C	405mm	Blue	+/-1.0°C @ 35°C	44/822/0	+/-0.5°C @ 35°C	44/823/0
-1 to +101°C	0.2°C	405mm	Blue	+/-1.0°C @ 35°C	44/824/0	+/-0.5°C @ 35°C	44/825/0

Range °F only	Division	Length	LO-tox Colour	76mm Immersion		Total Immersion	
				Accuracy	Product No	Accuracy	Product No
-30 to +120°F	1.0°F	305mm	Blue	+/-0.2°F @ 95°F	44/801/5	+/-0.2°F @ 95°F	44/809/7
0 to +230°F	2.0°F	305mm	Blue	+/-0.2°F @ 95°F	44/802/7	+/-0.2°F @ 95°F	44/816/7
0 to +300°F	2.0°F	305mm	Blue	+/-0.2°F @ 95°F	44/803/7	+/-0.2°F @ 95°F	44/817/7
0 to +500°F	2.0°F	405mm	Blue	+/-0.2°F @ 95°F	44/804/7	+/-0.2°F @ 95°F	-

Range °C&F	Division	Length	LO-tox Colour	76mm Immersion		Total Immersion	
				Accuracy	Product No	Accuracy	Product No
-20 to +110°C&F	1.0°C&F	305mm	Blue	+/-1.0°C @ 35°C	44/802/5	-	-
-20 to +150°C&F	1.0°C&F	305mm	Blue	+/-1.0°C @ 35°C	44/803/5	-	-
-0 to +260°C&F	1.0°C&F	405mm	Blue	+/-2.0°C @ 90°C	44/804/5	-	-

S.Brannan & Sons is leading the way in developing alternative fillings and styles to replace mercury thermometers.

The **ECO-therm™** Thermometers, filled with food safe oils, have been recently developed by **Brannan's** own product development team. The quality and resolution make these an ideal substitute for general purpose mercury thermometers. The 305mm thermometers are presently available to cover the most popular temperature ranges, although it is intended to add further ranges in future.

All thermometers are made in the UK and are fitted with a **Brannan** non-roll end cap which has a ring to allow the thermometer to be suspended. The thermometers are supplied as standard in protective individual, resealable, telescopic tubes. Packed in box of 10 thermometers. All laboratory thermometers can be supplied with UKAS Calibration Certificate or Statement of Conformity on request.

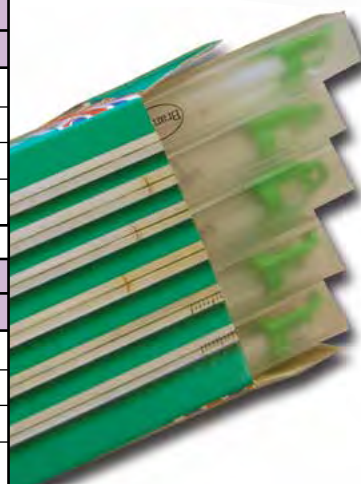


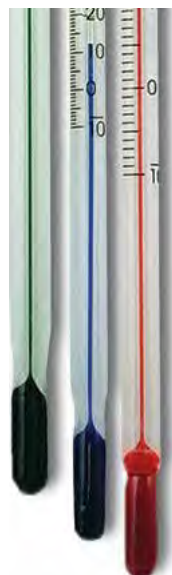
- Introduced by our own product development team
- Environmentally safe
- Non-toxic
- Non-hazardous
- Biodegradeable
- Made in England
- Supplied in individual plastic tube



Range °C only	Division	Length	Filling Colour	76mm Immersion	
				Accuracy	Product No
-35 to +50°C	1.0°C	305mm	Green	+/-1.0°C @ 35°C	46/700/0
-10 to +50°C	0.5°C	305mm	Green	+/-1.0°C @ 35°C	46/701/0
-10 to +110°C	1.0°C	305mm	Green	+/-1.0°C @ 35°C	46/703/0
-10 to +150°C	1.0°C	305mm	Green	+/-1.0°C @ 35°C	46/706/0

Range °C only	Division	Length	Filling Colour	Total Immersion	
				Accuracy	Product No
-35 to +50°C	1.0°C	305mm	Green	+/-1.0°C @ 35°C	46/700/1
-10 to +50°C	0.5°C	305mm	Green	+/-1.0°C @ 35°C	46/701/1
-10 to +110°C	1.0°C	305mm	Green	+/-1.0°C @ 35°C	46/703/1
-10 to +150°C	1.0°C	305mm	Green	+/-1.0°C @ 35°C	46/706/1





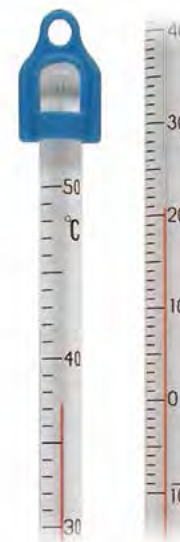
These thermometers use specially selected filling material covering temperatures down to -200°C. Normal fillings are coloured red on a white back glass but alternative colours are available as shown. The -200°C range thermometers are filled with a colourless liquid.

Thermometers normally supplied with a non-roll end cap which has a ring to allow the thermometer to be suspended. The thermometers are supplied as standard in protective PVC packaging but are also available in individual, resealable, telescopic tubes. Both styles of packaging are boxed in pack of 10 thermometers.

All laboratory thermometers can be supplied with UKAS Calibration

Certificate or Statement of Conformity on request.

The tables below show our standard thermometers, however other ranges are available on request.



Range °C only	Division	Length	Filling Colour	76mm Immersion		Total Immersion	
				Accuracy	Product No	Accuracy	Product No
-10 to +150°C	1.0°C	150mm	Red	-	-	+/-1.0°C @ 35°C	44/450/0
-10 to +110°C	1.0°C	150mm	Red	-	-	+/-1.5°C @ 35°C	44/430/0
-10 to +110°C	1.0°C	150mm	Red	-	-	+/-1.5°C @ 35°C	44/430/5#
-10 to +10°C	1.0°C	150mm	Blue	-	-	+/-1.5°C @ 35°C	44/430/7
-10 to +60°C	1.0°C	205mm	Red	+/-1.5°C @ 35°C	44/105/1	+/-1.5°C @ 35°C	44/105/2
-10 to +110°C	1.0°C	205mm	Red	+/-1.5°C @ 35°C	44/423/0	+/-1.5°C @ 35°C	44/100/4
-10 to +150°C	1.0°C	205mm	Red	+/-2.0°C @ 35°C	44/441/0	+/-2.0°C @ 35°C	44/442/0
-10 to +110°C	1.0°C	205mm	Green	+/-1.5°C @ 35°C	44/423/5#	-	-
-10 to +110°C	1.0°C	250mm	Red	+/-1.0°C @ 35°C	44/417/0	+/-1.0°C @ 35°C	44/107/1
-10 to +150°C	1.0°C	250mm	Red	+/-1.0°C @ 35°C	44/105/5	+/-1.0°C @ 35°C	44/100/5
-200 to +30°C	1.0°C	305mm	Clear	-	-	+/-2.0°C @ 0°C	46/440/0
-100 to +50°C	1.0°C	305mm	Red	+/-2.0°C @ 0°C	46/457/0	+/-2.0°C @ 0°C	46/456/0
-80 to +30°C	1.0°C	305mm	Red	-	-	+/-2.0°C @ 0°C	46/438/0
-50 to +50°C	1.0°C	305mm	Clear	+/-1.0°C @ 0°C	46/540/0	+/-1.5°C @ 35°C	46/539/0
-10 to +50°C	0.5°C	305mm	Red	+/-0.5°C @ 35°C	44/401/0	+/-0.5°C @ 35°C	44/401/1
-10 to +110°C	1.0°C	305mm	Red	+/-1.0°C @ 35°C	44/403/0	+/-1.0°C @ 35°C	44/010/8*
-10 to +110°C	1.0°C	305mm	Green	+/-1.0°C @ 35°C	44/403/5#	-	-
-10 to +110°C	1.0°C	305mm	Blue	+/-1.0°C @ 35°C	44/403/7	+/-1.0°C @ 35°C	44/010/7
-10 to +110°C	0.5°C	305mm	Red	+/-2.0°C @ 90°C	44/803/0	-	-
-10 to +150°C	1.0°C	305mm	Red	+/-1.0°C @ 35°C	44/406/0	+/-1.0°C @ 35°C	44/011/8*
-10 to +200°C	1.0°C	305mm	Blue	+/-2.0°C @ 90°C	44/408/0	+/-2.0°C @ 90°C	44/408/1

* Range: -20 to +110°C.

Tri-top tube, rather than non-roll cap. See page 16 of this catalogue for details of Tri-top thermometers.



The tables below shows thermometers with yellow back glass.

Range °C only	Division	Length	Filling Colour	76mm Immersion		Total Immersion	
				Accuracy	Product No	Accuracy	Product No
-20 to +110°C	1.0°C	305mm	Red	+/-1.0°C @ 35°C	44/302/8	+/-1.0°C @ 35°C	44/310/8
-20 to +150°C	1.0°C	305mm	Red	+/-1.5°C @ 35°C	44/303/8	+/-1.5°C @ 35°C	44/311/8

Range °C&F	Division	Length	Filling Colour	76mm Immersion		Total Immersion	
				Accuracy	Product No	Accuracy	Product No
-20 to +110°C&F	1°C/2°F	305mm	Red	+/-1.0°C @ 35°C	44/302/9	-	-
-20 to +150°C&F	1°C/2°F	305mm	Red	+/-1.5°C @ 35°C	44/303/9	-	-

In order to offer high levels of thermometer protection, we provide a Teflon* coating system which contains any glass or filling material in the event of breakages. The FEP material is completely transparent and offers resistance to virtually all chemicals and UV radiation.

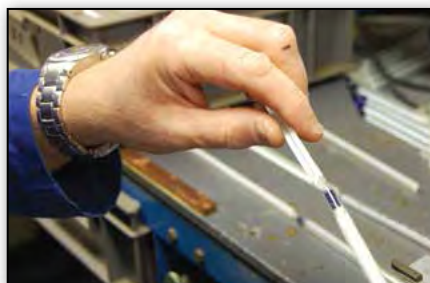
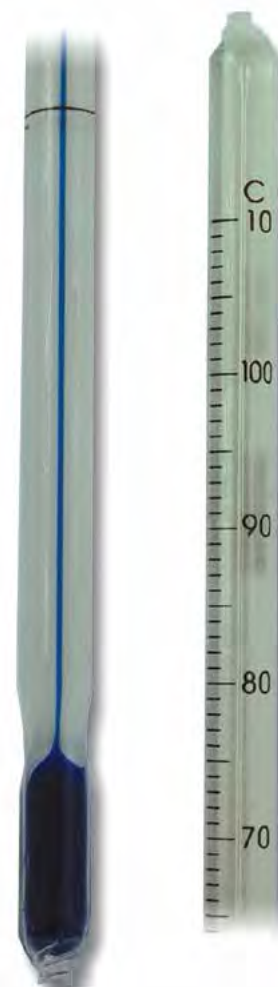
Properties of Teflon* coating include:

- Virtual total chemical and solvent resistance
- Working temperature from -200 to +200°C
- Non stick surface
- Naturally non-inflammable
- Non toxic

Thermometers normally supplied with a non-roll end cap which has a ring to allow the thermometer to be suspended. They are packed in individual, resealable, telescopic tubes and are boxed in pack of 10 thermometers. All laboratory thermometers can be supplied with UKAS Calibration Certificate or Statement of Conformity on request.

UKAS
Calibration Certificate
upon request

Statement
of Conformity
upon request



* What are Fluoroplastics?

