BS EN 1340:2003

Incorporating Corrigendum No. 1

Concrete kerb units — Requirements and test methods

The European Standard EN 1340:2003 has the status of a British Standard $\,$

ICS 93.080.20



National foreword

This British Standard is the official English language version of EN 1340:2003 including Corrigendum May 2006.

EN 1340 is a candidate "harmonized" European Standard and fully takes into account the requirements of the European Commission mandates M/119, Floorings, and M/122, Roof coverings, given under the EU Construction Products Directive (89/106/EEC), and intended to lead to CE marking. The date of applicability of EN 1340 as a harmonized European Standard, i.e. the date after which this standard may be used for CE marking purposes, is subject to an announcement in the Official Journal of the European Communities.

The Commission in consultation with Member States has agreed a transition period for the co-existence of harmonized European Standards and their corresponding national standard(s). It is intended that this period will comprise a period, usually nine months, after the date of availability of the European Standard, during which any required changes to national regulations are to be made, followed by a further period, usually of 12 months, for the implementation of CE marking. At the end of this co-existence period, the national standard(s) will be withdrawn.

EN~1340 is the subject of transitional arrangements agreed under the Commission mandate. In the UK, the corresponding national standard is:

- BS 7263-3:2001, Precast concrete flags, kerbs, channels, edgings and quadrants - Part 3: Precast, unreinforced concrete kerbs, channels, edgings and quadrants - Requirements and test methods:

and based on this transition period of twenty-one months, BS 7263-3:2001 would be with drawn in January 2005.

 ${
m NOTE}$ This date is approximate. Users of this standard should contact BSI Customer Services for confirmation of withdrawal.

The UK participation in the preparation of EN 1340:2003 was entrusted by Technical Committee B/507, Paving units, kerbs, screeds and in-situ floorings to Subcommittee B/507/1, Paving units and kerbs — Precast concrete, which has the responsibility to:

- __ aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Attention is drawn to National Annex NA (informative), which gives advice on the use of the different performance classes in the UK. It also provides information on the sizes and shapes of kerbs that have traditionally been used in the UK for users of BS EN 1340 in the UK.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

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

 $\label{lem:complex} \mbox{Compliance with a British Standard does not of itself confer immunity from legal obligations.}$

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 25 April 2003

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 85 and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued. Sidelining in this document indicates the most recent changes.

Amendments issued since publication

Amd. No.	Date	Comments
16468 Corrigendum No. 1	August 2006	Indicated by sidelines

 $\ \ \, \mathbb{C}$ BSI August 2006

ISBN 0 580 41703 4

EUROPEAN STANDARD NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1340

April 2003

ICS 93.080.20

English version

Concrete kerb units - Requirements and test methods

Bordures en béton - Prescriptions et méthodes d'essai

Bordsteine aus Beton - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 16 October 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

© 2003 CEN

All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 1340:2003 E

This is a preview. Click here to purchase the full publication.

Contents

		page
Forewo	ord	5
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	Requirements for materials	
4.1	General	9
4.2	Asbestos	9
5	Requirements for products	
5.1 5.2	General	
5.2.1	General	
5.2.2	Work dimensions	
5.2.3	Unit geometry	
5.3	Physical and mechanical properties	15
5.3.1	General	
5.3.2	Weathering resistance	
5.3.3	Bending strength	
5.3.4 5.3.5	Abrasion resistanceSlip/skid resistance	
5.3.6	Fire performance	
5.3.7	Thermal conductivity	
5.4	Visual aspects	
5.4.1	Appearance	
5.4.2	Texture	
5.4.3	Colour	
6	Evaluation of conformity criteria	
6.1	General Demonstration of conformity	
6.1.1 6.1.2	Assessment of conformity	
6.2	Type testing of the product	
6.2.1	Initial type testing	
6.2.2	Further type testing	19
6.2.3	Sampling, testing and compliance criteria	19
6.3	Factory production control	
6.3.1	General	
6.3.2 6.3.3	EquipmentRaw and other incoming materials	
6.3.4	Production process	
6.3.5	Product testing	
6.3.6	Marking, storage and delivery of products	
6.3.7	Non-conforming products	22
6.3.8	Product conformity criteria	22
7	Marking	24
8	Test report	24
Annex	A (informative) Inspection schemes	26
	Fauinment inspection	26

A.2	Materials inspection	.27
A.3	Production process inspection	.28
A.4	Product inspection	.28
A.5	Switching rules	.29
Annov	B (normative) Procedure for acceptance testing of a consignment at delivery	20
B.1		
В.1 В.2	General	
	Sampling procedure	
B.3	Compliance criteria	.31
Annex	C (normative) Measurement of dimensions of a single unit	.32
C.1	Preparation	.32
C.2	Overall dimensions	
C.3	Draw	.33
C.4	Chase	
C.5	Straightness and bow	
C.6	Thickness of facing layer	
C.7	Test report	
	·	
	D (normative) Determination of freeze/thaw resistance with de-icing salt	
D.1	Principle	
D.2	Specimen	
D.3	Materials	
D.4	Apparatus	.35
D.5	Preparation of test specimens	.36
D.6	Procedure	
D.7	Calculation of test results	
D.8	Test report	
	•	
	E (normative) Determination of total water absorption	.42
E.1	Principle	
E.2	Specimen	
E.3	Materials	
E.4	Apparatus	.42
E.5	Preparation of the test specimens	.42
E.6	Procedure	.42
E.7	Calculation of test results	
E.8	Test report	.43
Annov	F (normative) Measurement of bending strength	4.4
F.1		
	Apparatus	
F.2	Preparation	
F.3	Procedure	
F.4	Calculation of test results	
F.5	Test report	.47
Annex	G (normative) Measurement of abrasion resistance	.48
G.1	Principle of wide wheel abrasion test	
G.2	Abrasive material	
G.3	Apparatus	
G.4	Calibration	
G.5	Preparation of the specimen	
G.6		
G.6 G.7	Procedure	
_		
G.8	Calculation of test results	
G.9	Test report	.55
Annex	H (normative) Measuring of abrasion according to the Böhme test	.56
H.1	Principle	
H.2	Abrasive material	
H.3	Apparatus	
H.4	Preparation of specimens	

