

Methods of measuring irregularities on surfaces of roads, footways and other paved areas using straightedges and wedges

ICS 17.040.20; 93.080.20

Confirmed October 2008

Committee responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/510, Road materials, to Subcommittee B/510/5, Surface characteristics, upon which the following bodies were represented:

- Brick Development Association
- Britpave
- Department of the Environment, Transport and the Regions — Highways Agency
- Ministry of Defence — UK Defence Standardization
- Quarry Products Association
- Road Surface Dressing Association
- Co-opted members

This British Standard was published under the authority of Standards Policy and Strategy Committee on 22 November 2003

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Amendments issued since publication

Amd. No.	Date	Comments

The following BSI references relate to the work on this British Standard:
Committee reference B/510/5
Draft for comment DD 227:1996

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Foreword

This British Standard has been prepared by Subcommittee B/510/5, under the direction of Technical Committee B/510. It supersedes DD 227:1996, which is withdrawn.

This British Standard describes three methods of measuring surface irregularities, using three different types of straightedge. A fourth method, using a fourth type of straightedge, is described in BS EN 13036-7. Type 1 and Type 3 straightedges enable positive irregularities to be measured equal to or less than the height of the support feet or adjustable blocks, as well as negative irregularities. The methods described in this British Standard allow the use of both longer and shorter straightedges than the type used in BS EN 13036-7, and therefore the measurement values obtained might differ. Guidance on the use of each type of straightedge, explaining when each type is generally used and giving additional background information, is given in Annex A.

Attention is drawn to advisory traffic management procedures for measurements on in-service roads. For further information, refer to Chapter 8 of the *Traffic signs manual* [1].

It has been assumed in the drafting of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and competent people.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 9 and a back cover.

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1 Scope

This British Standard describes methods of measuring irregularities on surfaces of roads, footways and other paved and trafficked areas using straightedges and wedges other than those described in BS EN 13036-7. It describes apparatus and procedures for measuring:

- a) single irregularities that are attributable to quality defects in new surface course(s) as well as in-service surfaces;
- b) rut depths and trench reinstatements of in-service roads;
- c) any other single irregularities less than the length of the straightedge(s) being used.

This British Standard does not give methods for measuring profile or general unevenness of surfaces.

2 Terms and definitions

For the purpose of this British Standard, the following terms and definitions apply.

2.1

detritus

loose surface matter

2.2

irregularity

maximum variation of a surface from the measurement edge of a straightedge between two contact points of the straightedge when placed perpendicular to the surface

2.3

layer

structural element of a pavement (2.4) laid in a single operation

2.4

pavement

structure composed of one or more courses, to assist the passage of wheeled traffic over terrain

2.5

surface

surface of an individual layer (2.3)

2.6

surface course

upper layer (2.3) of a pavement (2.4), which is in contact with traffic

3 Measurement using type 1 straightedge

NOTE Guidance on the use of type 1 straightedges is given in A.1.

3.1 Apparatus

NOTE All equipment should be calibrated in accordance with Annex B.

3.1.1 Type 1 straightedge with fixed support feet, between 1 m and 4 m (in whole or half metres) long.

It shall be of rigid construction such that its measurement edge does not deviate from a true plane by more than ± 0.2 mm at any point in its operating position. The straightedge shall not deviate from straight along its length by more than 1 mm/m. The horizontal width of the measurement edge shall be not less than 3 mm. The measurement edge shall be identifiable. The support feet shall be of equal dimensions and the contact edge of the support feet shall not deviate from a true plane by more than ± 0.2 mm at any point.

NOTE A typical type 1 straightedge and typical support feet are shown in Figure 1.

3.1.2 Wedge A, not less than 300 mm in length and not less than 25 mm in width. It shall be permanently marked on the slope plane in increments of 1 mm and its true height shall be accurate at each marked increment to ± 0.2 mm. At the zero (0) point on the measurement wedge, the height shall be the same as the height of the support feet of the straightedge ± 0.2 mm.