Fluoroplastics are a family of plastics based on a carbon backbone but containing fluorine instead of hydrogen as in most other plastics. The most well known is PTFE, often referred to as Teflon*. This is DuPont Co's trade mark name for PTFE and FEP resins. **Brannan** uses DuPont Co's FEP (Fluoro Ethylene Propylene) in the above process.

Range °C only	Division	Length	76mm Immersion		Total Immersion	
			Accuracy	Product No	Accuracy	Product No
White Back with Blue LO-tox™ Filling						
-10 to +110°C	1.0°C	155mm	-	-	+/-1.5°C @ 35°C	44/930/7
-20 to +110°C	1.0°C	305mm	+/-1.0°C @ 35°C	44/902/8	+/-1.0°C @ 35°C	44/910/8
-20 to +150°C	1.0°C	305mm	+/-1.0°C @ 35°C	44/903/8	+/-1.0°C @ 35°C	44/911/8
-20 to +210°C	1.0°C	405mm	+/-2.0°C @ 90°C	44/905/8	+/-1.0°C @ 35°C	44/912/8
-1 to +51°C	0.1°C	405mm	+/-1.0°C @ 35°C	44/920/0	+/-0.5°C @ 35°C	44/921/0
-1 to +51°C	0.2°C	405mm	+/-1.0°C @ 35°C	44/922/0	+/-0.5°C @ 35°C	44/923/0
-1 to +101°C	0.2°C	405mm	+/-1.0°C @ 35°C	44/924/0	+/-0.5°C @ 35°C	44/925/0
Yellow Back with Red Spirit Filling						
-20 to +110°C	1.0°C	305mm	+/-1.0°C @ 35°C	44/953/0	+/-1.0°C @ 35°C	44/953/1
-20 to +150°C	1.0°C	305mm	+/-1.5°C @ 35°C	44/956/0	+/-1.5°C @ 35°C	44/956/1

LO-tox™

The **Brannan breaksafe™** range of laboratory thermometers are encapsulated in PVC to contain any glass or filling material in the event of breakage. This offers a low cost alternative to the Teflon* coated thermometers.

breaksafe™ thermometers are normally supplied with a non-roll end cap which has a ring to allow the thermometer to be suspended. They are packed in individual, resealable, telescopic tubes (except 44/425/0 which is supplied in PVC protective packaging) and are boxed in pack of 10 thermometers.

All laboratory thermometers can be supplied with UKAS Calibration Certificate or Statement of Conformity on request.

UKAS
Calibration Certificate
upon request

Statement
of Conformity
upon request

The below photograph shows a broken laboratory thermometer with glass and spirit held safely within the **breaksafe™** sleeve.



PVC coated **initial™** Brand laboratory thermometer with green filling and tri-top end. Below photograph shows green filling safely encapsulated within PVC **breaksafe™** sleeve.



Range °C only	Division	Length	76mm Immersion		Total Immersion	
			Accuracy	Product No	Accuracy	Product No
White Back with Blue LO-tox™ Filling						
-10 to +50°C	1.0°C	155mm	-	-	+/-1.0°C @ 35°C	44/550/7
-10 to +110°C	1.0°C	155mm	-	-	+/-1.0°C @ 35°C	44/530/7
-35 to +50°C	1.0°C	305mm	+/-1.0°C @ 35°C	44/501/8	+/-1.0°C @ 35°C	44/509/8
-10 to +50°C	0.5°C	305mm	+/-0.5°C @ 35°C	44/500/8	+/-0.5°C @ 35°C	44/508/8
-20 to +110°C	1.0°C	305mm	+/-1.0°C @ 35°C	44/502/8	+/-1.0°C @ 35°C	44/510/8
-1 to +51°C	0.1°C	405mm	+/-1.0°C @ 35°C	44/520/0	+/-0.5°C @ 35°C	44/521/0
-1 to +51°C	0.2°C	405mm	+/-1.0°C @ 35°C	44/522/0	+/-0.5°C @ 35°C	44/523/0
-1 to +51°C	0.2°C	405mm	+/-1.0°C @ 35°C	44/524/0	+/-0.5°C @ 35°C	44/525/0
Yellow Back with Red Spirit Filling						
-20 to +110°C	1.0°C	305mm	+/-1.0°C @ 35°C	44/553/0	+/-1.0°C @ 35°C	44/553/1
PVC Coated <i>initial</i> ™ Brand* Thermometers - Green Filling						
-10 to +110°C	1.0°C	200mm	+/-1.5°C @ 35°C	44/425/0	-	-

LO-tox™



For full details of our **initial™** range of thermometers, please see page 16 of this catalogue.



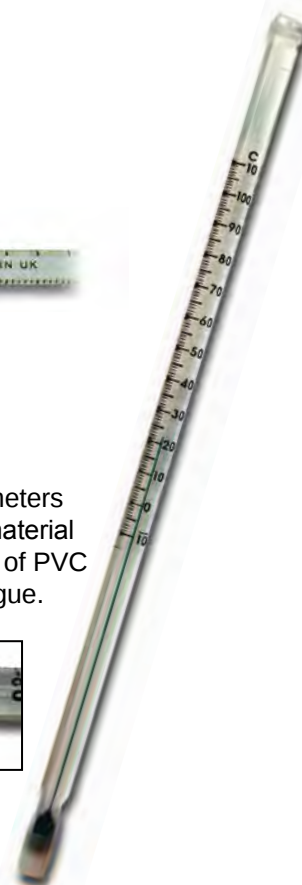
The **initial™** Brand range of laboratory thermometers offer a significant saving on our range of standard thermometers while making no compromises to the traditional **Brannan** quality and accuracy. This entry level range is now available in a choice of red, green or blue spirit filling and have Tri-top, moulded glass non-roll device to help prevent breakage.

These thermometers are printed with a clear, easy-to-read scale making them particularly suitable for student use.

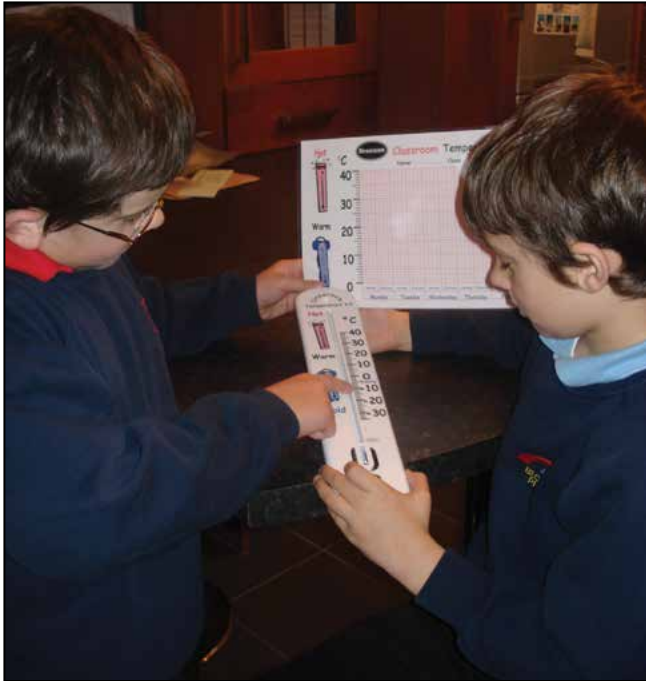
The **initial™** Brand Thermometers are supplied as standard in protective PVC packaging in pack of 10 thermometers.



The **Brannan breaksafe™** range of laboratory thermometers are encapsulated in PVC to contain any glass or filling material in the event of breakage. For details about the full range of PVC coated thermometers, please see page 15 of this catalogue.



Range °C only	Division	Length	Filling Colour	76mm Immersion		Total Immersion	
				Accuracy	Product No	Accuracy	Product No
-10 to +110°C	1.0°C	150mm	Red	-	-	+/-2.0°C @ 35°C	46/330/0
-10 to +110°C	1.0°C	150mm	Green	-	-	+/-2.0°C @ 35°C	46/330/5
-10 to +110°C	1.0°C	150mm	Blue	-	-	+/-2.0°C @ 35°C	46/330/7
-10 to +110°C	1.0°C	200mm	Red	+/-1.5°C @ 35°C	46/323/0	-	-
-10 to +110°C	1.0°C	200mm	Green	+/-1.5°C @ 35°C	46/323/5	-	-
-10 to +110°C	1.0°C	200mm	Blue	+/-1.5°C @ 35°C	46/323/7	-	-
-10 to +50°C	0.5°C	300mm	Red	+/-0.5°C @ 35°C	46/103/0	-	-
-10 to +50°C	0.5°C	300mm	Blue	+/-0.5°C @ 35°C	46/103/7	-	-
-10 to +110°C	1.0°C	300mm	Red	+/-1.5°C @ 35°C	46/303/0	-	-
-10 to +110°C	1.0°C	300mm	Green	+/-1.5°C @ 35°C	46/303/5	-	-
-10 to +110°C	1.0°C	300mm	Blue	+/-1.5°C @ 35°C	46/303/7	-	-
-10 to +150°C	1.0°C	300mm	Red	+/-1.0°C @ 35°C	46/503/0	-	-
-10 to +150°C	1.0°C	300mm	Blue	+/-1.0°C @ 35°C	46/503/7	-	-
PVC Coated initial™ Brand* Thermometers - Green Filling							
-10 to +110°C	1.0°C	200mm	Green	+/-1.5°C @ 35°C	44/425/0	-	-
Uncalibrated Thermometers (for student calibration)							
Covers Range -10 to +110°C		305mm	Red	-	46/603/0	-	-
		305mm	Green	-	46/603/5	-	-
		305mm	Blue	-	46/603/7	-	-



The following kits have been developed for use in the classroom. They come complete with teaching notes and photocopiable worksheets. These kits assist teachers to operate within the National Curriculum.



Classroom Kit

Blue plastic tray which fits into standard classroom storage system encloses a variety of laboratory thermometers and a set of 'Classroom' notes.

- 8 x 150mm **initial**™ brand green filled thermometers
- 7 x 300mm **initial**™ brand green filled thermometers
- 1 x 300mm uncalibrated green filled thermometers

Dimensions: 334 x 232 x 50mm

25/700/0

Investigative Science Kit

Blue plastic tray enclosing a variety of instruments and a set of 'Investigative Science' notes.

- 4 x 150mm **initial**™ brand green filled thermometers
- 4 x 200mm **initial**™ brand green filled thermometers
- 2 x small classroom thermometers
- 1 x dial type maximum/minimum thermometer
- 1 x soil temperature thermometer
- 1 x forehead strip clinical thermometer

Dimensions: 334 x 232 x 50mm

25/701/0

Classroom Wall Kit

Colourful 380mm plastic wall thermometer and chart for recording temperatures.

Dimensions: 365 x 287 x 10mm

Thermometer and Chart: 25/702/0

Thermometer only: 25/703/0

Chart only: 25/704/0



Classroom Wall Thermometer

300mm diameter plastic wall thermometer with easy to read temperature scale and rainbow design.

Range: -20 to +50°C&F

Dimensions: 300 x 300 x 40mm

Thermometer: 30/120/5



The low temperature SAMA thermometers have always been specified with organic filling. Included below are additional 'SAMA Type' spirit filled thermometers to satisfy the preference for non-mercury fillings. The thermometers are supplied as standard in protective PVC packaging but are also available in individual, resealable, telescopic tubes. Both styles of packaging are boxed in packs of 10 thermometers and can be supplied with a UKAS Calibration Certificate or Statement of Conformity on request.



