

ARK



RS Calibration
Calibration and Repair Service
Serial No: 1218201/192
Cert No: 1854612
Cal Date: 15 Mar 2024
Recal Due:

0370
DPN 175 Lammas Road, Corby, Northants, NN17 9RS

****Calibration Certificate**** **Do Not Destroy**

Calibration Certificate Attached: 1854612
OD ref: 1232364175

RS Pro Steel Rule 150mm / 6in

first

IMPORTANT INFORMATION

Simply detach the label in the top right hand corner of the new front sheet and apply to your instrument as required.



RS Calibration
Calibration and Repair Service
Serial No: 2A345G02
Cert No: 123456
Cal Date: 01 May 2014
Recal Due:

DPN 175 Lammas Road, Corby, Northants, NN17 9RS

For Re-Calibration of your unit please email:
calibration.uk@rs-components.com
or call us on 01536 405545 to arrange free collection. Please quote serial number when returning.

 **RS Calibration**

CERTIFICATE OF CALIBRATION

Issued by: RS Components Ltd

Date Issued: 15 Mar 2024

Certificate No. 1854612



0310



Calibration and Repair Service

DPN 175, Lammas Rd,
Weldon Industrial Est
Corby, Northants, NN17 9RS

Tel: 01536 405545

Fax: 01536 401590

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Client

TOTAL LABORATORY SERVICES LTD
BLANDFORD FORUM
DORSET
DT11 8ST

Instrument

RS Pro Steel Rule 150mm / 6in

Serial No.

1218201/192

Client Reference

N/A

Procedure ID.

D05_1200_# Rev. P 8

Date of Calibration

15 Mar 2024

Remarks

This certificate reports recorded values for the instrument 'As Received'.

Uncertainties

The reported expanded uncertainties are 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.

For certificate statements of conformity see Appendix SCQAR 533
The following calibration results relate only to the items defined above.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes

This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0310



Calibration and Repair Service

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Environment

Prior to calibration the rule was held within a temperature controlled environment for a period of not less than 4 hours.

The ambient temperature and relative humidity throughout the calibration were $(20 \pm 2) ^\circ\text{C}$ and $(40 \pm 20) \%RH$ respectively.

Method

The scale identified below was calibrated by measuring from the edge of the rule to the first position. This first position was then used as a datum from which all other positions on that scale are referenced. Measurements were made using a horizontal length measuring machine and the results recorded in the tables below.

The calibration was performed in accordance with 73-362 / EEC Class 1.

Side One						
Top Scale						
Major Position	Nominal Length	Measured Length	Measured Deviation	Major Position Limits	Measurement Uncertainties	
mm	mm	mm	mm	mm	mm	mm
0 - 10	10	9.910	-0.090	± 0.200	± 0.009	± 0.009
10 - 30	20	20.009	0.009	± 0.200	± 0.009	± 0.009
10 - 31	21	21.006	0.006	± 0.200	± 0.009	± 0.009
10 - 59	49	48.992	-0.008	± 0.200	± 0.009	± 0.009
10 - 60	50	49.999	-0.001	± 0.200	± 0.009	± 0.009
10 - 90	80	79.993	-0.007	± 0.200	± 0.009	± 0.009
10 - 91	81	80.989	-0.011	± 0.200	± 0.009	± 0.009
10 - 119	109	108.986	-0.014	± 0.200	± 0.010	± 0.010
10 - 120	110	109.979	-0.021	± 0.200	± 0.010	± 0.010
10 - 150	140	139.978	-0.022	± 0.200	± 0.010	± 0.010
Adjacent Position	Nominal Length	Measured Length	Measured Deviation	Adjacent Position Limits	Measurement Uncertainties	
mm	mm	mm	mm	mm	mm	mm
30 - 31	1	0.997	-0.003	± 0.100	± 0.009	± 0.009
59 - 60	1	1.007	0.007	± 0.100	± 0.009	± 0.009
90 - 91	1	0.996	-0.004	± 0.100	± 0.009	± 0.009
119 - 120	1	0.993	-0.007	± 0.100	± 0.009	± 0.009

Side One

Maximum deviation found between any two major positions in the above table from 10mm to the maximum length.

Major position limit

Measurement Uncertainty

0.031 mm
 ± 0.200 mm
 ± 0.010 mm

Maximum deviation found between any adjacent positions.

Adjacent position limit

Measurement Uncertainty

0.007 mm
 ± 0.100 mm
 ± 0.009 mm

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Side Two						
Top Scale						
Major Position inches	Nominal Length inches	Measured Length inches	Measured Deviation inches	Major Position Limits inches	Measurement Uncertainties inches	
0 - 0.5	0.50000	0.4983	-0.00170	± 0.008	± 0.0004	
0.5 - 1.5	1.00000	1.0000	0.00000	± 0.008	± 0.0004	
0.5 - 1.52	1.02000	1.0199	-0.00010	± 0.008	± 0.0004	
0.5 - 2.99	2.49000	2.4898	-0.00020	± 0.008	± 0.0004	
0.5 - 3.0	2.50000	2.4994	-0.00060	± 0.008	± 0.0004	
0.5 - 4.5	4.00000	3.9996	-0.00040	± 0.008	± 0.0004	
0.5 - 4.6	4.10000	4.0991	-0.00090	± 0.008	± 0.0004	
0.5 - 5.9	5.40000	5.3996	-0.00040	± 0.008	± 0.0005	
0.5 - 6.0	5.50000	5.4994	-0.00060	± 0.008	± 0.0005	
Adjacent Position inches	Nominal Length inches	Measured Length inches	Measured Deviation inches	Adjacent Position Limits inches	Measurement Uncertainties inches	
1.5 - 1.52	0.02000	0.01990	-0.00010	± 0.004	± 0.0004	
2.99 - 3	0.01000	0.00960	-0.00040	± 0.004	± 0.0004	
4.5 - 4.6	0.10000	0.09950	-0.00050	± 0.004	± 0.0004	
5.9 - 6	0.10000	0.09980	-0.00020	± 0.004	± 0.0004	

