
Pokrovi za odtoke in jaške na vozni površinah in površinah za pešce - Zahteve za projektiranje, preskušanje, označevanje in kontrola kakovosti

Gully tops and manhole tops for vehicular and pedestrian areas - Design requirements, type testing, marking, quality control

Aufsätze und Abdeckungen für Verkehrsflächen - Baugrundsätze, Prüfungen, Kennzeichnung, Güteüberwachung

Dispositifs de couronnement et de fermeture pour les zones de circulation utilisées par les piétons et les véhicules - Principes de construction, essais types, marquage, contrôle de qualité

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Ta slovenski standard je istoveten z: EN 124:1994

ICS:

93.080.30	Cestna oprema in pomožne naprave	Road equipment and installations
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SIST EN 124:1996**en**

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EUROPEAN STANDARD

EN 124

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 1994

UDC 628.253.1:001.4:620.1

Supersedes EN 124:1986

Descriptors: Sanitation, water removal, gully tops, closing devices, traffic lanes, specifications, classifications, equipment specifications, tests, quality control, marking

English version

Gully tops and manhole tops for vehicular and pedestrian areas - Design requirements, type testing, marking, quality control

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

The Technical Committee CEN/TC 77, Drainage equipment, was founded in 1973 and in the beginning it was concerned with general drainage equipment. As the tasks which had to be accomplished were revealed as being too extensive, the Committee was divided into the working groups, Drainage equipment inside buildings (WG 1), and Drainage equipment outside buildings (WG 2), and, finally, in 1980 two independent Technical Committees were created, i.e. CEN/TC 77, Drainage equipment (systems, design requirements, coordination) inside buildings, and CEN/TC 96, Drainage equipment outside buildings. In 1989 the two committees were put together again due to a draft mandate of the EEC and taking into account the new approach; the committees number now is CEN/TC 165.

For the first edition of EN 124 published in 1986 the committee left certain requirements for later consideration. Also some other requirements, e.g. the selection of the class of the gully tops and manhole tops appropriate to the place of installation, could not be specified at that time.

In 1988 it was decided in CEN/TC 96 to revise the standard and to include the subject of certification. This and all the other requirements are now included in this revised version which was adopted by the TC 165 in 1993 but also at present the assignment of classes in relation to places of installation could only be given by a directive.

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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 1994, and conflicting national standards shall be withdrawn at the latest by December 1994.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, France, Finland, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

1 Scope

This standard applies to gully tops and manhole tops with a clear opening up to and including 1000 mm, for installation within areas subjected to pedestrian and/or vehicular traffic. This standard does not apply to surface boxes nor to floor and roof gullies in buildings which are specified in prEN 1253.

The purpose of this standard is to establish definitions, classes, materials, design and testing requirements, marking and quality control of gully tops and manhole tops.

2 Normative references

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ISO 185	1988	Grey cast iron – Classification
ISO 1083	1987	Spheroidal graphite cast iron – Classification
ISO 630	1980	Structural steels
ISO 3755	1991	Cast carbon steels for general engineering purposes
ISO 1459	1973	Metallic coatings – Protection against corrosion by hot dip galvanizing – Guiding principles
ISO 1460	1992	Metallic coatings – Hot dip galvanized coatings on ferrous materials – Gravimetric determination of the mass per unit area
ISO 1461	1973	Metallic coatings – Hot dip galvanized coatings on fabricated ferrous products – Requirements
ISO 8062	1984	Castings – System of dimensional tolerances
Euronorm 80	1985	Reinforcing bars (not for prestressing); Technical delivery conditions
Euronorm 81	1969.03	Hot rolled flat round reinforcing steel; dimension, mass, tolerances

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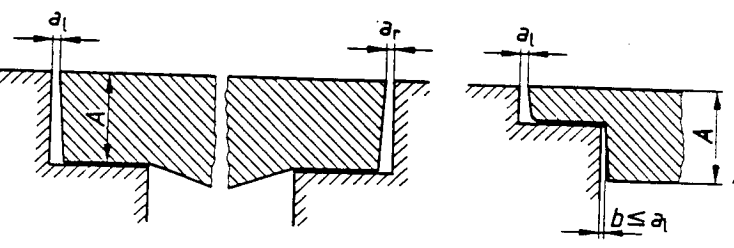
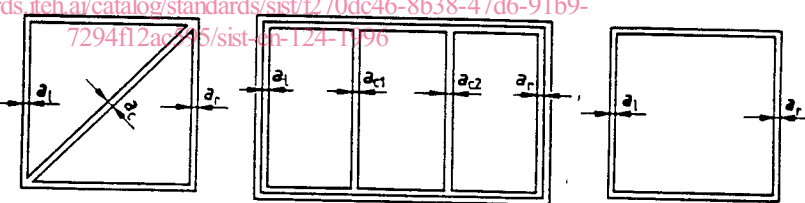
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Euronorm 82	1979.02	Steel for the reinforcement of concrete with an improved bonding action; dimensions, mass, tolerances, general requirements
prEN 1253-1		Gullies for buildings – Part 1: Requirements
prEN 1253-2		Gullies for buildings – Part 2: Test methods
EN 29002	1987	Quality systems – Model for quality assurance in production and installation