Range °C only	Division	Length	Immersion	Accuracy	*SAMA Number	Product Number
-100 to +50°C	1.0°C	305mm	Total	+/-2.0°C @ 0°C	CT55	46/456/0
-50 to +50°C	1.0°C	305mm	Total	+/-1.5°C @ 0°C	CT60	46/539/0
-35 to +50°C	1.0°C	305mm	Total	+/-1.5°C @ 35°C	CT10	44/009/8
-20 to +110°C	1.0°C	305mm	Total	+/-1.0°C @ 35°C	CT15	44/010/8
-20 to +150°C	1.0°C	305mm	Total	+/-1.0°C @ 35°C	CT20	44/011/8
-100 to +50°C	1.0°C	305mm	76mm	+/-2.0°C @ 0°C	-	46/457/0
-50 to +50°C	1.0°C	305mm	76mm	+/-1.0°C @ 0°C	-	46/540/0
-35 to +50°C	1.0°C	305mm	76mm	+/-1.0°C @ 0°C	CP10	44/001/8
-20 to +110°C	1.0°C	305mm	76mm	+/-1.0°C @ 35°C	CP15	44/002/8
-20 to +150°C	1.0°C	305mm	76mm	+/-1.0°C @ 35°C	CP20	44/003/8
-10 to +260°C	1.0°C	405mm	76mm	+/-2.0°C @ 90°C	-	44/804/8*

Range °F only	Division	Length	Immersion	Accuracy	*SAMA Number	Product Number
-30 to +120°F	1.0°F	305mm	Total	+/-1.0°F @ 95°F	FT10	44/009/7
0 to +230°F	2.0°F	305mm	Total	+/-2.0°F @ 95°F	FT15	44/016/7
0 to +300°F	2.0°F	305mm	Total	+/-2.0°F @ 95°F	FT20	44/017/7
-30 to +120°F	1.0°F	305mm	76mm	+/-2.0°F @ 32°F	FP10	44/001/7
0 to +230°F	2.0°F	305mm	76mm	+/-2.0°F @ 95°F	FP15	44/002/7
0 to +300°F	2.0°F	305mm	76mm	+/-2.0°F @ 95°F	FP20	44/003/7
+20 to +500°F	2.0°F	405mm	76mm	+/-4.0°F @ 195°F	-	44/804/7*

Range °C only	Division	Length	Immersion	Accuracy	*SAMA Number	Product Number
-20 to +110°C 0 to +230°F	1.0°C 2.0°F	305mm	Total	+/-1.0°C @ 35°C	-	44/010/9
-20 to +150°C 0 to +200°F	1.0°C 2.0°F	305mm	Total	+/-1.0°C @ 35°C	-	44/011/9
-10 to +260°C +20 to +500°F	1.0°C 2.0°F	405mm	Total	+/-2.0°C @ 90°C	-	44/012/9
-20 to +110°C 0 to +230°F	1.0°C 2.0°F	305mm	76mm	+/-2.0°C @ 90°C	CFP15	44/002/9
-20 to +150°C 0 to +300°F	1.0°C 2.0°F	305mm	76mm	+/-2.0°C @ 90°C	CFP20	44/003/9
-10 to +260°C +20 to +500°F	1.0°C 2.0°F	405mm	76mm	+/-2.0°C @ 90°C	-	44/022/3

* Other than CT55 and CT60, the SAMA numbers used are the codes for the equivalent mercury thermometers and are for reference only.

BS 1704 : 1985 is identical to ISO 1770 - 1981 (revised in 1983). The specification includes standard thermometers (designation A to H) and thermometers of higher accuracy (designation J to W). Thermometers with ranges below -35°C are red spirit filled. All other ranges are mercury filled and are made of yellow back glass, wherever possible.



The designation reference for partial (75mm) immersion types is suffixed "/75". The thermometers are supplied in individual, resealable, telescopic tubes. These thermometers can be supplied with a UKAS Calibration Certificate or Statement of Conformity on request.



Designation		Range °C only	Division	Length	Product Number	
Total	Partial				76mm Imm	Total Imm
A	-	-100 to +30°C	1.0°C	305mm	50/121/0*	-
B	B/75	-35 to +30°C	0.5°C	305mm	50/122/0	50/142/0
C	C/75	-5 to +60°C	0.5°C	305mm	50/123/0	50/143/0
D	D/75	-5 to +105°C	1.0°C	305mm	50/124/0	50/144/0
E	E/75	-10 to +160°C	1.0°C	305mm	50/125/0	50/145/0
F	F/75	-10 to +250°C	1.0°C	305mm	50/126/0	50/146/0
G	G/75	-10 to +360°C	2.0°C	305mm	50/127/0	50/147/0
H	H/75	-10 to +500°C	5.0°C	305mm	50/128/0	50/148/0
Thermometers of Higher Accuracy						
J	-	-100 to +50°C*	1.0°C	305mm	50/129/0*	-
K	-	-50 to +50°C*	1.0°C	305mm	50/130/0*	-
P	P/75	-35 to +50°C	1.0°C	305mm	50/131/0	50/151/0
R	R/75	-20 to +110°C	1.0°C	305mm	50/132/0	50/152/0
S	S/75	-20 to +150°C	1.0°C	305mm	50/133/0	50/153/0
T	T/75	-10 to +260°C	1.0°C	405mm	50/134/0	50/154/0
V	V/75	-10 to +400°C	2.0°C	405mm	50/135/0	50/155/0
W	W/75	-10 to +500°C	2.0°C	405mm	50/136/0	50/156/0
Fractional Degree Thermometers						
L	L/75	-1 to +51°C	0.1°C	460mm	50/137/0	50/157/0
M	M/75	-1 to +101°C	0.1°C	610mm	50/138/0	50/158/0
N	N/75	-1 to +201°C	0.2°C	610mm	50/139/0	50/159/0

* Red spirit filled

UKAS Calibration Certification

All our laboratory thermometers can be supplied with full UKAS Certification on request. Our facilities conform to (BS) EN ISO/IEC 17025:2005 – 'General requirements for the competence of testing and calibration laboratories'. For temperature measurement our laboratory can calibrate all types of liquid-in-glass thermometers i.e. both spirit and mercury. Certification is available for test temperatures between -60°C and +250°C. See Calibration section of this catalogue, or contact our Sales Team for more details.



The thermometers covered by this Standard as listed below provide a higher accuracy than the BS 1704 : 1985 (150 1770-1981) on the previous page. We have only included Celsius thermometers to the BS 593 specification. The thermometers are supplied as standard in yellow back glass wherever possible and have a mercury filling.

Instruments whose range does not include 0°C are specified to have an auxiliary "ice point" scale. The thermometers are supplied in individual, resealable, telescopic tubes and can be supplied with a UKAS Calibration Certificate or Statement of Conformity on request.

UKAS
Calibration Certificate
upon request

Statement
of Conformity
upon request



Designation	Range °C only	Division	Length	Immersion	Product Number
A 10°C/Total	-30 to +10°C	0.1°C	405mm	Total	51/059/5
A 20°C/Total	-20 to +20°C	0.1°C	405mm	Total	51/060/0
A 40°C/Total	0 to +40°C	0.1°C	405mm	Total	51/061/0
A 70°C/Total	+40 to +70°C	0.1°C	405mm	Total	51/062/0
A 100°C/Total	+70 to +100°C	0.1°C	405mm	Total	51/063/0
A 130°C/Total	+100 to +130°C	0.1°C	405mm	Total	51/064/0
A 160°C/Total	+130 to +160°C	0.1°C	405mm	Total	51/065/0
B 60°C/Total	-20 to +60°C	0.2°C	405mm	Total	51/066/0
B 110°C/Total	+50 to +110°C	0.2°C	405mm	Total	51/067/0
B 160°C/Total	+100 to +160°C	0.2°C	405mm	Total	51/068/0
B 210°C/Total	+150 to +210°C	0.2°C	405mm	Total	51/069/0
B 260°C/Total	+200 to +260°C	0.2°C	405mm	Total	51/070/0
A 10°C/100	-30 to +10°C	0.1°C	405mm	100mm	51/001/0
A 20°C/100	-20 to +20°C	0.1°C	405mm	100mm	51/002/0
A 40°C/100	0 to +40°C	0.1°C	405mm	100mm	51/003/0
A 70°C/100	+40 to +70°C	0.1°C	405mm	100mm	51/004/0
A 100°C/100	+70 to +100°C	0.1°C	405mm	100mm	51/005/0
A 130°C/100	+100 to +130°C	0.1°C	405mm	100mm	51/006/0
A 160°C/100	+130 to +160°C	0.1°C	405mm	100mm	51/007/0
B 60°C/100	-20 to +60°C	0.2°C	405mm	100mm	51/008/0
B 110°C/100	+50 to +110°C	0.2°C	405mm	100mm	51/009/0
B 160°C/100	+100 to +160°C	0.2°C	405mm	100mm	51/010/0
B 210°C/100	+150 to +210°C	0.2°C	405mm	100mm	51/011/0
B 260°C/100	+200 to +260°C	0.2°C	405mm	100mm	51/012/0

UKAS Calibration Certification

All our laboratory thermometers can be supplied with full UKAS Certification on request.

Our facilities conform to (BS) EN ISO/IEC 17025:2005 – 'General requirements for the competence of testing and calibration laboratories'. For temperature measurement our laboratory can calibrate all types of liquid-in-glass thermometers i.e. both spirit and mercury. Certification is available for test temperatures between -60°C and +250°C. See Calibration section of this catalogue, or contact our Sales Team for more details.

UKAS
Calibration Certificate
upon request

CERTIFICATE OF CALIBRATION

ISSUED BY: S. Brannan & Sons Ltd

DATE OF ISSUE: 20 January 2015

Facility Number: 07192

Client: S. Brannan & Sons Ltd

Address: Lonsdale Industrial Estate, Chester Moor, Cheshire, CH25 9JG

Claims Order No: N/A

Apparatus Tested: Mercury In Glass Thermometer

Type / Specification: BS 593 B78

Range & Division Frequency or Resolution: -35/35°C 0.1°C

Calibration Immersion: 100mm

Serial No: 100118

CALIBRATION CONDITIONS

Date Issued: 20 January 2015

Date Calibration Next Due: 20 January 2018

Calibration Temperature: 20°C ± 0.1°C

Calibration Humidity: 20% to 80% (RH)

The reported expanded uncertainty is based on a standard uncertainty evaluated by a coverage factor of 2, providing a level of confidence of approximately 95%. The uncertainty evaluated has been verified and is accordance with UKAS requirements.

CERTIFICATE OF CALIBRATION

UKAS ACCREDITED CALIBRATION LABORATORY No. 07192

Facility Number: 07192

Page 2 of 2

The thermometer was calibrated in accordance with the following conditions:

The thermometer was used only in accordance with the instructions supplied with the thermometer.

The liquid immersion thermometer was calibrated in accordance with the following conditions:

Calibration Temperature °C	Thermometer Reading °C	Temperature Correction °C	Measurement Uncertainty °C
-24.97	16.73	16.6	0.06
-20.00	17.2	17.2	0.06
0.00	20.9	20.9	0.11
20.01	25.85	24.9	0.17

The thermometer was used in accordance with the following conditions:

The thermometer was used in accordance with the following conditions:

The reported expanded uncertainty is based on a standard uncertainty evaluated by a coverage factor of 2, providing a level of confidence of approximately 95%. The uncertainty evaluated has been verified and is accordance with UKAS requirements.

