

Pavements constructed with clay, natural stone, or concrete pavers —

Part 8: Guide for the structural design of lightly trafficked pavements of precast concrete flags and natural stone flags

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Committees responsible for this British Standard

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

- Brick Development Association
- British Cement Association
- British Ceramic Research Ltd.
- British Precast Concrete Federation Ltd.
- Concrete Society
- County Surveyors' Society
- Department of the Environment, Transport and the Regions (Highways Agency)
- Institution of Civil Engineers
- Interlay (Association of Block Paving)
- Interpave (Concrete Block Paving Association)
- Landscape Institute
- Society of Chemical Industry
- Stone Federation
- Transport Research Laboratory

The following organizations were also represented in the drafting of the standard, through subcommittees B/507/1 and B/507/2:

- British Slate Association
- British Civil Engineering Manufacturers' Association
- Department of the Environment, Transport and the Regions (Building Research Establishment)
- Ministry of Defence

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Foreword

This part of BS 7533 has been prepared by Technical Committee B/507.

BS 7533 will be published in 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 5¹⁾: Guide for the design of pavements (other than structural aspects).*
- *Part 6: Code of practice for laying natural stone, precast concrete and clay kerb units.*
- *Part 7¹⁾: Code of practice for the construction of pavements of natural stone setts.*
- *Part 8: Guide for the structural design of lightly trafficked pavements of precast concrete flags and natural stone slabs.*
- *Part 9¹⁾: Code of practice for laying clay pavers.*

NOTE This part of BS 7533 is based largely on research work commissioned by Interpave, the precast concrete paving and kerb association.

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

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

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¹⁾ In preparation.

1 Scope

This British Standard gives guidance on the design of flexible pavements surfaced with precast concrete flags or natural stone slabs and laid on a 30 mm sand laying course with sand filled narrow joints, in accordance with BS 7533-4. It applies to pavements subject to occasional overrun by no more than 15 commercial vehicles per day at speeds not exceeding 50 kph (30 mph).

The fundamental objective is the assessment of the thickness of base material to be used beneath precast concrete flags and natural stone slabs to ensure that the allowable stresses in the paving units and the subgrade are not exceeded.

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 6100-2.4.1:1992, *Glossary of building and civil engineering terms — Part 2: Civil engineering — Section 4.1: Highway, railway and airport engineering — Highway engineering*.

BS 7263-1:2001, *Precast concrete flags, kerbs, channels, edgings and quadrants — Part 1: Precast, unreinforced concrete paving flags and complementary fittings — 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 7533-4:1998, *Pavements constructed with clay, natural stone or concrete pavers — Code of practice for the construction of pavements of precast concrete flags or natural stone slabs*.

BS EN 1341:2000, *Slabs of natural stone for external paving — Requirements and test methods*.

Department of Transport, *Specification for Highway Works*, 1986 edition. Department for Transport, Local Government and the Regions, London: The Stationery Office.

3 Terms and definitions

For the purposes of this part of BS 7533 the terms and definitions given in BS 6100-2.4.1:1992 and the following apply.

3.1

paving unit

precast concrete flag of designation E, F or G, conforming to BS 7263-1:2001 (excluding 50 mm thick), with a class B2 bending stress; or a natural stone flag of square plan, not exceeding 450 mm × 450 mm, conforming to BS EN 1341:2000 with a class 5 breaking load

3.2

laying course

layer of material on which paving units are bedded

3.3

subgrade

upper part of the soil, natural or constructed, that supports the loads transmitted by the overlying pavement

3.4

pavement

any paved area subject to pedestrian and/or vehicular traffic

3.5

base material

layer of material, either Type 1 or Type 2 granular material or cement bound material, as specified in the Specification for Highway Works (see Clause 2), placed immediately above the subgrade