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TPS 25

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Measurement of surface regularity of road pavement surfaces using the rolling straight edge - requirements for calibration and functional checks

Contents

Changes since last edition

2.1 Change of reference to test method on UKAS schedules of accreditation
2.2 Recognition of specification as reviewed under customer requirements
3.2 Manufacturer's calibration – metrological traceability
3.3 Changes in functional checks to remove site check and define designated check area

1. Purpose and duration

1.1 This statement is to provide guidance and clarification, for laboratories and UKAS Assessors, of the requirements for equipment calibration and functional checks necessary to satisfy the criteria for the accreditation of laboratories for measurement 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

2.1 UKAS can offer accreditation for measurement of longitudinal surface regularity of road pavement surfaces using a rolling straight-edge in accordance with *TRRL Supplementary Report 290:1977.* As a consensus standard not formally recognised by the national standards body, *TRRL Supplementary Report 290:1977* sets out the calibration, functional checks and operational parameters.

2.2 The *Manual of Contract Documents for Highway Works, Volume 1 – Specification for Highway Works, Series 0700* outlines the performance criteria for the rolling straight-edge as a specification and must be reviewed under ISO/IEC 17025 Process requirements to ensure the laboratory meets the requirements prescribed by their customer, regulator or normative documents.

2.3 The calibration requirements detailed in *TRRL Supplementary Report 290:1977* are presented as recommendations and therefore a statement of the minimum requirements for calibration and functional checks is needed to ensure accreditation for this activity complies with the requirements of ISO/IEC 17025.

3. UKAS policy for calibration & functional checks for the rolling straight-edge

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/IEC 17025 are considered to be competent (e.g. UKAS accredited calibration laboratories)

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

A manufacturer's calibration may not be available, therefore a calibration to ensure metrological traceability to SI units shall be carried out at the stated intervals. i.e. 6 months, unless the rolling straight-edge is transported and stored, in such a way that no load is applied to the rubber tyred wheels, including the measuring wheel; to prevent flat spots being formed on the wheels, which could affect subsequent readings. The storage system will be examined as part of the routine assessment. Where these conditions are met, the calibration interval can be extended to 12 months.

(b) In addition, the rolling 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 equipment fails to give the correct readings during the user functional checks, or if it is suspected that it is not performing correctly or has been damaged.

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

Functional checks are carried out **before and after** testing, using impervious sheet material of known thickness, to check the full range of expected readings; hardwood-plywood, plastic, steel or aluminium can be used for this. The thickness of the sheet material shall be measured and recorded.

The functional checks shall be carried out prior to testing on a designated level checked surface. The functional checks shall be repeated on the designated check surface after testing.

Contact

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