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RAUDBETOONIST RESTKAEVUDE PÄISED JA  
HOOLDUSKAEVUDE PÄISED

Gully tops and manhole tops for vehicular and  
pedestrian areas - Part 4: Gully tops and manhole tops  
made of steel reinforced concrete

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 124-4:2015 sisaldab Euroopa standardi EN 124-4:2015 ingliskeelset teksti.	This Estonian standard EVS-EN 124-4:2015 consists of the English text of the European standard EN 124-4:2015.
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English Version

**Gully tops and manhole tops for vehicular and pedestrian areas -  
Part 4: Gully tops and manhole tops made of steel reinforced  
concrete**

Dispositifs de couronnement et de fermeture pour les zones  
de circulation utilisées par les piétons et les véhicules -  
Partie 4: Dispositifs de couronnement et de fermeture en  
béton armé d'acier

Aufsätze und Abdeckungen für Verkehrsflächen - Teil 4:  
Aufsätze und Abdeckungen aus stahlbewehrtem Beton

This European Standard was approved by CEN on 11 March 2015.

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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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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

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## Foreword

This document (EN 124-4:2015) 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of an identical text or by endorsement, at the latest by December 2015 and conflicting national standards shall be withdrawn at the latest by March 2017.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 124-1:2015, EN 124-2:2015, EN 124-3:2015, EN 124-5:2015 and EN 124-6:2015, this document will supersede EN 124:1994.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of the Regulation (EU) No. 305/2011.

For relationship with EU Regulations, see informative Annex ZA, which is an integral part of this document.

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).*

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 precast gully tops and manhole tops made of steel reinforced concrete with a clear opening up to and including 1 000 mm for covering gullies, manholes and inspection chambers for installation within areas subjected to pedestrian and/or vehicular traffic.

It is applicable to manhole tops and gully tops for use in

- areas which can only be used by pedestrians and pedal cyclists (at least class A 15),
- pedestrian areas and comparable areas, car parks or car parking decks (at least class B 125),
- the area of kerbside channels of roads which, when measured from the kerb edge, extends a maximum of 0,5 m into the carriageway and a maximum of 0,2 m into the pedestrian area (at least class C 250),
- carriageways of roads (including pedestrian streets), hard shoulders and parking areas, for all types of road vehicles (at least class D 400),
- areas imposing high wheel loads, e.g. docks, aircraft pavements (at least class E 600),
- areas imposing particularly high wheel loads, e.g. aircraft pavements (Group 6, class F 900).

This European Standard is not applicable in isolation but only in combination with EN 124-1 and gives guidance for combinations of covers/gratings made of steel reinforced concrete with frames according to EN 124-2, EN 124-3, EN 124-5 and EN 124-6.

This European Standard is not applicable to:

- concave gratings for class D 400 installed in carriageways of roads or hard shoulders and concave gratings for classes F 900 and E 600;
- 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); and
- 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 124-1:2015, *Gully tops and manhole tops for vehicular and pedestrian areas — Part 1: Definitions, classification, general principles of design, performance requirements and test methods*

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 124-5:2015, *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 1339:2003, *Concrete paving flags — Requirements and test methods*

EN 1992-1-1:2004, *Eurocode 2: Design of concrete structures — Part 1-1: General rules and rules for buildings*

EN 13369:2013, *Common rules for precast concrete products*

EN ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles — Specifications and test methods (ISO 1461)*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 124-1:2015 apply.

## 4 Materials

### 4.1 General

Precast manhole tops and gully tops according to this European Standard shall be made from steel reinforced concrete. The concrete quality of any element shall be dense, homogenous and conform to the requirements given in 4.2 to 4.6. For general aspects, constituent materials of concrete and reinforcing steel, EN 13369:2013, 4.1, shall apply.

Any element made of the materials specified in Clause 4 can be used in combination with elements of materials specified in EN 124-2, EN 124-3, EN 124-5 or EN 124-6. In such cases the manhole tops or gully tops shall comply with the relevant design and performance and testing requirements as listed in Table 1.

In addition, elements shall comply with the requirements for the material related EN 124-2, EN 124-3, EN 124-5 or EN 124-6, as applicable. Each element shall be marked accordingly. The load class to be declared for the combined product shall be restricted to the lower class determined for any constituent element according to the relevant part of EN 124 series.

**EXAMPLE** Where a cover is made of steel reinforced concrete, class D 400, and the frame is made of steel, class C 250, the manhole top or gully top is marked with EN 124-4 and the class to be declared for the combined product is the class of the frame according to EN 124-3 for steel.

### 4.2 Exposure classes

Manhole tops and gully tops according to this standard shall be at least suitable for use in “wet and dry” conditions and a slightly aggressive chemical environment, i.e. normal conditions for domestic sewage and treated industrial effluent, and for most natural soils and ground-waters. If more severe conditions are expected, additional requirements for corrosion protection can be necessary.

The exposure class determined in accordance with EN 206:2013 shall be a minimum of XC2.

Where resistance against freeze/thaw or chemical attack on concrete is required, the composition and properties of the concrete shall meet the requirements for XF, XD or XA classes taking into account the relevant description of the environment in accordance with EN 206:2013.

If more severe conditions are expected higher exposure classes can be necessary. In such cases the higher class shall be declared.