

Pavements constructed with clay, natural stone or concrete pavers —

Part 10: Guide for the structural design of trafficked pavements constructed of natural stone setts

ICS 93.080.20

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee B/507, Paving units, kerbs, screeds and in situ floorings, upon which the following bodies were represented:

- Brick Development Association
- British Precast Concrete Federation Limited
- Cementitious Slag Makers Association
- CERAM Research Limited
- Concrete Society
- County Surveyors' Society
- Department of Transport (Highways Agency)
- Institution of Civil Engineers
- Institution of Structural Engineers
- Interlay (Association of Block Paving Contractors)
- Interpave (Precast Concrete Paving and Kerb Association)
- Landscape Institute
- Society of Chemical Industry
- Society of Chief Officers of Transportation in Scotland
- TRL Limited
- Co-opted members

The following bodies were also represented in the drafting of the standard, through subcommittees:

- Department of Trade and Industry (Building Research Establishment Limited)
- Ministry of Defence (UK Defence Standardization)

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Foreword

This part of BS 7533 has been prepared under the direction of Technical Committee B/507.

BS 7533 consists of the following parts:

- *Part 1: Guide for the structural design of heavy duty pavements constructed of clay pavers or precast concrete paving blocks;*
- *Part 2: Guide for the structural design of lightly trafficked pavements constructed of clay pavers or precast concrete paving blocks;*
- *Part 3: Code of practice for laying precast concrete paving blocks and clay pavers for flexible pavements;*
- *Part 4: Code of practice for the construction of pavements of precast concrete flags or natural stone slabs;*
- *Part 5: Guide for the design of pavements (other than structural aspects);¹⁾*
- *Part 6: Code of practice for laying natural stone, precast concrete and clay kerb units;*
- *Part 7: Code of practice for the construction of pavements of natural stone setts and cobbles;*
- *Part 8: Guide for the structural design of lightly trafficked pavements of precast concrete flags and natural stone slabs;*
- *Part 9: Code of practice for the construction of rigid pavements of clay pavers;¹⁾*
- *Part 10: Guide for the structural design of trafficked pavements constructed of natural stone setts;*
- *Part 11: Code of practice for the opening, maintenance and reinstatement of pavements of concrete, clay and natural stone.*

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 15 and a back cover.

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¹⁾ In preparation.

1 Scope

This part of BS 7533 provides guidance on the design of pavements surfaced with natural stone setts manufactured in accordance with BS EN 1342 and laid in accordance with BS 7533-7. It applies to all pavements including those subjected to commercial vehicular traffic, e.g. delivery vehicles.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 4987-1, *Coated macadam (asphalt concrete) for roads and other paved areas — Part 1: Specification for constituent materials and for mixtures*.

BS 6100-2, *Glossary of building and civil engineering terms — Part 2: Civil engineering*.

BS 6717, *Precast, unreinforced concrete paving blocks — Requirements and test methods*.

BS 7533-1, *Pavements constructed with clay, natural stone or concrete pavers — Part 1: Guide for the structural design of heavy duty pavements constructed of clay pavers or precast concrete paving blocks*.

BS 7533-2, *Pavements constructed with clay, natural stone or concrete pavers — Part 2: Guide for the structural design of lightly trafficked pavements constructed of clay pavers or precast concrete paving blocks*.

BS 7533-7:2002, *Pavements constructed with clay, natural stone or concrete pavers — Part 7: Code of practice for the construction of pavements of natural stone setts and cobbles*.

BS EN 1342:2001, *Setts of natural stone for external paving — Requirements and test methods*.

BS EN 1344, *Clay pavers — Requirements and test methods*.

HIGHWAYS AGENCY. *Manual of Contract Documents for Highway Works, Volume 1: Specification for Highway Works*, London: The Stationery Office.

3 Terms and definitions

For the purposes of this part of BS 7533, the terms and definitions given in BS 6100-2 and the following apply.

3.1

sett

paving element manufactured of natural stone

NOTE 1 A sett can be designated a cube sett (C) or sett (S) depending upon its plan dimension. Setts are generally less than 300 × 300 mm in plan dimension.

NOTE 2 Setts can be sawn or cropped, with sawn setts normally made of sandstone and cropped setts normally made of granite.

3.2

wearing surface

surface of the pavement used by vehicles and/or pedestrians constructed of setts laid with filled joints

3.3

flexible wearing surface

wearing surface where setts are laid on a laying course of fine aggregate, which has no binder added, and the joints are filled with unbound fine aggregate or bitumen material

3.4

rigid wearing surface

wearing surface where the setts are laid on a laying course of fine concrete and the joints are filled with a cement mortar or grout

3.5

laying course

layer of material on which pavers are bedded (see Figure 1)
[BS 7533-1:2001, definition 3.2]

3.6**subgrade**

upper part of the soil, natural or constructed, that supports the loads transmitted by the overlying road structure (see Figure 1)

[BS 7533-2:2001, definition 3.3]

3.7**pavement**

paved area subject to pedestrian and/or vehicular traffic

[BS 7533-2:2001, definition 3.4]

3.8**sub-base**

one or more layers of material placed immediately above the subgrade (see Figure 1)

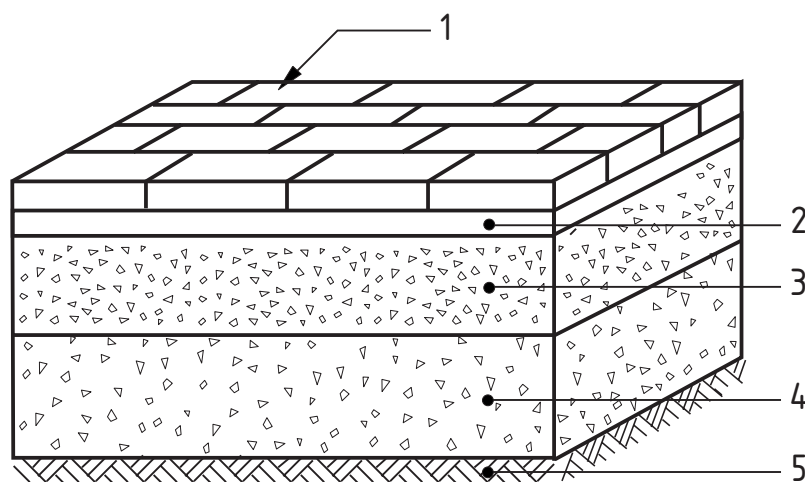
[BS 7533-1:2001, definition 3.5]

3.9**roadbase**

one or more layers of material placed above the sub-base that constitute the main structural elements of a pavement

[BS 7533-1:2001, definition 3.6]

NOTE Figure 1 illustrates a typical cross-section of a pavement.

**Key**

- 1 Surface
- 2 Laying course
- 3 Roadbase
- 4 Sub-base
- 5 Subgrade

Figure 1 — Typical cross-section of a pavement

3.10**flexible roadbase**

roadbase consisting of unbound aggregate, flexible bitumen macadam or flexible asphalt

NOTE A flexible roadbase layer can be the same layer as the sub-base if no separate roadbase is provided.

3.11**rigid roadbase**

roadbase consisting of stiff bituminous or asphalt material or a cement bound material