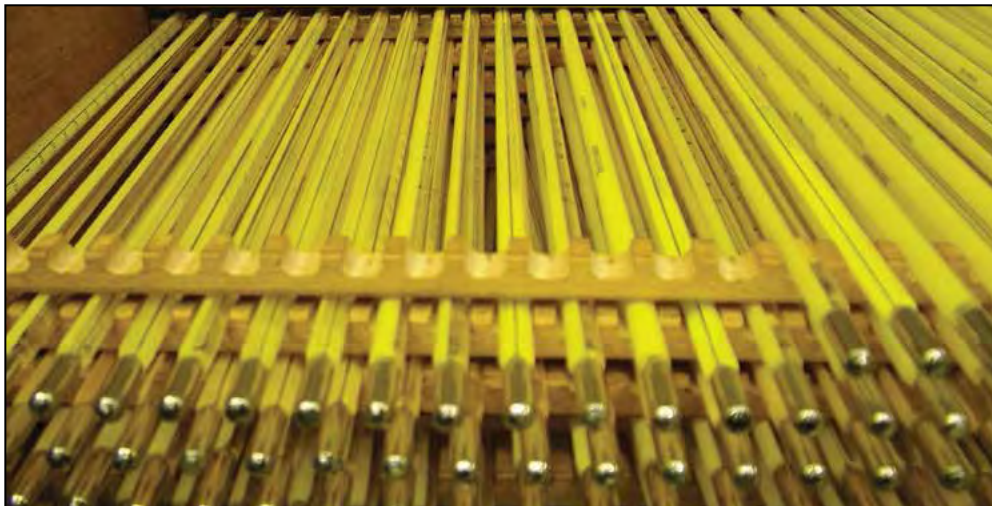
These products with designation 'F' are identical to certain IP (BS:2000) and ASTM specification and thermometers are marked accordingly. All these products are supplied in yellow back glass wherever possible and have a mercury filling.

The thermometers are supplied in individual, resealable, telescopic tubes and can be supplied with a UKAS Calibration Certificate or Statement of Conformity on request.

UKAS
Calibration Certificate
upon request

Statement
of Conformity
upon request

Designation	IP Number	ASTM Equiv.	Range °C only	Division	Max Length	Immersion	Product Number
F 50°C/100	77C	37C	-2 to +52°C	0.2°C	400	100mm	58/077/2
F 75°C/100	78C	38C	+24 to +78°C	0.2°C	400	100mm	58/078/2
F 100°C/100	79C	39C	+48 to +102°C	0.2°C	400	100mm	58/079/2
F 125°C/100	80C	40C	+72 to +126°C	0.2°C	400	100mm	58/080/2
F 150°C/100	81C	41C	+98 to +152°C	0.2°C	400	100mm	58/081/2
F 175°C/100	83C	102C	+123 to +177°C	0.2°C	400	100mm	58/083/2
F 200°C/100	84C	103C	+148 to +202°C	0.2°C	400	100mm	58/084/2
F 225°C/100	85C	104C	+173 to +227°C	0.2°C	400	100mm	58/085/2
F 250°C/100	86C	105C	+198 to +252°C	0.2°C	400	100mm	58/086/2
F 275°C/100	87C	106C	+223 to +277°C	0.2°C	400	100mm	58/087/2
F 300°C/100	88C	107C	+248 to +302°C	0.2°C	400	100mm	58/088/2
F 255°C/100	82C	42C	+95 to +255°C	0.5°C	400	100mm	58/082/2
F 150°C/76	-	1C	-20 to +150°C	1.0°C	327	76mm	59/001/2
F 300°C/76	62C	2C	-5 to +300°C	1.0°C	395	76mm	58/062/2
F 400°C/76	73C	3C	-5 to +400°C	1.0°C	420	76mm	58/073/2



Safe Packaging Service

To complement our calibration services, we are able to supply packaging for use when sending your thermometer to us to help reduce the risk of breakage during transit. The pack comprises of a box with a blank calibration label, a telescopic plastic tube and an inner polystyrene tray with a 'cut-out' for robust protection of the thermometer.

Also included is a "Fragile" label for use on your own outer packaging. The thermometer packaging is then used to return the calibrated instrument to the customer, together with the calibration certificate, after our laboratory personnel have completed the details on the box label with the relevant identification information.

Two sizes of packaging are available, to cover different thermometer lengths.

Please contact our Sales Team for further details.

Product numbers:

Thermometer length under 305mm - 40/900/0

Thermometer length over 350 to 405mm - 40/901/0



New

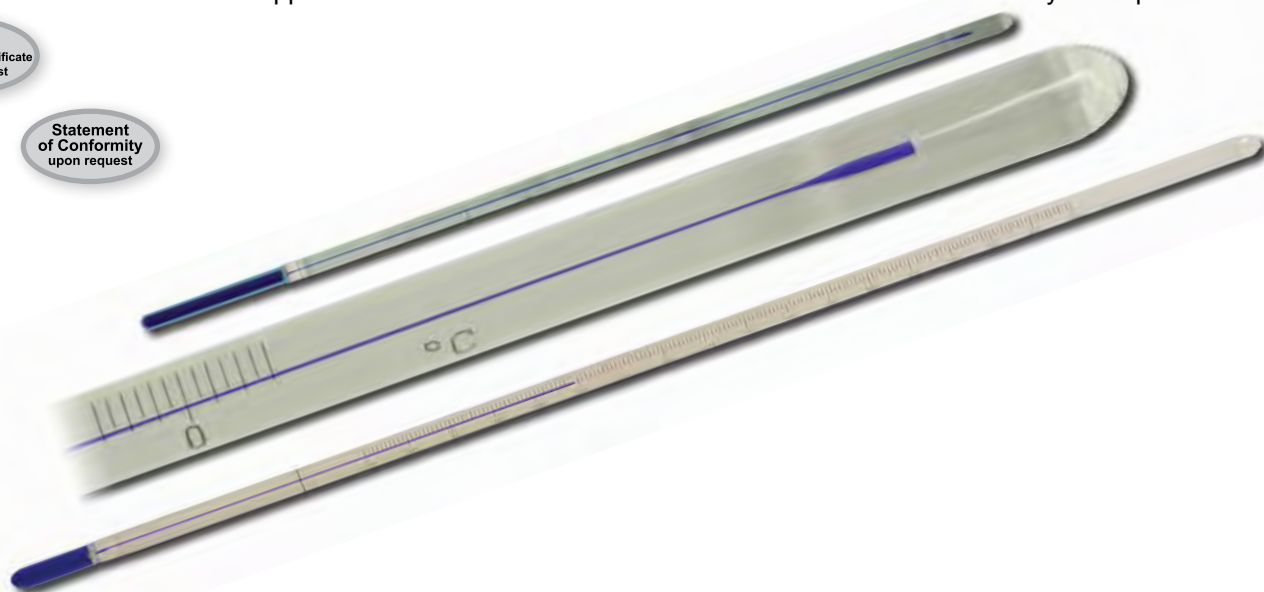
The following thermometers have been developed as blue spirit filled alternatives to the standard mercury filled ASTM thermometers (please see Standard ASTMs listed on pages 28-31).

All the below instruments can be produced with the blue filling, however those marked with an "S", ie "S5C", are exact equivalents to the ASTM Standard, others are similar to the Standard.

These thermometers can be supplied with UKAS Calibration Certificate or Statement of Conformity on request.

UKAS
Calibration Certificate
upon request

Statement
of Conformity
upon request



Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
1C	Partial Immersion	-20 to +150°C	1.0°C	327mm	76mm	55/001/2
1F	Partial Immersion	0 to +302°F	2.0°F	327mm	76mm	55/001/1
S5C	Cloud & Pour	-38 to +50°C	1.0°C	235mm	108mm	55/005/2
S5F	Cloud & Pour	-36 to +120°F	2.0°F	235mm	108mm	55/005/1
9C	Low Pensky-Martens	-5 to +110°C	0.5°C	295mm	57mm	55/009/2
9F	Low Pensky-Martens	+90 to +230°F	1.0°F	295mm	57mm	55/009/1
S12C	Density Wide Range	-20 to +102°C	0.2°C	425mm	Total	55/012/2
S12F	Density Wide Range	+5 to +215°F	0.5°F	425mm	Total	55/012/1
13C	Loss on Heating	+155 to +170°C	0.5°C	160mm	Total	55/013/2
14C	Wax Melting Point	+38 to +82°C	0.1°C	380mm	79mm	55/014/2
14F	Wax Melting Point	+100 to +180°F	0.2°F	380mm	79mm	55/014/1
S15C	Low Softening Point	-2 to +80°C	0.2°C	400mm	Total	55/015/2
S15F	Low Softening Point	-30 to +180°F	0.5°F	400mm	Total	55/015/1
16C	High Softening Point	+30 to +200°C	0.5°C	400mm	Total	55/016/2
16F	High Softening Point	+85 to +392°C	1.0°F	400mm	Total	55/016/1
17C	Saybolt Viscosity	+19 to +27°C	0.1°C	280mm	Total	55/017/2
17F	Saybolt Viscosity	+66 to +80°F	0.2°F	280mm	Total	55/017/1
S18C	Reid Vapour Pressure	+34 to +42°C	0.1°C	280mm	Total	55/018/2
S18F	Reid Vapour Pressure	+94 to +108°F	0.2°F	280mm	Total	55/018/1
19C	Saybolt Viscosity	+49 to +57°C	0.1°C	280mm	Total	55/019/2
19F	Saybolt Viscosity	+120 to +134°F	0.2°F	280mm	Total	55/019/1
20C	Saybolt Viscosity	+57 to +65°C	0.1°C	280mm	Total	55/020/2
20F	Saybolt Viscosity	+134 to +184°F	0.2°F	280mm	Total	55/020/1
21C	Saybolt Viscosity	+79 to +87°C	0.1°C	280mm	Total	55/021/2
21F	Saybolt Viscosity	+174 to +188°F	0.2°F	280mm	Total	55/021/1
S22C	Oxidation Stability	+95 to +103°C	0.1°C	280mm	Total	55/022/2
S22F	Oxidation Stability	+204 to +218°F	0.2°F	280mm	Total	55/022/1
23C	Engler Viscosity	+18 to +28°C	0.2°C	217mm	90mm	55/023/2
24C	Engler Viscosity	+39 to +54°C	0.2°C	242mm	90mm	55/024/2

Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
25C	Engler Viscosity	+95 to +105°C	0.2°C	217mm	90mm	55/025/2
26C	Nitrocellulose Stability	+130 to +140°C	0.1°C	468mm	Total	55/026/2
27C	Turpentine Distillation	+147 to +182°C	0.5°C	306mm	76mm	55/027/2
28C	Kinematic Viscosity	+36.6 to +39.4°C	0.05°C	310mm	Total	55/028/2
28F	Kinematic Viscosity	+97.5 to +102.5°F	0.1°F	310mm	Total	55/028/1
29C	Kinematic Viscosity	+52.6 to +55.4°C	0.05°C	310mm	Total	55/029/2
29F	Kinematic Viscosity	+127.5 to +132.5°F	0.1°F	310mm	Total	55/029/1
30F	Kinematic Viscosity	+207.5 to +212.5°F	0.1°F	310mm	Total	55/030/1
33C	Low Aniline Point	-38 to +42°C	0.2°C	425mm	50mm	55/033/2
33F	Low Aniline Point	-36.5 to +107.5°F	0.2°F	425mm	50mm	55/033/1
34C	Medium Aniline Point	+25 to +105°C	0.2°C	425mm	50mm	55/034/2
34F	Medium Aniline Point	+77 to +221°F	0.5°F	425mm	50mm	55/034/1
35C	High Aniline Point	+90 to +170°C	0.2°C	425mm	50mm	55/035/2
35F	High Aniline Point	+194 to +338°F	0.5°F	425mm	50mm	55/035/1
36C	Titer Test	-2 to +68°C	0.2°C	410mm	45mm	55/036/2
37C	Solvents Distillation	-2 to +52°C	0.2°C	400mm	100mm	55/037/2
38C	Solvents Distillation	+24 to +78°C	0.2°C	400mm	100mm	55/038/2
39C	Solvents Distillation	+48 to +102°C	0.2°C	400mm	100mm	55/039/2
40C	Solvents Distillation	+72 to +126°C	0.2°C	400mm	100mm	55/040/2
41C	Solvents Distillation	+98 to +152°C	0.2°C	400mm	100mm	55/041/2
44C	Kinematic Viscosity	+18.6 to +21.4°C	0.05°C	310mm	Total	55/044/2
44F	Kinematic Viscosity	+66.5 to +71.5°F	0.1°F	310mm	Total	55/044/1
45C	Kinematic Viscosity	+23.6 to +26.4°C	0.05°C	310mm	Total	55/045/2
45F	Kinematic Viscosity	+74.5 to +79.5°F	0.1°F	310mm	Total	55/045/1
46C	Kinematic Viscosity	+48.6 to +51.4°C	0.05°C	310mm	Total	55/066/2
46F	Kinematic Viscosity	+119.5 to +124.5°F	0.1°F	310mm	Total	55/066/2
47C	Kinematic Viscosity	+58.6 to +61.4°C	0.05°C	310mm	Total	55/047/2
47F	Kinematic Viscosity	+137.5 to +142.5°F	0.1°F	310mm	Total	55/047/1
48C	Kinematic Viscosity	+80.6 to +83.4°C	0.05°C	310mm	Total	55/048/2
48F	Kinematic Viscosity	+177.5 to +182.5°F	0.1°F	310mm	Total	55/048/1
49C	Stormer Viscosity	+20 to +70°C	0.2°C	310mm	65mm	55/049/2
50F	Gas Colorimeter Inlet	+54 to +101°F	0.1°F	473mm	Total	55/050/1
51F	Gas Colorimeter Outlet	+69 to +116°F	0.1°F	473mm	Total	55/051/1
52C	Butadiene Boiling Point Range	+10 to +5°C	0.1°C	167mm	Total	55/052/2
54C	Congeaing Point	+20 to +100.6°C	0.2°C	315mm	Total	55/054/2
54F	Congeaing Point	+68 to +213°F	0.5°F	315mm	Total	55/054/1
S56C	Bomb Calorimeter	+19 to +35°C	0.02°C	600mm	Total	55/056/2
S56F	Bomb Calorimeter	+66 to +95°F	0.05°F	600mm	Total	55/056/1
57C	Tag Closed Tester Low Range	+20 to +50°C	0.5°C	292mm	57mm	55/057/2
57F	Tag Closed Tester Low Range	-4 to +122°F	1.0°F	292mm	57mm	55/057/1
S58C	Tank	+34 to +49°C	0.5°C	305mm	57mm	55/058/2
S58F	Tank	+30 to +120°F	1.0°F	305mm	57mm	55/058/1
S59C	Tank	+18 to +82°C	0.5°C	305mm	57mm	55/059/2
S59F	Tank	0 to +180°F	1.0°F	305mm	57mm	55/059/1
61C	Petrolatum Melting Point	+32 to +127°C	0.2°C	385mm	79mm	55/061/2
61F	Petrolatum Melting Point	+90 to +260°F	0.5°F	385mm	79mm	55/061/1
S62C	Precision	+38 to +2°C	0.1°C	384mm	Total	55/062/2
S62F	Precision	+36 to +35°F	0.2°F	384mm	Total	55/062/1
S63C	Precision	+8 to +32°C	0.1°C	384mm	Total	55/063/2
S63F	Precision	+18 to +89°F	0.2°F	384mm	Total	55/063/1

Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
S64C	Precision	+25 to +55°C	0.1°C	384mm	Total	55/064/2
S64F	Precision	+77 to +131°F	0.2°F	384mm	Total	55/064/1
S65C	Precision	+50 to +80°C	0.1°C	384mm	Total	55/065/2
S65F	Precision	+122 to +176°F	0.2°F	384mm	Total	55/065/1
S66C	Precision	+75 to +105°C	0.1°C	384mm	Total	55/066/2
S66F	Precision	+167 to +221°F	0.2°F	384mm	Total	55/066/1
S67C	Precision	+95 to +155°C	0.2°C	384mm	Total	55/067/2
S67F	Precision	+203 to +311°F	0.5°F	384mm	Total	55/067/1
68C	Precision	+145 to +205°C	0.2°C	384mm	Total	55/068/2
68F	Precision	+293 to +401°F	0.5°F	384mm	Total	55/068/1
71C	Oil in Wax	-37 to +21°C	0.5°C	360mm	76mm	55/071/2
71F	Oil in Wax	-35 to +70°F	1.0°F	360mm	76mm	55/071/1
72C	Kinematic Viscosity	-19.4 to -16.6°C	0.05°C	310mm	Total	55/072/2
72F	Kinematic Viscosity	-2.5 to +2.5°F	0.1°F	310mm	Total	55/072/1
73C	Kinematic Viscosity	-41.4 to -38.6°C	0.05°C	310mm	Total	55/073/2
73F	Kinematic Viscosity	-42.5 to -37.5°F	0.1°F	310mm	Total	55/073/1
75F	Coolant (Anti-Freeze) Freezing Point	-35 to +35°F	0.5°F	413mm	100mm	55/075/1
77F	Saybolt Viscosity	+245 to +265°F	0.5°F	280mm	Total	55/077/1
78F	Saybolt Viscosity	+295 to +315°F	0.5°F	280mm	Total	55/078/1
79F	Saybolt Viscosity	+345 to +365°F	0.5°F	280mm	Total	55/079/1
80F	Saybolt Viscosity	+395 to +415°F	0.5°F	280mm	Total	55/080/1
82C	Fuel Rating, Engine	-15 to +105°C	1.0°C	165mm	30mm	55/082/2
82F	Fuel Rating, Engine	0 to +220°F	2.0°F	165mm	30mm	55/082/1
83C	Fuel Rating, Air	+15 to +70°C	1.0°C	174mm	40mm	55/083/2
83F	Fuel Rating, Air	+60 to +160°F	1.0°F	174mm	40mm	55/083/1
84C	Fuel Rating, Orifice Tank	+25 to +80°C	1.0°C	387mm	249mm	55/084/2
84F	Fuel Rating, Orifice Tank	+75 to +175°F	1.0°F	387mm	249mm	55/084/1
85C	Fuel Rating, Surge	+40 to +150°C	1.0°C	314mm	181mm	55/085/2
85F	Fuel Rating, Surge	+100 to +300°F	2.0°F	314mm	181mm	55/085/1
86C	Fuel Rating, Mix	+95 to +175°C	1.0°C	170mm	35mm	55/086/2
86F	Fuel Rating, Mix	+200 to +350°F	2.0°F	170mm	35mm	55/086/1
87C	Fuel Rating, Coolant	+150 to +205°C	1.0°C	175mm	40mm	55/087/2
87F	Fuel Rating, Coolant	+300 to +400°F	1.0°F	175mm	40mm	55/087/1
88C	Vegetable Oil Flash	+10 to +200°C	1.0°C	292mm	57mm	55/088/2
88F	Vegetable Oil Flash	+50 to +392°F	2.0°F	292mm	57mm	55/088/1
89C	Solidification Point	-20 to +10°C	0.1°C	375mm	76mm	55/089/2
90C	Solidification Point	0 to +30°C	0.1°C	375mm	76mm	55/090/2
S91C	Solidification Point	+20 to +50°C	0.1°C	375mm	76mm	55/091/2
92C	Solidification Point	+40 to +70°C	0.1°C	375mm	76mm	55/092/2
93C	Solidification Point	+60 to +90°C	0.1°C	375mm	76mm	55/093/2
94C	Solidification Point	+80 to +110°C	0.1°C	375mm	76mm	55/094/2
95C	Solidification Point	+100 to +130°C	0.1°C	375mm	76mm	55/095/2
96C	Solidification Point	+80 to +150°C	0.1°C	375mm	76mm	55/096/2
97C	Tank	-18 to +49°C	0.5°C	305mm	Total	55/097/2
97F	Tank	0 to +120°F	1.0°F	305mm	Total	55/097/1
98C	Tank	+16 to +82°C	0.5°C	305mm	Total	55/098/2
98F	Tank	+60 to +180°F	1.0°F	305mm	Total	55/098/1
99C	Weathering Test	-50 to +5°C	0.2°C	305mm	35mm	55/099/2
99F	Weathering Test	-58 to +41°F	0.5°F	305mm	35mm	55/099/1

Equivalent ASTM Number	Name	Range	Division	Max Length	Immersion	Product Number
100C	Solidification Point	+145 to +205°C	0.2°C	375mm	76mm	55/100/2
102C	Solvents Distillation	+123 to +177°C	0.2°C	400mm	100mm	55/102/2
103C	Solvents Distillation	+148 to +202°C	0.2°C	400mm	100mm	55/103/2
104C	Solvents Distillation	+173 to +227°C	0.2°C	400mm	100mm	55/104/2
108F	Saybolt Viscosity	+270 to +290°F	0.5°F	280mm	Total	55/108/1
109F	Saybolt Viscosity	+320 to +340°F	0.5°F	280mm	Total	55/109/1
112C	Solidification Point of Benzene	+4 to +6°C	0.02°C	220mm	Total	55/112/2
113C	Bitumen Softening Point Wide Range	-1 to +175°C	0.5°C	410mm	Total	55/113/2
113F	Bitumen Softening Point Wide Range	+30 to +350°F	1.0°F	410mm	Total	55/113/1
S116C	Bomb Calorimeter	+18.9 to +25.1°C	0.01°C	614mm	Total	55/116/2
S117C	Bomb Calorimeter	+23.9 to +30.1°C	0.01°C	614mm	Total	55/117/2
118C	Kinematic Viscosity	+28.6 to +31.4°C	0.05°C	310mm	Total	55/118/2
118F	Kinematic Viscosity	+83.5 to +88.5°F	0.1°F	310mm	Total	55/118/1
119C	Coolant (Anti-Freeze) Freezing Point	-38.3 to -30°C	0.1°C	425mm	100mm	55/119/2
119F	Coolant (Anti-Freeze) Freezing Point	-37 to -22°F	0.2°F	425mm	100mm	55/119/1
S120C	Kinematic Viscosity	+38.6 to +41.4°C	0.05°C	310mm	Total	55/120/2
121C	Kinematic Viscosity	+98.6 to +101.4°C	0.05°C	310mm	Total	55/121/2
122C	Brookfield Viscosity	-45 to -35°C	0.1°C	305mm	Total	55/122/2
123C	Brookfield Viscosity	-35 to -25°C	0.1°C	305mm	Total	55/123/2
124C	Brookfield Viscosity	-25 to -15°C	0.1°C	305mm	Total	55/124/2
125C	Brookfield Viscosity	-15 to -5°C	0.1°C	305mm	Total	55/125/2
126C	Kinematic Viscosity	-27.4 to -24.6°C	0.05°C	310mm	Total	55/126/2
126F	Kinematic Viscosity	-17.5 to -12.5°F	0.1°F	310mm	Total	55/126/1
127C	Kinematic Viscosity	-21.4 to -18.6°C	0.05°C	310mm	Total	55/127/2
128C	Kinematic Viscosity	-1.4 to +1.4°C	0.05°C	310mm	Total	55/128/2
128F	Kinematic Viscosity	+29.5 to +34.5°F	0.1°F	310mm	Total	55/128/1
129C	Kinematic Viscosity	+91.6 to +94.4°C	0.05°C	310mm	Total	55/129/2
129F	Kinematic Viscosity	+197.5 to +202.5°F	0.1°F	310mm	Total	55/129/1
S130C	Tank	-7 to +105°C	0.5°C	305mm	Total	55/130/2
130F	Tank	+20 to +220°F	1.0°F	305mm	Total	55/130/1
133C	Precision	-38 to +2°C	0.1°C	384mm	76mm	55/133/2
135C	Fuel Rating Air - High	+38 to +93°C	1.0°C	171mm	40mm	55/135/2
135F	Fuel Rating Air - High	+100 to +200°F	1.0°F	171mm	40mm	55/135/1
136C	Aviation Fuel Density	-20 to +60°C	0.2°C	290mm	Total	55/136/2
136F	Aviation Fuel Density	-5 to +140°F	0.5°F	290mm	Total	55/136/1
137C	Oxidation Cell Test	+80 to +100°C	1.0°C	255mm	76mm	55/137/2

UKAS Calibration Certification

All our laboratory thermometers can be supplied with full UKAS Certification on request. Our facilities conform to (BS) EN ISO/IEC 17025:2005 – 'General requirements for the competence of testing and calibration laboratories'. For temperature measurement our laboratory can calibrate all types of liquid-in-glass thermometers i.e. both spirit and mercury. Certification is available for test temperatures between -60°C and +250°C. See Calibration section of this catalogue, or contact our Sales Team for more details.