H.5	Procedure	58
H.6	Calculation of test results	58
H.7	Test report	59
A	·	
Annex	I (normative) Method for the determination of unpolished slip resistance value	
	(USRV)	
I.1	Principle	
I.2	Apparatus	
I.3	Calibration	
1.4	Sampling	
I.5	Procedure	
I.6	Calculation of test results	
I.7	Test report	68
Annex	J (normative) Verification of visual aspects	69
J.1	Preparation	69
J.2	Procedure	
Annex	K (informative) Example of the application of the method for checking conformity of	
	bending strength by variables (6.3.8.3.B.)	
K.1	General	70
K.2	Basic formula	70
K.3	Acceptance factors	70
K.4	Standard deviations s	
K.5	Application of switching rules	71
K.6	Results	71
A	74 (information) Clauses of this European Claudeur addressing the	
Annex	ZA (informative) Clauses of this European Standard addressing the	70
74.4	provisions of the EU Construction Products Directive (89/106/EEC)	
ZA.1	Scope and relevant characteristics	
ZA.2	Attestation of conformity	
ZA.3	CE marking and labelling	76

Foreword

This document (EN 1340:2003) has been prepared by Technical Committee CEN/TC 178 "Paving units and kerbs", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2003, and conflicting national standards shall be withdrawn at the latest by January 2005.

This document has been prepared under Mandates M/119 and M/122 given to CEN by the European Commission and the Free Trade Association and supports the essential requirements of EU Directives.

For the relationship with the Construction Products Directive see informative annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

No existing European Standard is superseded.

The annexes B, C, D, E, F, G, H, I and J are normative, the annexes A, K and ZA are informative.

1 Scope

This European Standard specifies materials, properties, requirements and test methods for unreinforced, cement bound precast concrete kerb units, channels and complementary fittings, that are for use in trafficked paved areas and roof coverings.

The units are used to fulfil one or more of the following:

Separation, physical or visual delineation, the provision of drainage or the containment of paved areas or other surfacing.

In case of regular use of studded tyres, additional requirements are sometimes needed.

This standard provides for the product marking and the evaluation of conformity of the product to this European standard.

Apart from the tolerances, this standard does not include requirements for cross-sections, shapes and dimensions.

This standard does not deal with the tactility or visibility of kerbs.

2 Normative references

This European Standard incorporates by dated and undated references, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

EN 10083-2, Quenched and tempered steels — Part 2: Technical delivery conditions for unalloyed quality steels.

EN 13369, Common rules for precast concrete products.

EN ISO 4288, Geometric product specification (GPS) - Surface texture - Profile method: Rules and procedures for the assessment of surface texture (ISO 4288:1996).

EN ISO 6506-1, Metallic materials - Brinell hardness test - Part 1: Test method.

EN ISO 6506-2, Metallic materials - Brinell hardness test - Part 2: Verification and calibration of testing machines.

EN ISO 6506-3, Metallic materials - Brinell hardness test - Part 3: Calibration of reference blocks.

ISO 48, Rubber, vulcanised or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD).

ISO 4662, Rubber — Determination of rebound resilience of vulcanizates.

ISO 7619, Rubber — Determination of indentation hardness by means of pocket hardness meters.

ISO 7873, Control charts for arithmetic average with warning limits.

ISO 7966, Acceptance control charts.

ISO 8486-1:1996, Bond abrasives — Determination and designation of grainsize distribution — Macrogrits F4 to F220.

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1

concrete curb unit

precast concrete unit, individual or in combination with other units, intended to separate surfaces of the same or of different levels to provide physical or visual delineation or containment and separation between areas submitted to different kinds of traffic

physical or visual delineation or containment;

individually or in combination with other kerbs, drainage channels;

separation between surfaces submitted to different kinds of traffic.

3.2

complementary fitting

unit, sometimes a part of a kerb, channel etc, which is used as a transition piece for changes in direction, shape or height or a small piece to complete a line

3.3

overall length

length of a kerb excluding any interlocking features or spacers

3.4

height

distance between the bed face and the top of the kerb

3.5

bed face

lower surface in contact with the ground after laying

3.6

face

surface intended by the manufacturer to be seen when laid and in use

3.7

facing layer

layer of concrete on the face, or part of a face, of different materials and/or properties to the main body or backing layer

NOTE To be distinguished from wipe, being a fine cement mortar or slurry applied to the surface of the kerb.

3.8

draw

intended angle of the side face from the vertical plane over the full height of a kerb as shown in Figure 1

3.9

chamfer

bevelled arris, as shown in Figure 1