

This is a preview of BS 8442:2022+A1:2023. [Click here to purchase the full version from the ANSI store.](#)

BS 8442:2022+A1:2023



BSI Standards Publication

Miscellaneous road traffic signs and devices – Requirements and test methods

bsi.

This is a preview of BS 8442:2022+A1:2023. [Click here to purchase the full version from the ANSI store.](#)

Publishing and copyright information

The BSI copyright notice displayed in this document indicates when the document was last issued.

© The British Standards Institution 2023

Published by BSI Standards Limited 2023

ISBN 978 0 539 26318 3

ICS 93.080.30

The following BSI references relate to the work on this document:

Committee reference B/509/3

Drafts for comment 21/30439740 DC; 23/30471179 DC

Amendments/corrigenda issued since publication

Date	Text affected
October 2023	A1. See Foreword for details.

This is a preview of BS 8442:2022+A1:2023. [Click here to purchase the full version from the ANSI store.](#)

CONTENTS

	Page
Foreword	III
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
<i>Figure 1 — Projected area</i>	3
4 Information to be obtained from the purchaser	3
5 Self-supporting rigid portable signs, other than barriers	4
5.1 General	4
<i>Table 1 — Classification of effective wind speeds V_e</i>	4
5.2 Visual performance of sign face material	4
5.3 Physical performance of the sign face	5
5.4 Physical performance of the sign assembly	5
6 Portable barriers	5
6.1 General	5
6.2 Visual performance	5
6.3 Physical performance	5
7 Self-supporting flexible portable signs	5
7.1 General	5
7.2 Visual performance	6
7.3 Physical properties of substrate material	6
<i>Table 2 — Physical properties of substrate material</i>	6
8 Manually operated portable “Stop/Go” and “Stop Works” signs	6
8.1 General	6
8.2 Visual performance	6
8.3 Physical performance	6
9 Portable school crossing patrol signs	7
9.1 General	7
9.2 Visual performance	7
10 Portable flat traffic delineators (FTDs)	7
10.1 General	7
10.2 Visual performance	7
10.3 Physical performance	7
11 Fixed, permanent, manually operated flap signs	7
11.1 General	7
11.2 Visual performance	8
11.3 Physical performance	8
12 Fixed, permanent pedestrian crossing and refuge beacons and twin amber flashing lights	8
12.1 Electrical requirements	8
12.2 Beacon globes	8
<i>Table 3 — Chromaticity coordinates and luminance factors of globes</i>	9
<i>Figure 2 — Luminance measurement</i>	10
12.3 Posts	10
<i>Table 4 — Luminance of posts</i>	11
12.4 Twin flashing amber light units	12
<i>Table 5 — Luminance requirements</i>	13
13 Retroreflective self-righting bollards (RSRBs)	14
13.1 General	14
13.2 Design: common characteristics for all RSRB types	14

This is a preview of BS 8442:2022+A1:2023. [Click here to purchase the full version from the ANSI store.](#)

13.3	Visual performance: common characteristics for all RSRB types	15
	<i>Table 7 — Daytime chromaticity and luminance factor</i>	15
13.4	Physical performance: common characteristics for all RSRB types	15
	<i>Figure 3 — Adhesion test</i>	16
	<i>Table 8 — Surface protection</i>	16
13.5	Type B bollards: additional requirements	17
	<i>Table 9 — Mean luminance, L, $\text{cd}\cdot\text{m}^{-2}$</i>	17
	<i>Table 10 — Luminance contrast, K, lit traffic sign</i>	17
	<i>Figure 4 — Location of the central sign centre</i>	18
	<i>Table 11 — Protection from foreign objects and water</i>	18
13.6	Type D bollards: additional requirements	19
14	Marking and information	19
14.1	Marking	19
14.2	Durability of marking	19
15	Information to be supplied by the manufacturer	19
Annex A	(normative) Retroreflective sheeting materials	21
	<i>Table A.1 — Exposure period for accelerated natural weathering</i>	22
Annex B	(normative) Ballast for self-supporting rigid and flexible portable signs, and classification and labelling of barrier units	23
	<i>Table B.1 — Ballast required for wind resistance of temporary signs</i>	23
	<i>Table B.2 — Ballast required for wind resistance of barrier assembly</i>	24
Annex C	(normative) Calculation of minimum recommended ballast required to resist overturning and sliding of self-supporting rigid portable signs	24
	<i>Table C.1 — Values of C_w</i>	25
	<i>Table C.2 — Values of S</i>	25
	<i>Figure C.1 — Overturning moment diagram</i>	26
Annex D	(informative) Classes of wind speed	27
Annex E	(normative) Test for overturning and sliding performance of self-supporting rigid portable signs	27
	<i>Figure E.1 — Test apparatus for stability and sliding performance</i>	28
Annex F	(informative) Calculation of minimum recommended ballast required to resist overturning and sliding of barrier units	29
	<i>Figure F.1 — Resistance to overturning diagram</i>	29
Annex G	(normative) Test for impact resistance of Flat Traffic Delineators (FTDs) at low temperature	31
Annex H	(normative) Test for bending resistance of Flat Traffic Delineators (FTDs)	32
Annex I	(normative) Test for fatigue resistance of Flat Traffic Delineators (FTDs)	33
Annex J	(normative) Measurement of the luminance of internally illuminated posts	34
Annex K	(normative) Determination of mean luminance and uniformity of luminance	35
	Bibliography	37

Summary of pages

This document comprises a front cover, an inside front cover, pages I to IV, pages 1 to 37, an inside back cover and a back cover.