The thermometers listed below are made in accordance with specifications drawn up by the Institute of Petroleum (IP) for use with specific test methods of petroleum and its products. Many of the tests and instrument specifications are jointly agreed with ASTM and they are marked accordingly. The list of these thermometers is now part of a British Standard. While these thermometers were designed for specific tests, many of them have other uses as quality precision thermometers. They are supplied in yellow back glass and whenever possible have a mercury filling. The thermometers can be supplied with UKAS Calibration Certificate or Statement of Conformity on request.



IP Number	ASTM Equiv.	Name	Range °C only	Division	Max Length	Immersion	Product Number
1C	5C	Cloud & Pour	-38 to +50°C	1.0°C	235mm	108mm	58/001/2
2C	6C	Low Cloud & Pour	-80 to +20°C	1.0°C	235mm	76mm	58/002/2
3C	-	Demulsification	-1 to +105°C	0.5°C	305mm	Total	58/003/2
4C	-	Crude Oil Distillation	-4 to +360°C	2.0°C	320mm	Total	58/004/2
5C	7C	Low Distillation	-2 to +300°C	1.0°C	390mm	Total	58/005/2
6C	8C	High Distillation	-2 to +400°C	1.0°C	390mm	Total	58/006/2
8C	-	Flushing-Case Low	0 to +45°C	0.2°C	350mm	65mm	58/008/2
9C	-	Flushing-Case Medium	+40 to +85°C	0.2°C	350mm	65mm	58/009/2
14C	114C	Aviation Fuel Freezing Point	-80 to +20°C	0.5°C	305mm	Total	58/014/2
15C	9C	Low Pensky-Martens	-5 to +110°C	0.5°C	295mm	57mm	58/015/2
16C	10C	High Pensky-Martens	+90 to +370°C	2.0°C	295mm	57mm	58/016/2
17C	14C	Wax Melting Point	+38 to +82°C	0.1°C	380mm	79mm	58/017/2
18C	54C	Congeaing Point	+20 to +100.6°C	0.2°C	315mm	Total	58/018/2
20C	33C	Low Aniline Point	-38 to +42°C	0.2°C	425mm	50mm	58/020/2
21C	34C	Medium Aniline Point	+25 to +105°C	0.2°C	425mm	50mm	58/021/2
22C	-	Oxidation	+195 to +205°C	0.1°C	310mm	100mm	58/022/2
23C	18C	Reid Vapour Pressure	+34 to +42°C	0.1°C	280mm	Total	58/023/2
24C	22C	Oxidation Stability	+95 to +103°C	0.1°C	280mm	Total	58/024/2
-	-	Abel Water Bath	+32 to +88°C	0.5°C	228mm	89mm#	58/025/2
-	-	Abel Oil cup	+10 to +65°C	0.5°C	228mm	61mm#	58/026/2
28C	11C	Cleveland Open Flash	-6 to +400°C	2.0°C	315mm	25mm	58/028/2
29C	44C	Kinematic Viscosity 20°C	+18.6 to +21.4°C	0.05°C	310mm	Total	58/029/2
30C	45C	Kinematic Viscosity 25°C	+23.6 to +26.4°C	0.05°C	310mm	Total	58/030/2
31C	28C	Kinematic Viscosity 37.8°C	+36.6 to +39.4°C	0.05°C	310mm	Total	58/031/2
32C	121C	Kinematic Viscosity 98.9°C	+98.6 to +101.4°C	0.05°C	310mm	Total	58/032/2
33C	128C	Kinematic Viscosity 0°C	-1.4 to +1.4°C	0.05°C	310mm	Total	58/033/2
34C	29C	Kinematic Viscosity 54.4°C	+52.6 to +55.4°C	0.05°C	310mm	Total	58/034/2
35C	47C	Kinematic Viscosity 60°C	+58.6 to +61.4°C	0.05°C	310mm	Total	58/035/2
36C	129C	Kinematic Viscosity 93.3°C	+91.6 to +94.4°C	0.05°C	310mm	Total	58/036/2
37C	-	Sludge	+144 to +156°C	0.2°C	280mm	100mm	58/037/2
38C	-	Pen	+23 to +27°C	0.1°C	270mm	Total	58/038/2
39C	-	Density	-1 to +38°C	0.1°C	450mm	Total	58/039/2
40C	-	Drop Point, Low	+20 to +120°C	1.0°C	260mm	100mm	58/040/2
41C	-	Drop Point, High	+100 to +230°C	1.0°C	260mm	100mm	58/041/2
42C	-	Breaking Point	-38 to +30°C	0.5°C	380mm	250mm	58/042/2
43C	-	F P Cut Back (Int)	+10 to +110°C	0.5°C	305mm	61mm#	58/043/2
44C	-	F P Cut Back (Ext)	+15 to +121°C	0.5°C	305mm	89mm#	58/044/2
45C	-	Refractometer	+15 to +30°C	0.2°C	170mm	22mm	58/045/2
46C	-	Westphal Balance	+14.5 to +21°C	0.1°C	170mm	Total	58/046/2
47C	13C	Loss on Heating	+155 to +170°C	0.5°C	160mm	Total	58/047/2
48C	-	Tank Low	-38 to +30°C	0.5°C	315mm	Total	58/048/2
49C	-	Tank Medium	-15 to +40°C	0.5°C	315mm	Total	58/049/2
50C	-	Tank High	+10 to +65°C	0.5°C	315mm	Total	58/050/2
51C	-	Tank Heated Fuel	+35 to +120°C	0.5°C	315mm	Total	58/051/2
52C	-	Tank Bitumen	+90 to +260°C	1.0°C	315mm	Total	58/052/2

IP Number	ASTM Equiv.	Name	Range °C only	Division	Max Length	Immersion	Product Number
53C	-	Tank Cargo	0 to +80°C	0.5°C	315mm	Total	58/053/2
54C	-	Angle Stem - Tank Low	-38 to +30°C	0.5°C	*	*	58/054/2
55C	-	Angle Stem - Tank MEDIUM	-15 to +40°C	0.5°C	*	*	58/055/2
56C	-	Angle Stem - Tank HIGH	+10 to +65°C	0.5°C	*	*	58/056/2
57C	-	Angle Stem - Tank Heated Fuel	+35 to +120°C	0.5°C	*	*	58/057/2
58C	-	Angle Stem - Tank Bitumen	+90 to +260°C	1.0°C	*	*	58/058/2
59C	35C	High Analine Point	+90 to +170°C	0.2°C	425mm	50mm	58/059/2
60C	15C	Low Softening Point	-2 to +80°C	0.2°C	400mm	Total	58/060/2
61C	16C	High Softening Point	+30 to +200°C	0.5°C	400mm	Total	58/061/2
62C	-	Partial Immersion	-5 to +300°C	1.0°C	395mm	76mm	58/062/2
63C	61C	Petrolatum Melting Point	+32 to +127°C	0.2°C	385mm	79mm	58/063/2
64C	12C	Density Wide Range	-20 to +102°C	0.2°C	425mm	Total	58/064/2
65C	43C	Kinematic Viscosity Low	-51.6 to -34°C	0.1°C	425mm	Total	58/065/2
66C	46C	Kinematic Viscosity 50°C	+48.6 to +51.4°C	0.05°C	310mm	Total	58/066/2
67C	72C	Kinematic Viscosity -17,8°C	-19.4 to -16.6°C	0.05°C	310mm	Total	58/067/2
68C	73C	Kinematic Viscosity -40°C	-41.4 to -38.6°C	0.05°C	310mm	Total	58/068/2
69C	74C	Kinematic Viscosity -53,9°C	-55.4 to -52.6°C	0.05°C	310mm	Total	58/069/2
71C	126C	Kinematic Viscosity -26,1°C	-27.4 to -24.6°C	0.05°C	310mm	Total	58/071/2
72C	71C	Oil in Wax	-37 to +21°C	0.5°C	360mm	76mm	58/072/2
73C	3C	Partial Immersion	-5 to +400°C	1.0°C	420mm	76mm	58/073/2
74C	-	Abel Oil cup - Wide Range	-35 to +70°C	0.5°C	320mm	61mm#	58/074/2
75C	-	Abel Water Bath - Wide Range	-30 to +80°C	0.5°C	320mm	89mm#	58/075/2
76C	-	Engler Viscosity	+10 to +55°C	0.5°C	250mm	93mm	58/076/2
77C	37C	Solvents Distillation	-2 to +52°C	0.2°C	400mm	100mm	58/077/2
78C	38C	Solvents Distillation	+24 to +78°C	0.2°C	400mm	100mm	58/078/2
79C	39C	Solvents Distillation	+48 to +102°C	0.2°C	400mm	100mm	58/079/2
80C	40C	Solvents Distillation	+72 to +126°C	0.2°C	400mm	100mm	58/080/2
81C	41C	Solvents Distillation	+98 to +152°C	0.2°C	400mm	100mm	58/081/2
82C	42C	Solvents Distillation	+95 to +255°C	0.5°C	400mm	100mm	58/082/2
83C	102C	Solvents Distillation	+123 to +177°C	0.2°C	400mm	100mm	58/083/2
84C	103C	Solvents Distillation	+148 to +202°C	0.2°C	400mm	100mm	58/084/2
85C	104C	Solvents Distillation	+173 to +227°C	0.2°C	400mm	100mm	58/085/2
86C	105C	Solvents Distillation	+198 to +252°C	0.2°C	400mm	100mm	58/086/2
87C	106C	Solvents Distillation	+223 to +277°C	0.2°C	400mm	100mm	58/087/2
88C	107C	Solvents Distillation	+248 to +302°C	0.2°C	400mm	100mm	58/088/2
89C	113C	Bitumen Softening Point - Wide Range	-1 to +175°C	0.5°C	410mm	Total	58/089/2
90C	48C	Kinematic Viscosity 82.2°C	+80.6 to +83.4°C	0.05°C	310mm	Total	58/090/2
91C	-	Rapid Flash	0 to +110°C	1.0°C	200mm	44mm	58/091/2
92C	120C	Kinematic Viscosity 40°C	+38.6 to +41.4°C	0.05°C	310mm	Total	58/092/2
93C	110C	Kinematic Viscosity 135°C	+133.6 to +136.4°C	0.05°C	310mm	Total	58/093/2
94C	122C	Brookfield Viscosity	-45 to -35°C	0.1°C	305mm	Total	58/094/2
95C	123C	Brookfield Viscosity	-35 to -25°C	0.1°C	305mm	Total	58/095/2
96C	124C	Brookfield Viscosity	-25 to -15°C	0.1°C	305mm	Total	58/096/2
97C	125C	Brookfield Viscosity	-15 to -5°C	0.1°C	305mm	Total	58/097/2
98C	-	Rapid Flash (High)	+100 to +300°C	2.0°C	200mm	44mm	58/098/2
99C	127C	Kinematic Viscosity -20°C	-21.4 to -18.6°C	0.05°C	310mm	Total	58/099/2
100C	-	Kinematic Viscosity 80°C	+78.6 to +81.4°C	0.05°C	310mm	Total	58/100/2
101C	-	Medium Pensky Martens	+20 to +150°C	1.0°C	295mm	57mm	58/101/2
102C	132C	Kinematic Viscosity 150°C	+148.6 to +151.4	°C0.05°C	310mm	Total	58/102/2

To suit 'Abel Apparatus'

* Dimensions not specified

The thermometers listed below are in accordance with specifications of the American Society for Testing and Materials (ASTM). Many of the instruments are identical to the IP (BS 2000) thermometers listed earlier and are marked accordingly. While these thermometers were designed for use in specific tests, many of them are used in other applications when precision thermometers are required. They are supplied in yellow back glass whenever possible, have a mercury filling and can be supplied with UKAS Calibration Certificate or Statement of Conformity on request.



