



# TPS 25

Edition 5 | March 2008

## Measurement of Surface Regularity of Road Pavement Surfaces using the Rolling Straight Edge – Requirements for Calibration and Performance Checks

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### CHANGES SINCE LAST EDITION

Minor editorial changes.

## 1 PURPOSE AND DURATION

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- 1.1 This Statement is to provide guidance and clarification, for laboratories and UKAS Assessors, of the requirements for equipment calibration and checks necessary to satisfy the criteria for the accreditation of laboratories for measurements of the surface regularity of road pavement surfaces using the TRRL designed rolling straight edge.
- 1.2 This statement will remain in force until further notice.

## 2 BACKGROUND

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- 2.1 UKAS can accredit measurement of surface regularity of road pavement surfaces to two different methods: *TRRL Supplementary Report 290:1977 and the Specification for Highway Works Clause 702*.
- 2.2 Although both methods are effectively the same, the *Specification for Highway Works* sets performance criteria and specifies some operational parameters. It but does not describe in sufficient detail the test procedure to be used or calibration requirements. The equipment manufacturer does however include a copy of *TRRL SR 290* in the operating instructions for the rolling straight edge and it is therefore assumed that these requirements become part of the documented procedure for the measurement.
- 2.3 The calibration requirements detailed in *TRRL SR 290* are presented as recommendations and therefore a statement of the minimum requirements for calibration and performance checks is needed.

## 3 UKAS POLICY FOR CALIBRATION AND PERFORMANCE CHECKS FOR THE ROLLING STRAIGHT-EDGE

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- 3.1 UKAS accredited testing laboratories are required to use equipment traceable to the International System of Units (SI) via calibration certificates issued by competent calibration laboratories.

*Note 1: Calibration laboratories fulfilling the requirements of ISO 17025 are considered to be competent (e.g., UKAS accredited calibration laboratories):*

- 3.2 (a) Manufacturer's calibration (TRRL SR 290: Clause 3.1)

Calibration shall be carried out at the stated intervals. i.e. 6 months, unless the straight edge is stored between use in such a way that no load is applied to the rubber tyred wheels, including the measuring wheel; this is to prevent flat spots being formed on the wheels, which could affect subsequent readings. The storage system will be examined during routine assessment visits. In this case the calibration interval can be extended to 12 months.

(b) In addition, the straight edge shall be calibrated by a competent calibration laboratory:

(i) on completion of 30km of testing or at an interval of 12 months , whichever occurs first, and

(ii) when the straight edge fails to give correct readings during the user performance checks, or if it is suspected that the equipment is not functioning correctly or has been damaged due to mishandling

### 3.3 User's performance checks (TRRL SR 290 : Clause 3.2)

User's performance checks are carried out **before and after** use using sheet material of known thickness; hardwood plywood or sheet aluminium have both been used successfully. The thickness of the sheet material can be measured using suitably calibrated callipers or micrometer.

The performance checks shall be carried out on each day of use; the checks may be carried out in the laboratory before the equipment is transported to site, or on site immediately prior to use. The checks shall be repeated after use.

### Contact

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