NATIONAL PHYSICAL LABORATORY
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Certificate of Calibration

UKAS CALIBRATION
0478

STAGE MICROMETER
CS3355

FOR

Pyser-SGI Ltd
Fircroft Way
Edenbridge
Kent
TN8 6HA

For the attention of N Worley

DESCRIPTION

A scale formed on a glass disc approximately 15 mm in diameter inset on a metal microscope slide 75 mm × 25 mm × 1 mm. The scale is 0.1 mm long subdivided to 0.002 mm and numbered every tenth line from 0 to 100.

DATE (S) OF CALIBRATION

24 January 2011

IDENTIFICATION

The scale is labelled CS3355
Type S12 made by Pyser-SGI

Reference: 2011010452

Date of issue: 26 January 2011 **Signed:** **(Authorised Signatory)**

Checked by: **Name: Bruce Duncan** **on behalf of NPLML**

MEASUREMENTS

Intervals on this stage micrometer have been measured using a microscope with a travelling stage. The displacement of the stage was measured by means of a helium-neon laser interferometer, the frequency of the laser having been determined using an iodine-stabilised reference laser.

The distances between the lines were measured along the longitudinal axis of the scale. The scale was viewed using reflected light, the slide being placed so that the main inscriptions were uppermost.

The measurements were taken in a room with temperature maintained to 20 °C ± 1 °C.

RESULTS

Numbering of Interval	Length of interval in mm at 20 °C
0 to 20	0.019 9
0 to 40	0.040 0
0 to 60	0.060 0
0 to 80	0.079 9
0 to 100	0.099 9

UNCERTAINTIES

The expanded uncertainty in the interval measurements is ± 0.000 5 mm.

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 valuation has been carried out in accordance with UKAS requirements.

NOTE: The results and uncertainties refer to on the day values and make no allowance for subsequent drift.

Checked by: L P Nimmo-Wood.