ASTM Number	IP Equiv.	Name	Range	Division	Max Length	Immersion	Product Number
1F	-	Partial Immersion	0 to +302°F	2.0°F	327mm	76mm	59/001/1
1C	-	Partial Immersion	-20 to +150°C	1.0°C	327mm	76mm	59/001/2
2F	-	Partial Immersion	+20 to +580°F	2.0°F	395mm	76mm	59/002/1
3C	73C	Partial Immersion	-5 to +400°C	1.0°C	420mm	76mm	58/073/2
3F	-	Partial Immersion	+20 to +760°F	2.0°F	420mm	76mm	59/003/1
5C	1C	Cloud & Pour	-38 to +50°C	1.0°C	235mm	108mm	58/001/2
5F	-	Cloud & Pour	-36 to +120°F	2.0°F	235mm	108mm	59/005/1
6C	2C	Low Cloud & Pour	-80 to +20°C	1.0°C	235mm	76mm	58/002/2
6F	-	Low Cloud & Pour	-112 to +70°F	2.0°F	235mm	76mm	59/006/1
7C	5C	Low Distillation	-2 to +300°C	1.0°C	390mm	Total	58/005/2
7F	-	Low Distillation	+30 to +580°F	2.0°F	390mm	Total	59/007/1
8C	6C	High Distillation	-2 to +400°C	1.0°C	390mm	Total	58/006/2
8F	-	High Distillation	+30 to +760°F	2.0°F	390mm	Total	59/008/1
9C	15C	Low Pensky-Martens	-5 to +110°C	0.5°C	295mm	57mm	58/015/2
9F	-	Low Pensky-Martens	+90 to +230°F	1.0°F	295mm	57mm	59/009/1
10C	16C	High Pensky-Martens	+90 to +370°C	2.0°C	295mm	57mm	58/016/2
10F	-	Low Pensky-Martens	+200 to +700°F	5.0°F	295mm	57mm	59/010/1
11C	28C	Cleveland Open Flash	+6 to +400°C	2.0°C	315mm	25mm	58/028/2
11F	-	Cleveland Open Flash	+20 to +760°F	5.0°F	315mm	25mm	59/011/1
12C	64C	Density Wide Range	-20 to +102°C	0.2°C	425mm	Total	58/064/2
12F	-	Density Wide Range	+5 to +215°F	0.5°F	425mm	Total	59/012/1
13C	47C	Loss on Heating	+155 to +170°C	0.5°C	160mm	Total	58/047/2
14C	17C	Wax Melting Point	+38 to +82°C	0.1°C	380mm	79mm	58/017/2
14F	-	Wax Melting Point	+100 to +180°F	0.2°F	380mm	79mm	58/017/1
15C	60C	Low Softening Point	-2 to +80°C	0.2°C	400mm	Total	58/060/2
15F	-	Low Softening Point	-30 to +180°F	0.5°F	400mm	Total	59/015/1
16C	61C	High Softening Point	+30 to +200°C	0.5°C	400mm	Total	58/061/2
16F	-	High Softening Point	+85 to +392°C	1.0°F	400mm	Total	58/016/2
17C	-	Saybolt Viscosity	+19 to +27°C	0.1°C	280mm	Total	59/017/2
17F	-	Saybolt Viscosity	+66 to +80°F	0.2°F	280mm	Total	59/017/1
18C	23C	Reid Vapour Pressure	+34 to +42°C	0.1°C	280mm	Total	58/023/2
18F	-	Reid Vapour Pressure	+94 to +108°F	0.2°F	280mm	Total	58/018/1
19C	-	Saybolt Viscosity	+49 to +57°C	0.1°C	280mm	Total	59/019/2
19F	-	Saybolt Viscosity	+120 to +134°F	0.2°F	280mm	Total	59/019/1
20C	-	Saybolt Viscosity	+57 to +65°C	0.1°C	280mm	Total	59/020/2
20F	-	Saybolt Viscosity	+134 to +184°F	0.2°F	280mm	Total	59/020/1
21C	-	Saybolt Viscosity	+79 to +87°C	0.1°C	280mm	Total	59/021/2
21F	-	Saybolt Viscosity	+174 to +188°F	0.2°F	280mm	Total	59/021/1
22C	24C	Oxidation Stability	+95 to +103°C	0.1°C	280mm	Total	58/024/2
22F	-	Oxidation Stability	+204 to +218°F	0.2°F	280mm	Total	58/022/1
23C	-	Engler Viscosity	+18 to +28°C	0.2°C	217mm	90mm	59/023/2
24C	-	Engler Viscosity	+39 to +54°C	0.2°C	242mm	90mm	59/024/2
25C	-	Engler Viscosity	+95 to +105°C	0.2°C	217mm	90mm	59/025/2
26C	-	Nitrocellulose Stability	+130 to +140°C	0.1°C	468mm	Total	59/026/2
27C	-	Turpentine Distillation	+147 to +182°C	0.5°C	306mm	76mm	59/027/2
28C	31C	Kinematic Viscosity	+36.6 to +39.4°C	0.05°C	310mm	Total	58/031/2

ASTM Number	IP Equiv.	Name	Range	Division	Max Length	Immersion	Product Number
28F	-	Kinematic Viscosity	+97.5 to +102.5°F	0.1°F	310mm	Total	59/028/1
29C	34C	Kinematic Viscosity	+52.6 to +55.4°C	0.05°C	310mm	Total	58/034/2
29F	-	Kinematic Viscosity	+127.5 to +132.5°F	0.1°F	310mm	Total	59/029/1
30F	-	Kinematic Viscosity	+207.5 to +212.5°F	0.1°F	310mm	Total	59/030/1
33C	20C	Low Aniline Point	-38 to +42°C	0.2°C	425mm	50mm	58/020/2
33F	-	Low Aniline Point	-36.5 to +107.5°F	0.2°F	425mm	50mm	59/033/1
34C	21C	Medium Aniline Point	+25 to +105°C	0.2°C	425mm	50mm	58/021/2
34F	21F	Medium Aniline Point	+77 to +221°F	0.5°F	425mm	50mm	58/021/1
35C	59C	High Aniline Point	+90 to +170°C	0.2°C	425mm	50mm	58/059/2
35F	59F	High Aniline Point	+194 to +338°F	0.5°F	425mm	50mm	59/035/1
36C	-	Titer Test	-2 to +68°C	0.2°C	410mm	45mm	59/036/2
37C	77C	Solvents Distillation	-2 to +52°C	0.2°C	400mm	100mm	58/077/2
38C	78C	Solvents Distillation	+24 to +78°C	0.2°C	400mm	100mm	58/078/2
39C	79C	Solvents Distillation	+48 to +102°C	0.2°C	400mm	100mm	58/079/2
40C	80C	Solvents Distillation	+72 to +126°C	0.2°C	400mm	100mm	58/080/2
41C	81C	Solvents Distillation	+98 to +152°C	0.2°C	400mm	100mm	58/081/2
42C	82C	Solvents Distillation	+95 to +255°C	0.5°C	400mm	100mm	58/082/2
43C	65C	Kinematic Viscosity	-51.6 to -34°C	0.1°C	425mm	Total	58/065/2
43F	-	Kinematic Viscosity	-51.6 to -34°F	0.1°F	425mm	Total	58/043/1
44C	29C	Kinematic Viscosity	+18.6 to +21.4°C	0.05°C	310mm	Total	58/029/2
44F	29F	Kinematic Viscosity	+66.5 to +71.5°F	0.1°F	310mm	Total	59/044/1
45C	30C	Kinematic Viscosity	+23.6 to +26.4°C	0.05°C	310mm	Total	58/030/2
45F	-	Kinematic Viscosity	+74.5 to +79.5°F	0.1°F	310mm	Total	59/045/1
46C	66C	Kinematic Viscosity	+48.6 to +51.4°C	0.05°C	310mm	Total	58/066/2
46F	66F	Kinematic Viscosity	+119.5 to +124.5°F	0.1°F	310mm	Total	58/066/1
47C	35C	Kinematic Viscosity	+58.6 to +61.4°C	0.05°C	310mm	Total	58/035/2
47F	-	Kinematic Viscosity	+137.5 to +142.5°F	0.1°F	310mm	Total	59/047/1
48C	90C	Kinematic Viscosity	+80.6 to +83.4°C	0.05°C	310mm	Total	58/090/2
48F	-	Kinematic Viscosity	+177.5 to +182.5°F	0.1°F	310mm	Total	59/048/1
49C	-	Stormer Viscosity	+20 to +70°C	0.2°C	310mm	65mm	59/049/2
50F	-	Gas Colorimeter Inlet	+54 to +101°F	0.1°F	473mm	Total	59/050/1
51F	-	Gas Colorimeter Outlet	+69 to +116°F	0.1°F	473mm	Total	59/051/1
52C	-	Butadiene Boiling Point Range	+10 to +5°C	0.1°C	167mm	Total	59/052/2
54C	18C	Congealing Point	+20 to +100.6°C	0.2°C	315mm	Total	58/018/2
54F	-	Congealing Point	+68 to +213°F	0.5°F	315mm	Total	59/054/1
56C	-	Bomb Calorimeter	+19 to +35°C	0.02°C	600mm	Total	59/056/2
56F	-	Bomb Calorimeter	+66 to +95°F	0.05°F	600mm	Total	59/056/1
57C	-	Tag Closed Tester Low Range	+20 to +50°C	0.5°C	292mm	57mm	59/057/2
57F	-	Tag Closed Tester Low Range	-4 to +122°F	1.0°F	292mm	57mm	59/057/1
58C	-	Tank	+34 to +49°C	0.5°C	305mm	57mm	59/058/2
58F	-	Tank	+30 to +120°F	1.0°F	305mm	57mm	59/058/1
59C	-	Tank	+18 to +82°C	0.5°C	305mm	57mm	59/059/2
59F	-	Tank	0 to +180°F	1.0°F	305mm	57mm	59/059/1
60C	-	Tank	+77 to +260°C	1.0°C	305mm	57mm	59/060/2
60F	-	Tank	+170 to +500°F	2.0°F	305mm	57mm	59/060/1
61C	63C	Petrolatum Melting Point	+32 to +127°C	0.2°C	385mm	79mm	58/063/2
61F	-	Petrolatum Melting Point	+90 to +260°F	0.5°F	385mm	79mm	58/061/1
62C	-	Precision	+38 to +2°C	0.1°C	384mm	Total	59/062/2
62F	-	Precision	+36 to +35°F	0.2°F	384mm	Total	59/062/1
63C	-	Precision	+8 to +32°C	0.1°C	384mm	Total	59/063/2
63F	-	Precision	+18 to +89°F	0.2°F	384mm	Total	59/063/1
64C	-	Precision	+25 to +55°C	0.1°C	384mm	Total	59/064/2

