

BS 7903:2020



BSI Standards Publication

**Selection and installation of manhole
tops and gully tops within the
highway — Guide**

Publishing and copyright information

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

© The British Standards Institution 2020

Published by BSI Standards Limited 2020

ISBN 978 0 539 01771 7

ICS 93.080.30

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

Committee reference B/505

Draft for comment 19/30380857 DC

Amendments/corrigenda issued since publication

Date

Text affected

Contents

	Page
Foreword	iii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Classification	1
4.1 General (see BS EN 124-1:2015, Clause 4 and Annex F)	1
4.2 Place of installation	2
5 Materials	2
5.1 General (see BS EN 124-1:2015, 5.1)	2
5.2 Cover fillings (see BS EN 124-1:2015, 5.2)	3
5.3 Frames in combination with concrete (see BS EN 124-1:2015, 5.3)	3
5.4 Coating materials	3
5.5 Installation materials (see BS EN 124-1:2015, Annex F)	3
5.6 Compatibility of components	4
6 Design attributes	4
6.1 Vents in covers (see BS EN 124-1:2015, 6.1)	4
6.2 Clear opening of manhole tops for man entry (see BS EN 124-1:2015, 6.2)	4
6.3 Depth of insertion (see BS EN 124-1:2015, 6.3)	4
6.4 Clearance	4
6.5 Compatibility of seatings (see BS EN 124-1:2015, 6.5)	4
6.6 Securing of the cover/grating within the frame (see BS EN 124-1:2015, 6.6)	5
6.7 Handling of covers and gratings (see BS EN 124-1:2015, 6.7)	5
6.8 Slot dimensions of gratings	5
6.9 Dirt pans and dirt buckets (see BS EN 124-1:2015, 6.9)	5
6.10 Positioning of covers and gratings (see BS EN 124-1:2015, 6.10)	5
6.11 Flatness of manhole covers and gratings (see BS EN 124-1:2015, 6.11)	5
6.12 Concaveness of gratings (see BS EN 124-1:2015, 6.12)	5
6.13 Surface conditions (see BS EN 124-1:2015, 6.13)	6
6.14 Manhole tops with sealing features (see BS EN 124-1:2015, 6.14)	6
6.15 Frame bearing area (see BS EN 124-1:2015, 6.15)	6
<i>Figure 1 — Installation materials and components</i>	7
6.16 Frame depth (see BS EN 124-1:2015, 6.16)	7
6.17 Opening angle of hinged covers/gratings (see BS EN 124-1:2015, 6.17)	7
6.18 Covers with fillings (see BS EN 124-1:2015, 6.18)	7
6.19 Lifting provisions	7
6.20 Keyways	8
<i>Figure 2 — Keyways and keys</i>	8
6.21 Frame web/gusset	8
<i>Figure 3 — Frame web/gusset</i>	9
6.22 Kerb-type gully covers and frames	9
<i>Table 1 — Suggested minimum dimensions for kerb-type gully covers and frames</i>	10
7 Performance	10
7.1 Appearance (see BS EN 124-1:2015, 7.1)	10
7.2 Loadbearing capacity (see BS EN 124-1:2015, 7.2)	10
7.3 Permanent set (see BS EN 124-1:2015, 7.3)	10
7.4 Skid resistance	10
7.5 Child safety (see BS EN 124-1:2015, 7.5)	11
8 Testing (see BS EN 124-1:2015, Clause 8)	11

9	Assessment and verification of constancy of performance (AVCP) (see BS EN 124-1:2015, Clause 9)	11
<hr/>		
	Bibliography	12
<hr/>		

Summary of pages

This document comprises a front cover, and inside front cover, pages i to iv, pages 1 to 12, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 March 2020. It was prepared by Technical Committee B/505, *Wastewater engineering*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This British Standard supersedes BS 7903:1997, which is withdrawn.

Relationship with other publications

This British Standard gives guidance on the installation of products conforming to BS EN 124-1:2015, BS EN 124-2:2015, BS EN 124-3:2015, BS EN 124-4:2015, BS EN 124-5:2015 and BS EN 124-6:2015.

Information about this document

This is a full revision of the standard, and introduces the following principal changes:

- the scope has been modified to clarify that the guidance is for the selection and installation of products conforming to the BS EN 124 series as part of an in-service system; and
- to avoid conflict with the BS EN 124 series, the “specifications” for products that appeared in the previous edition have been removed, but where appropriate have been re-drafted as current industry practice to preserve useful information.

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.

Product certification. Users of this British Standard are advised to consider the desirability of obtaining third-party certification of conformity with BS EN 124-1:2015 to BS EN 124-6:2015 for products they intend to install.

NOTE Specifiers might require this as part of the contract.

Use of this document

As a guide, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification or a code of practice and claims of compliance cannot be made to it.

Presentational conventions

The guidance in this standard is presented in roman (i.e. upright) type. Any recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

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

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

1 Scope

This British Standard gives guidance for the selection and installation of manhole tops and gully tops conforming to BS EN 124-1:2015 to BS EN 124-6:2015 for covering gullies, manholes and inspection chambers to be used in conjunction with other components and materials to form a safe, durable, maintainable and usable installed system for highway applications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN 124-1:2015, *Gully tops and manhole tops for vehicular and pedestrian areas – Part 1: Definitions, classification, general principles of design, performance requirements and test methods*

BS EN 124-2:2015, *Gully tops and manhole tops for vehicular and pedestrian areas – Part 2: Gully tops and manhole tops made of cast iron*

BS EN 124-3:2015, *Gully tops and manhole tops for vehicular and pedestrian areas – Part 3: Gully tops and manhole tops made of steel or aluminium alloys*

BS EN 124-4:2015, *Gully tops and manhole tops for vehicular and pedestrian areas – Part 4: Gully tops and manhole tops made of steel reinforced concrete*

BS EN 124-5:2015, *Gully tops and manhole tops for vehicular and pedestrian areas – Part 5: Gully tops and manhole tops made of composite materials*

BS EN 124-6:2015, *Gully tops and manhole tops for vehicular and pedestrian areas – Part 6: Gully tops and manhole tops made of polypropylene (PP), polyethylene (PE) or unplasticized poly(vinyl chloride) (PVC-U)*

BS EN 1339, *Concrete paving flags – Requirements and test methods*

3 Terms and definitions

For the purposes of this British Standard, the terms and definitions given in BS EN 124-1:2015 to BS EN 124-6:2015 and the following apply.

NOTE Attention is drawn to definition 3.1.5 in BS EN 124-1:2015, which states that the term “manhole top” refers to a cover for either a manhole or an inspection chamber.

3.1 highway

area that includes some, or all, of the following features: carriageway, cycleway, footway, verge, hard shoulder, hard strip and central reservation

4 Classification

4.1 General (see BS EN 124-1:2015, Clause 4 and Annex F)

BS EN 124-1:2015, Annex F, gives recommendations for installation, including bedding and packing, and emphasizes the critical relationship between these for highway applications.

During its lifetime, a manhole top or gully top will be exposed to loads during the construction period (“pre-service”) and in normal use (“service”). BS EN 124:2015-1:2015 to BS EN 124:2015-6:2015

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