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Gullies for buildings - Part 4: Access covers

Abläufe für Gebäude - Teil 4: Abdeckungen

Avaloirs et siphons pour bâtiments - Partie 4 : Tampons/couvercles d'accès

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ICS:

91.140.80	Drenažni sistemi	Drainage systems

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English Version

Gullies for buildings - Part 4: Access covers

Avaloirs et siphons pour bâtiments - Partie 4: Tampons/couvercles d'accès

Abläufe für Gebäude - Teil 4: Abdeckungen

This European Standard was approved by CEN on 14 February 2016.

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.

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

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European foreword

This document (EN 1253-4:2016) has been prepared by Technical Committee CEN/TC 165 “Waste water 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of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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.

This document supersedes EN 1253-4:1999.

This is the fourth part in EN 1253, a series of standards relating to different types of floor gullies, roof drains and access covers for drainage systems inside buildings. The EN 1253 series under the main title *Gullies for buildings* actually consists of the following parts:

— *Part 1: Trapped floor gullies with a depth water seal of at least 50 mm*;

— *Part 2: Roof drains and floor gullies without trap*;

— *Part 3: Evaluation of conformity*;

— *Part 4: Access covers*;

— *Part 5: Gullies with light liquids closure*.

Since the latest versions of EN 1253-4 the most significant technical changes are the following:

a) introduction of the new standards on trapped floor gullies with a depth of water seal of at least 50 mm (EN 1253-1), roof drains and floor gullies without trap (EN 1253-2) and on evaluation of conformity (EN 1253-3);

b) amendment of items of marking as well as methods of marking.

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 classifies access covers according to their loading strength and specifies requirements relating to their design, construction, marking, testing and evaluation of conformity.

This European Standard classifies and specifies requirements for factory made access covers used for drainage systems inside buildings. This European Standard does not apply to access covers intended for external use which are covered by EN 124 series.

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 (all parts), *Gully tops and manhole tops for vehicular and pedestrian areas*

EN 476, *General requirements for components used in drains and sewers*

EN 1253-1:2015, *Gullies for buildings — Part 1: Trapped floor gullies with a depth water seal of at least 50 mm*

EN 1253-2:2015, *Gullies for buildings — Part 2: Roof drains and floor gullies without trap*

EN 1253-3, *Gullies for buildings — Part 3: Evaluation of conformity*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in the EN 124 series, EN 1253-1:2015 and the following apply.

3.1
access cover
assembly providing access to chamber, gully, shaft or pipe, capable of installation at floor level, generally consisting of a cover and frame

3.2
cover
removable part of an access cover

3.3
frame
fixed part of an access cover which receives and supports a cover

3.4
seating
surface on which the cover rests in the frame

4 Classification

Access covers are classified by loading strength when tested in accordance with 7.1, into the following classes: H 1,5, K 3, L 15, R 50, M 125, N 250, P 400.

A guide for selecting the class of an access cover appropriate to the place of installation is given below. The selection of the appropriate class is the responsibility of the specifier.

a) Class H 1,5: Areas where no load is expected.

b) Class K 3: Areas without vehicular traffic, such as dwellings, commercial and some public buildings.

c) Class L 15: Areas with light vehicular traffic, such as in commercially used premises and public areas.

d) Class R 50: Areas with vehicular traffic, such as in commercially used premises and factories.

e) Class M 125: Areas with vehicular traffic, such as car parks, factories and workshops.

f) Class N 250: Heavy duty industrial areas subject to forklift traffic, such as food processing areas, chemical or process plants.

g) Class P 400: Extra-heavy duty applications including food processing areas, chemical or process plants, where gullies are subjected to industrial forklift trucks and/or where heavy vehicles are manoeuvring.

Classes E 600 and F 900 gully tops conforming to the EN 124 series may be used for all areas subject to special stresses such as exhibition halls, market halls, factory sheds and aircraft hangars.

The selection of the appropriate class is the responsibility of the designer. Where there is doubt of the class to be used, the next highest class should be selected.

5 Materials

The materials used shall withstand the stresses likely to occur during installation and operation and shall comply with the requirements specified in Clause 6, such that there shall be no deformation of the access cover or other damage likely to impair function or cause injury to health.

6 Design and construction

6.1 General requirements

Access covers shall be designed and manufactured to ensure their function and the compatibility of seatings between frame and cover. Cushioning inserts may be used.

When in position, it shall not be possible for covers to be dislodged from the frame, but they shall be easy to open. The upper surfaces of frame and cover shall be flush.

6.2 Appearance

Access covers shall be free from sharp edges and imperfections (e.g. bubbles, cracks or unevenness) which could impair functioning or cause injury to people.

6.3 Clear opening of access covers for man entry

The clear opening of access covers designed for man entry shall comply with the provisions of EN 476 and the safety requirements in force at the place of installation.

6.4 Edge protection for access covers of reinforced concrete

For reinforced concrete access covers, the edges and contact surfaces of the seating between frame and cover shall be protected with hot-dip galvanized steel or cast iron or materials of equivalent properties.

6.5 Tightness

6.5.1 General

Where tightness is required it shall be tested in accordance with 7.3. There are three classes of tightness as follows:

6.5.2 Watertightness: Class Wt

Watertight access covers shall prevent the ingress of surface water which does not exert hydrostatic pressure when tested in accordance with 7.3.1. This can be achieved, for example, by providing a mechanical connection of frame and cover or by way of an appropriate design of these components.

6.5.3 Odourtightness: Class Ot

Odourtight access covers shall prevent the escape of foul air. Odourtightness is assumed if the access cover is tight when tested in accordance with 7.3.2.

6.5.4 Backflow tightness: Class Bt

Backflowtight access covers shall, in the event of surcharge in the drainage system, prevent backflow, at a pressure of up to 50 kPa (0,5 bar) of water from escaping from the access cover when tested in accordance with 7.3.3; they shall also be watertight in accordance with 6.5.2 and odourtight in accordance with 6.5.3.

6.5.5 Additional requirements

If a higher tightness is required, e.g. for toxic and/or explosive gases, the design and the test methods shall be agreed between the manufacturer and user.

If an additional inner cover is provided for sealing purposes, the outer cover shall be designed to restrict water ingress. Water that has penetrated through the top cover shall not collect on the inner cover, but shall be drained.

7 Test methods

7.1 Loading test

Access covers shall be subjected to a loading test as specified in EN 1253-1:2015, 5.6, or EN 1253-2:2015, 5.3, in order to establish their class.

7.2 Appearance and dimensions

The requirements specified in 6.2, 6.3 and 6.4 shall be checked by visual examination. Dimensions shall be measured to an accuracy of ± 1 mm.

7.3 Tightness

7.3.1 Watertightness

The access cover shall be flooded with a (10 ± 1) mm head of water for a period of (15 ± 1) min. The test shall be deemed to have been passed if, during this period, no water has penetrated to the underside.

7.3.2 Odourtightness

The access cover shall be subjected from below to a hydrostatic pressure of ≥ 500 Pa (≥5 mbar). The test shall be deemed to have been passed if, over a period of (15 ± 1) min, no water has escaped at any point.