Side Two

Maximum deviation found between any two major positions in the above table from 0.5 inches to the maximum length.

Major position limit

Measurement Uncertainty

0.000 9 inch
± 0.008 inch
± 0.000 4 inch

Maximum deviation found between any adjacent positions.

Adjacent position limit

Measurement Uncertainty

-0.000 5 inch
± 0.004 inch
± 0.000 4 inch

	Measured Value	Limit	Measurement Uncertainty
Squareness of datum end to side faces.	0.006 mm	N/A	± 0.005 mm

Squareness of datum end to side faces.

No limits available, measured values reported only.

CALIBRATED BY:- ARK

CERTIFICATE OF CALIBRATION

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Reported values not annotated.

The instrument passed the stated specification, due allowance having been made for the uncertainty of measurement which carries no implication regarding the long term stability of the instrument.

END OF CALIBRATION

Item No.	Serial No.	Quantity	Unit	Specification	Measured Value	Uncertainty	Pass/Fail
1	12345	1	mm	±0.01	0.005	±0.002	Pass
2	12345	1	mm	±0.01	0.010	±0.002	Pass
3	12345	1	mm	±0.01	0.015	±0.002	Pass
4	12345	1	mm	±0.01	0.020	±0.002	Pass
5	12345	1	mm	±0.01	0.025	±0.002	Pass
6	12345	1	mm	±0.01	0.030	±0.002	Pass
7	12345	1	mm	±0.01	0.035	±0.002	Pass
8	12345	1	mm	±0.01	0.040	±0.002	Pass
9	12345	1	mm	±0.01	0.045	±0.002	Pass
10	12345	1	mm	±0.01	0.050	±0.002	Pass

Item 9: 0.050 ±0.002 (Pass)
Item 10: 0.050 ±0.002 (Pass)
Item 11: 0.050 ±0.002 (Pass)
Item 12: 0.050 ±0.002 (Pass)
Item 13: 0.050 ±0.002 (Pass)
Item 14: 0.050 ±0.002 (Pass)
Item 15: 0.050 ±0.002 (Pass)
Item 16: 0.050 ±0.002 (Pass)
Item 17: 0.050 ±0.002 (Pass)
Item 18: 0.050 ±0.002 (Pass)
Item 19: 0.050 ±0.002 (Pass)
Item 20: 0.050 ±0.002 (Pass)

Item No.	Serial No.	Quantity	Unit	Specification	Measured Value	Uncertainty	Pass/Fail
1	12345	1	mm	±0.01	0.005	±0.002	Pass
2	12345	1	mm	±0.01	0.010	±0.002	Pass
3	12345	1	mm	±0.01	0.015	±0.002	Pass
4	12345	1	mm	±0.01	0.020	±0.002	Pass
5	12345	1	mm	±0.01	0.025	±0.002	Pass
6	12345	1	mm	±0.01	0.030	±0.002	Pass
7	12345	1	mm	±0.01	0.035	±0.002	Pass
8	12345	1	mm	±0.01	0.040	±0.002	Pass
9	12345	1	mm	±0.01	0.045	±0.002	Pass
10	12345	1	mm	±0.01	0.050	±0.002	Pass

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Appendix SCQAR533 Certificate Statements of conformity

RS Components is standardising how it reports conformity across all disciplines in line with requirements within **ISO/IEC: 17025:2017**.

Where the laboratory reports a statement of conformity to a specification, guidance has been drawn on reporting structure and decision rules from ILAC document series **ILAC-G8:09/2019**. Unless otherwise instructed by you the Customer, acceptance limits applied are derived from the manufacturers specification or applicable standard (e.g. DIN, EEC, BS etc.) or where applicable: SCQAR532_RS Standard Limits for Calipers, available on request.

The statements found on this certificate produced by RS Components Laboratory are as follow:

- 1) Reported values with **No Annotation**:
The instrument **passed** the stated specification, even with allowance having been made for the uncertainty of measurement, which carries no implication regarding the long-term stability of the instrument.
- 2) Reported values annotated with “#”
The measured result is a **conditional pass** to the limit but by a margin less than the measurement uncertainty, it is therefore not possible to state compliance based on the stated level of confidence.
- 3) Reported values annotated with “##”
The measured result is a **conditional fail** to the limit but by a margin less than the measurement uncertainty, it is therefore not possible to state compliance based on the stated level of confidence.
- 4) Reported values annotated with “###”
The measured result **failed** the stated specification, even with allowance having been made for the measurement uncertainty.

