**SS EN 124-1:2021**
**EN 124-1:2015, IDT**
(ICS 93.080.30)

**SINGAPORE STANDARD**

# Gully tops and manhole tops for vehicular and pedestrian areas

## – Part 1: Definitions, classification, general principles of design, performance requirements and test methods

The national standard is the identical implementation of EN 124-1:2015 and is adopted with permission of CEN, Rue de la Science 23 B - 1040 Brussels

Singapore Standards Council

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## National Foreword

This Singapore Standard was prepared by the Working Group on Manhole Tops and Surface-box Tops set up by the Technical Committee on Civil and Geotechnical Works under the purview of the Building and Construction Standards Committee.

This standard is an identical adoption of EN 124-1:2015, “Gully tops and manhole tops for vehicular and pedestrian areas – Part 1: Definitions, classifications, general principles of design, performance requirements and test methods”, including the amendments to this edition, published by European Committee for Standardization, CEN, Rue de la Science 23 B - 1040 Brussels.

SS EN 124, under the general title “Gully tops and manhole tops for vehicular and pedestrian areas”, comprises three parts:

- Part 1: Definitions, classifications, general principles of design, performance requirements and test methods (identical adoption of EN 124-1:2015);
- Part 2: Gully tops and manhole tops made of cast iron (identical adoption of EN 124-2:2015); and
- Part 3: Gully tops and manhole tops made of steel or aluminium alloys (identical adoption of EN 124-3:2015).

As the materials specified in EN 124 Parts 4, 5 and 6 are not commonly used in Singapore, users may refer directly to EN 124-4, EN 124-5 and EN 124-6.

In Singapore, the common practices are as follows:

- Where required, covers and frames are designed against mosquito breeding;
- Concrete with a minimum compressive strength class of C25/30 according to SS EN 206 - Concrete – Specification, performance, production and conformity, at least suitable for use in “cyclic wet and dry” conditions, is used for cover fillings;
- Freeze-thaw resistance is not applicable as there is no snow in Singapore;
- Annex ZA (informative) is not relevant to Singapore.

NOTE 1 – Where appropriate, the words “European Standard” are read as “Singapore Standard”.

NOTE 2 – Reference to International/Overseas Standards are replaced by applicable Singapore Standards or Technical References.

NOTE 3 – Where numerical values are expressed as decimals, the comma is read as a full point.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

**NOTE**

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "Mature Standards". Mature Standards will not be subject to further review, unless there are requests to review such standards.*

2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*

3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 124-1

June 2015

ICS 93.080.30

Supersedes EN 124:1994

English Version

# Gully tops and manhole tops for vehicular and pedestrian areas - Part 1: Definitions, classification, general principles of design, performance requirements and test methods

Dispositifs de couronnement et de fermeture pour les zones de circulation utilisées par les piétons et les véhicules - Partie 1 : Définitions, classification, principes généraux de conception, exigences de performances et méthodes d'essai

Aufsätze und Abdeckungen für Verkehrsflächen - Teil 1: Definitionen, Klassifizierung, allgemeine Baugrundsätze, Leistungsanforderungen und Prüfverfahren

This European Standard was approved by CEN on 12 March 2015.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**



Ref. No. EN 124-1:2015 E

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# Foreword

This document (EN 124-1:2015) has been prepared by Technical Committee CEN/TC 165 “Wastewater engineering”, the secretariat of which is held by DIN.

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 December 2015 and conflicting national standards shall be withdrawn at the latest by March 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

Together with EN 124-2:2015, EN 124-3:2015, EN 124-4:2015, EN 124-5:2015 and EN 124-6:2015, this document supersedes EN 124:1994.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

EN 124, *Gully tops and manhole tops for vehicular and pedestrian areas*, consists of the following parts:

— *Part 1: Definitions, classification, general principles of design, performance requirements and test methods*;

— *Part 2: Gully tops and manhole tops made of cast iron*;

— *Part 3: Gully tops and manhole tops made of steel or aluminium alloys*;

— *Part 4: Gully tops and manhole tops made of steel reinforced concrete*;

— *Part 5: Gully tops and manhole tops made of composite materials*;

— *Part 6: Gully tops and manhole tops made of polypropylene (PP), polyethylene (PE) or unplasticized poly(vinyl chloride) (PVC-U)*.

EN 124-1 is not a harmonized standard but a supporting standard for the harmonized standards EN 124-2, EN 124-3, EN 124-4, EN 124-5 and EN 124-6.

The main changes with respect to the previous edition are listed below:

a) the standard was split into 6 parts, where Part 1 contains general design and performance requirements and Parts 2 to 6 performance requirements for manhole tops and gully tops made of specific materials;

b) definition for “securing feature” added;

c) definition for “locking accessory” added;

d) skid resistance test added;

e) tilt test added;

f) test of securing of covers/gratings within the frame added;

g) evaluation of conformity changed to AVCP;

h) recommendations for installation added.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This European Standard is applicable to manhole tops and gully tops with a clear opening up to and including 1 000 mm for covering gullies, manholes and inspection chambers installed in areas subjected to pedestrian and/or vehicular traffic. It specifies definitions, classification, general principles of design, performance requirements and test methods for gully tops and manhole tops according to:

— EN 124-2, for gully tops and manhole tops made of cast iron;

— EN 124-3, for gully tops and manhole tops made of steel or aluminium alloys;

— EN 124-4, for gully tops and manhole tops made of steel reinforced concrete;

— EN 124-5, for gully tops and manhole tops made of composite materials;

— EN 124-6, for gully tops and manhole tops made of polypropylene (PP), polyethylene (PE) or unplasticized poly(vinyl chloride) (PVC-U).

Part 1 is only applicable in combination with at least one of the standards EN 124-2, EN 124-3, EN 124-4, EN 124-5 and EN 124-6 each of which has this Part 1 as an integral part.

This European Standard is not applicable to:

— gratings/covers as part of prefabricated drainage channels according to EN 1433,

— floor and roof gullies in buildings which are specified in EN 1253 (all parts),

— surface boxes.

## 2 Normative references

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

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*

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*

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*

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*

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)*

EN 206:2013, *Concrete — Specification, performance, production and conformity*

EN 13036-4, *Road and airfield surface characteristics — Test methods — Part 4: Method for measurement of slip/skid resistance of a surface: The pendulum test*

EN ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868)*

EN ISO 7500-1:2004, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system (ISO 7500-1:2004)*
or grating