ASTM Number	IP Equiv.	Name	Range	Division	Max Length	Immersion	Product Number
64F	-	Precision	+77 to +131°F	0.2°F	384mm	Total	59/064/1
65C	-	Precision	+50 to +80°C	0.1°C	384mm	Total	59/065/2
65F	-	Precision	+122 to +176°F	0.2°F	384mm	Total	59/065/1
66C	-	Precision	+75 to +105°C	0.1°C	384mm	Total	59/066/2
66F	-	Precision	+167 to +221°F	0.2°F	384mm	Total	59/066/1
67C	-	Precision	+95 to +155°C	0.2°C	384mm	Total	59/067/2
67F	-	Precision	+203 to +311°F	0.5°F	384mm	Total	59/067/1
68C	-	Precision	+145 to +205°C	0.2°C	384mm	Total	59/068/2
68F	-	Precision	+293 to +401°F	0.5°F	384mm	Total	59/068/1
69C	-	Precision	+195 to +305°C	0.5°C	384mm	Total	59/069/2
69F	-	Precision	+383 to +581°F	1.0°F	384mm	Total	59/069/1
70C	-	Precision	+295 to +405°C	0.5°C	384mm	Total	59/070/2
70F	-	Precision	+563 to +761°F	1.0°F	384mm	Total	59/070/1
71C	72C	Oil in Wax	-37 to +21°C	0.5°C	360mm	76mm	58/072/2
71F	-	Oil in Wax	-35 to +70°F	1.0°F	360mm	76mm	59/071/1
72C	67C	Kinematic Viscosity	-19.4 to -16.6°C	0.05°C	310mm	Total	58/067/2
72F	-	Kinematic Viscosity	-2.5 to +2.5°F	0.1°F	310mm	Total	59/072/1
73C	68C	Kinematic Viscosity	-41.4 to -38.6°C	0.05°C	310mm	Total	58/068/2
73F	-	Kinematic Viscosity	-42.5 to -37.5°F	0.1°F	310mm	Total	59/073/1
74C	69C	Kinematic Viscosity	-55.4 to -52.6°C	0.05°C	310mm	Total	58/069/2
74F	-	Kinematic Viscosity	-67.5 to -62.5°F	0.1°F	310mm	Total	59/074/1
75F	-	Coolant (Anti-Freeze) Freezing Point	-35 to +35°F	0.5°F	413mm	100mm	59/075/1
76F	-	Coolant (Anti-Freeze) Freezing Point	-65 to +5°F	0.5°F	413mm	100mm	59/076/1
77F	-	Saybolt Viscosity	+245 to +265°F	0.5°F	280mm	Total	59/077/1
78F	-	Saybolt Viscosity	+295 to +315°F	0.5°F	280mm	Total	59/078/1
79F	-	Saybolt Viscosity	+345 to +365°F	0.5°F	280mm	Total	59/079/1
80F	-	Saybolt Viscosity	+395 to +415°F	0.5°F	280mm	Total	59/080/1
81F	-	Saybolt Viscosity	+445 to +465°F	0.5°F	280mm	Total	59/081/1
82C	-	Fuel Rating, Engine	-15 to +105°C	1.0°C	165mm	30mm	59/082/2
82F	-	Fuel Rating, Engine	0 to +220°F	2.0°F	165mm	30mm	59/082/1
83C	-	Fuel Rating, Air	+15 to +70°C	1.0°C	174mm	40mm	59/083/2
83F	-	Fuel Rating, Air	+60 to +160°F	1.0°F	174mm	40mm	59/083/1
84C	-	Fuel Rating, Orifice Tank	+25 to +80°C	1.0°C	387mm	249mm	59/084/2
84F	-	Fuel Rating, Orifice Tank	+75 to +175°F	1.0°F	387mm	249mm	59/084/1
85C	-	Fuel Rating, Surge	+40 to +150°C	1.0°C	314mm	181mm	59/085/2
85F	-	Fuel Rating, Surge	+100 to +300°F	2.0°F	314mm	181mm	59/085/1
86C	-	Fuel Rating, Mix	+95 to +175°C	1.0°C	170mm	35mm	59/086/2
86F	-	Fuel Rating, Mix	+200 to +350°F	2.0°F	170mm	35mm	59/086/1
87C	-	Fuel Rating, Coolant	+150 to +205°C	1.0°C	175mm	40mm	59/087/2
87F	-	Fuel Rating, Coolant	+300 to +400°F	1.0°F	175mm	40mm	59/087/1
88C	-	Vegetable Oil Flash	+10 to +200°C	1.0°C	292mm	57mm	59/088/2
88F	-	Vegetable Oil Flash	+50 to +392°F	2.0°F	292mm	57mm	59/088/1
89C	-	Solidification Point	-20 to +10°C	0.1°C	375mm	76mm	59/089/2
90C	-	Solidification Point	0 to +30°C	0.1°C	375mm	76mm	59/090/2
91C	-	Solidification Point	+20 to +50°C	0.1°C	375mm	76mm	59/091/2
92C	-	Solidification Point	+40 to +70°C	0.1°C	375mm	76mm	59/092/2
93C	-	Solidification Point	+60 to +90°C	0.1°C	375mm	76mm	59/093/2
94C	-	Solidification Point	+80 to +110°C	0.1°C	375mm	76mm	59/094/2
95C	-	Solidification Point	+100 to +130°C	0.1°C	375mm	76mm	59/095/2
96C	-	Solidification Point	+80 to +150°C	0.1°C	375mm	76mm	59/096/2

ASTM Number	IP Equiv.	Name	Range	Division	Max Length	Immersion	Product Number
97C	-	Tank	-18 to +49°C	0.5°C	305mm	Total	59/097/2
97F	-	Tank	0 to +120°F	1.0°F	305mm	Total	59/097/1
98C	-	Tank	+16 to +82°C	0.5°C	305mm	Total	59/098/2
98F	-	Tank	+60 to +180°F	1.0°F	305mm	Total	59/098/1
99C	-	Weathering Test	-50 to +5°C	0.2°C	305mm	35mm	59/099/2
99F	-	Weathering Test	-58 to +41°F	0.5°F	305mm	35mm	59/099/1
100C	-	Solidification Point	+145 to +205°C	0.2°C	375mm	76mm	59/100/2
101C	-	Solidification Point	+195 to +305°C	0.5°C	375mm	76mm	59/101/2
102C	83C	Solvents Distillation	+123 to +177°C	0.2°C	400mm	100mm	58/083/2
103C	84C	Solvents Distillation	+148 to +202°C	0.2°C	400mm	100mm	58/084/2
104C	85C	Solvents Distillation	+173 to +227°C	0.2°C	400mm	100mm	58/085/2
105C	86C	Solvents Distillation	+198 to +252°C	0.2°C	400mm	100mm	58/086/2
106C	87C	Solvents Distillation	+223 to +277°C	0.2°C	400mm	100mm	58/087/2
107C	88C	Solvents Distillation	+248 to +302°C	0.2°C	400mm	100mm	58/088/2
108F	-	Saybolt Viscosity	+270 to +290°F	0.5°F	280mm	Total	59/108/1
109F	-	Saybolt Viscosity	+320 to +340°F	0.5°F	280mm	Total	59/109/1
110C	93C	Kinematic Viscosity	+133.6 to +136.4°C	0.05°C	310mm	Total	58/093/2
110F	-	Kinematic Viscosity	+272.5 to +277.5°F	0.1°F	310mm	Total	59/110/1
111C	-	Tar Acid Distillation	+170 to +250°C	0.2°C	400mm	100mm	59/111/2
112C	-	Solidification Point of Benzene	+4 to +6°C	0.02°C	220mm	Total	59/112/2
113C	89C	Bitumen Softening Point Wide Range	-1 to +175°C	0.5°C	410mm	Total	58/089/2
113F	-	Bitumen Softening Point Wide Range	+30 to +350°F	1.0°F	410mm	Total	59/113/1
114C	14C	Aviation Fuel Freezing Point	-80 to +20°C	0.5°C	305mm	Total	58/014/2
115C	-	Enclosed Scale Beckman Type	+5 or +6°C	0.01°C	640mm	-	59/115/2
116C	-	Bomb Calorimeter	+18.9 to +25.1°C	0.01°C	614mm	Total	59/116/2
117C	-	Bomb Calorimeter	+23.9 to +30.1°C	0.01°C	614mm	Total	59/117/2
118C	-	Kinematic Viscosity	+28.6 to +31.4°C	0.05°C	310mm	Total	59/118/2
118F	-	Kinematic Viscosity	+83.5 to +88.5°F	0.1°F	310mm	Total	59/118/1
119C	-	Coolant (Anti-Freeze) Freezing Point	-38.3 to -30°C	0.1°C	425mm	100mm	59/119/2
119F	-	Coolant (Anti-Freeze) Freezing Point	-37 to -22°F	0.2°F	425mm	100mm	59/119/1
120C	92C	Kinematic Viscosity	+38.6 to +41.4°C	0.05°C	310mm	Total	58/092/2
121C	32C	Kinematic Viscosity	+98.6 to +101.4°C	0.05°C	310mm	Total	58/032/2
122C	94C	Brookfield Viscosity	-45 to -35°C	0.1°C	305mm	Total	58/094/2
123C	95C	Brookfield Viscosity	-35 to -25°C	0.1°C	305mm	Total	58/095/2
124C	96C	Brookfield Viscosity	-25 to -15°C	0.1°C	305mm	Total	58/096/2
125C	97C	Brookfield Viscosity	-15 to -5°C	0.1°C	305mm	Total	58/097/2
126C	71C	Kinematic Viscosity	-27.4 to -24.6°C	0.05°C	310mm	Total	58/071/2
126F	-	Kinematic Viscosity	-17.5 to -12.5°F	0.1°F	310mm	Total	59/126/1
127C	99C	Kinematic Viscosity	-21.4 to -18.6°C	0.05°C	310mm	Total	58/099/2
128C	33C	Kinematic Viscosity	-1.4 to +1.4°C	0.05°C	310mm	Total	58/033/2
128F	-	Kinematic Viscosity	+29.5 to +34.5°F	0.1°F	310mm	Total	59/128/1
129C	36C	Kinematic Viscosity	+91.6 to +94.4°C	0.05°C	310mm	Total	58/036/2
129F	-	Kinematic Viscosity	+197.5 to +202.5°F	0.1°F	310mm	Total	59/129/1
130C	-	Tank	-7 to +105°C	0.5°C	305mm	Total	59/130/2
130F	-	Tank	+20 to +220°F	1.0°F	305mm	Total	59/130/1
132C	102C	Kinematic Viscosity	+148.6 to +151.4°C	0.05°C	310mm	Total	58/102/2
133C	-	Precision	-38 to +2°C	0.1°C	384mm	76mm	59/133/2

Protective Cases for Thermometers

To protect the standard 6.5mm diameter laboratory thermometer from breakage, a variety of cases are available. These have a slot front for easy reading, a suspension ring at the top and holes in the bulb end to ensure quick response to temperature.

Also available is a case with a sampling cup at the bulb end for use when the thermometer cannot be read whilst immersed.

Case Type	Length	Product number
Brass Slot Front Cases	155mm	47/732/0
	305mm	47/432/0
	355mm	47/832/0
	405mm	47/932/0
Stainless Slot Front Cases	305mm	47/434/0
	405mm	47/934/0
Stainless Sampling Cup Cases	305mm	47/435/0



Stem Type Glass Sampling Case Complete with Thermometers

All **Brannan** thermometers can be supplied fitted in a case. Please talk to our Sales Team about suitable case for your thermometer. The instruments listed below are popular thermometers in cases which are available from stock.

Cases with Thermometer	Temp Range	Length	Product number
Stainless Steel Sampling Case with Solid Stem Thermometer	-10 to 110°C	305mm	24/001/2
	-10 to 110°C&F	305mm	24/001/3
Heavy Duty Brass Case with Enclosed Scale Thermometer	-10 to 110°C&F	300mm	24/006/3