This is a preview of BS 8442:2022+A1:2023. [Click here to purchase the full version from the ANSI store.](#)

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 28 February 2022. It was prepared by Subcommittee B/509/3, *Construction of road traffic signs*, under the authority of Technical Committee B/509, *Road equipment*. A list of organizations represented on this committee can be obtained on request to the committee manager.

Supersession

BS 8442:2022 superseded BS 8442:2015, which has been withdrawn.

BS 8442:2022+A1:2023 supersedes BS 8442:2022, which is withdrawn.

Information about this document

BS 8442:2022 was a full revision of the standard, and introduced the following principal changes:

- a) references to legislation and other standards were updated and duplication of their content within this standard has been avoided where possible. This has the effect of making the full range of colours for permanent signs available also for temporary ones, with the identical chromaticity and luminance requirements;
- b) non-retroreflective roads studs were removed, as these are specified in the relevant Statutory Instrument (TSRGD);
- c) non-illuminated post requirements were simplified and the option of offset brackets added;
- d) a maximum luminance of 1 200 cd·m⁻² is given for beacon globes, including any device designed to improve the conspicuousness of the globe;
- e) the chromaticity of flashing amber signals is now to Yellow Class C2 of [BS EN 12966:2014+A1:2018](#);
- f) head and body components were distinguished for foreign object and water ingress and reference made to [BS EN 60529](#);
- g) clarification of purchaser information to be supplied has been made in some instances; and
- h) formulae in [Annex F](#) were corrected.

Text introduced or altered by Amendment No. 1 is indicated in the text by tags A1 A1. Minor editorial changes are not tagged. Amendment A1 introduces the following principle changes:

- 1) the values in [Table 3](#) (see [12.2.2.1.1](#)) have been updated;
- 2) in [13.3.2](#) the reference has been expanded;
- 3) edit to [A.2.2](#): the cross-reference has been changed from “4b)” to “4f)”;
- 4) edit to [A.3.2](#): “[Table 4](#), class RA2 or above” has been deleted from end of sentence.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

This is a preview of BS 8442:2022+A1:2023. [Click here to purchase the full version from the ANSI store.](#)

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the *Shorter Oxford English Dictionary* is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient’s own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

In particular, attention is drawn to the following specific regulations:

- The Traffic Signs Regulations and General Directions 2016 [1]
- Electrical Equipment Safety Regulations 2016 [2]
- Radio Equipment Regulations 2017 [3]
- Electromagnetic Compatibility Regulations 2016 [4]
- Traffic Signs Manual [5]
- Safety at Streetworks and Road Works: A Code of Practice [6]

This is a preview of BS 8442:2022+A1:2023. [Click here to purchase the full version from the ANSI store.](#)

1 Scope

This British Standard specifies requirements and test methods for rigid and flexible portable signs, barriers, self-supporting portable signs, “Stop/Go” and “Stop/Works” signs, school crossing patrol signs, flat traffic delineators, flap signs, pedestrian crossing and refuge beacons, internally illuminated posts, twin amber flashing light units and retroreflective self-righting bollards.

NOTE The tests given in this British Standard are suitable for both initial type testing and production testing.

Road studs are not covered by this British Standard.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards publications

[BS 3424-5:1982](#), *Testing coated fabrics – Part 5: Methods 7A, 7B and 7C – Methods for determination of tear strength*

[BS 7263-1](#), *Precast concrete flags, kerbs, channels, edgings and quadrants – Part 1: Precast, unreinforced concrete paving flags and complementary fittings – Requirements and test methods*

[BS EN 40-2:2004](#), *Lighting columns – Part 2: General requirements and dimensions*

[BS EN 40-6:2002](#), *Lighting columns – Requirements for aluminium lighting columns*

[BS EN 485-1](#), *Aluminium and aluminium alloys – Sheet, strip and plate – Part 1: Technical conditions for inspection and delivery*

[BS EN 12332-1](#), *Rubber- or plastics-coated fabrics – Determination of bursting strength – Part 1: Steel ball method*

[BS EN 12665](#), *Light and lighting – Basic terms and criteria for specifying lighting requirements*

[BS EN 12767](#), *Passive safety of support structures for road equipment – Requirements and test methods*

[BS EN 12899-1:2007](#), *Fixed, vertical road traffic signs – Part 1: Fixed signs²⁾*

[BS EN 12966:2014+A1:2018](#), *Road Vertical Traffic Signs – Variable message traffic signs³⁾*

[BS EN 13032-1](#), *Light and lighting – Measurement and presentation of photometric data of lamps and luminaires – Part 1: Measurement and file format*

[BS EN 50293](#), *Road traffic signal systems – Electromagnetic compatibility*

[BS EN 60529](#), *Degrees of protection provided by enclosures (IP code)*

[BS EN 60598-1:2000](#), *Luminaires – Part 1: General requirements and tests*

[BS EN ISO 877-1:2010](#), *Plastics – Methods of exposure to solar radiation – Part 1: General guidance*

[BS EN ISO 877-2:2010](#), *Plastics – Methods of exposure to solar radiation – Part 2: Direct weathering and exposure behind window glass*

[BS EN ISO 1421](#), *Rubber- or plastics-coated fabrics – Determination of tensile strength and elongation at break*

¹⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.

²⁾ This standard also gives informative references to BS EN 12899-1:2007.

³⁾ This standard also gives an informative reference to BS EN 12966:2014+A1:2018.