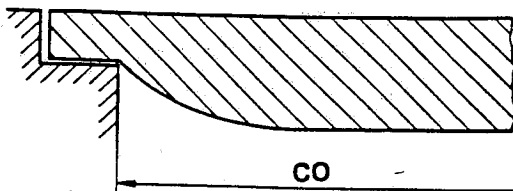
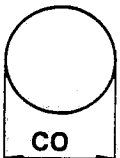
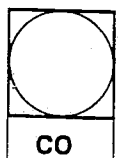
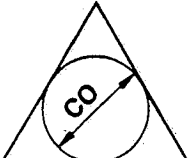
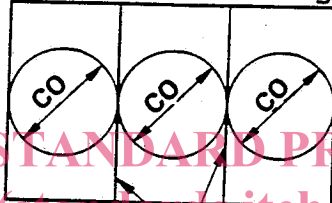

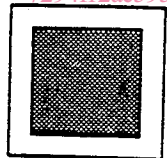
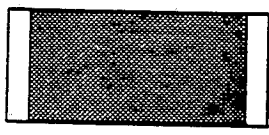
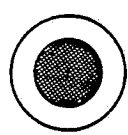
3 Definitions

For the purposes of this standard the following definitions apply.

No.	Term	Definition
1	Gully	An assembly to receive surface water for discharge into a drainage system
2	Manhole	A chamber or access shaft to underground systems
3	Gully top	That part of a gully, consisting of a frame and grating and/or cover and which is placed on the gully pot at the place of installation
4	Manhole top	That part of a manhole consisting of a frame and a cover and/or a grating
5	Frame	The fixed part of a gully top or manhole top which receives and supports a grating and/or a cover
6	Grating	The movable part(s) of a manhole top or a gully top, which permits the passage of water through itself to the gully
7	Cover	The movable part(s) of a manhole top or a gully top which cover(s) the manhole or gully opening
8	Vent	An opening in the cover of a manhole top to provide ventilation
9	Dirt bucket	A removable component of a gully or a gully top which collects debris
10	Dirt pan	A removable component of a manhole or manhole top which collects debris
11	Seating	The surface on which the grating or the cover rests in the frame

12	Depth of insertion (A) (mm)	The dimension A as shown in figure 1 and figure 2  <p>Figure 1 Figure 2</p>
13	Total clearance (a) (mm)	The sum of the maximum individual clearances between adjacent elements of the frame and grating/cover as shown in figure 1, figure 2, figure 3, figure 4 and figure 5 $a = a_1 + a_r$ in the case of figure 3 $a = a_1 + a_{c1} + a_{c2} + a_r$ in the case of figure 4 $a = a_1 + a_c + a_r$ in the case of figure 5 (a_1 clearance left) (a_c clearance centre) (a_r clearance right)  <p>Figure 3 Figure 4 Figure 5</p>
14	Bearing area (mm ²)	The surface of the underside of a frame which rests upon the supporting structure

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15	Clear opening (CO) (mm)	<p>The diameter of the largest circle that can be inscribed in the clear area (No. 16) of the frame, as shown in figure 6 and figure 7 (a-e)</p>  <p>Figure 6</p>  <p>Figure 7a</p>  <p>Figure 7b</p>  <p>Figure 7c</p>  <p>Figure 7d Fixed bars</p>  <p>Figure 7e</p>
16	Clear area (m ²)	<p>The unobstructed area between the seatings is the shaded area as shown in figure 8 (a-c)</p>  <p>Figure 8a</p>  <p>Figure 8b</p>  <p>Figure 8c</p>
17	Mass per unit area (kg/m ²)	Total mass of the cover or the grating in kg divided by the clear area in m ²
18	Cushioning insert	Material in a frame, grating or cover used to provide a non-rock seating
19	Test load (kN)	Load applied to gully tops or manhole tops when tested
20	Pedestrian areas	Area reserved for pedestrians and only occasionally open to vehicular traffic for delivery, cleaning purposes or in emergency

21	Pedestrian streets	Area where vehicular traffic is prohibited during certain periods (e.g. pedestrian areas during business hours and vehicular traffic outside these hours)
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4 Classification

Gully tops and manhole tops are divided into the following classes:

A 15, B 125, C 250, D 400, E 600 and F 900.

NOTE: When the standard is revised in the future, the conversion of class A 15 to A 30 may be considered.

5 Place of installation

The appropriate class of manhole top or gully top to be used depends upon the place of installation. The various places of installation have been divided into groups numbered 1 to 6, as listed below. Figure 9a and figure 9b show the location of some of these groups in a highway environment. A guide as to which class of manhole top or gully top should be used is shown in parentheses for each group. The selection of the appropriate class is the responsibility of the designer. Where there is any doubt, the stronger class should be selected.

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Group 1 (min. class A 15)

Areas which can only be used by pedestrians and pedal cyclists.

Group 2 (min. class B 125)

Footways, pedestrian areas and comparable areas, car parks or car parking decks.

Group 3 (min. class C 250)

For gully tops installed in the area of kerbside channels of roads (figure 9a) 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 footway.

Group 4 (min. class D 400)

Carriageways of roads (including pedestrian streets), hard shoulders (figure 9b) and parking areas, for all types of road vehicles.

Group 5 (min. class E 600)

Areas imposing high wheel loads, e.g. docks, aircraft pavements.

Group 6 (class F 900)

Areas imposing particularly high wheel loads, e.g. aircraft pavements.

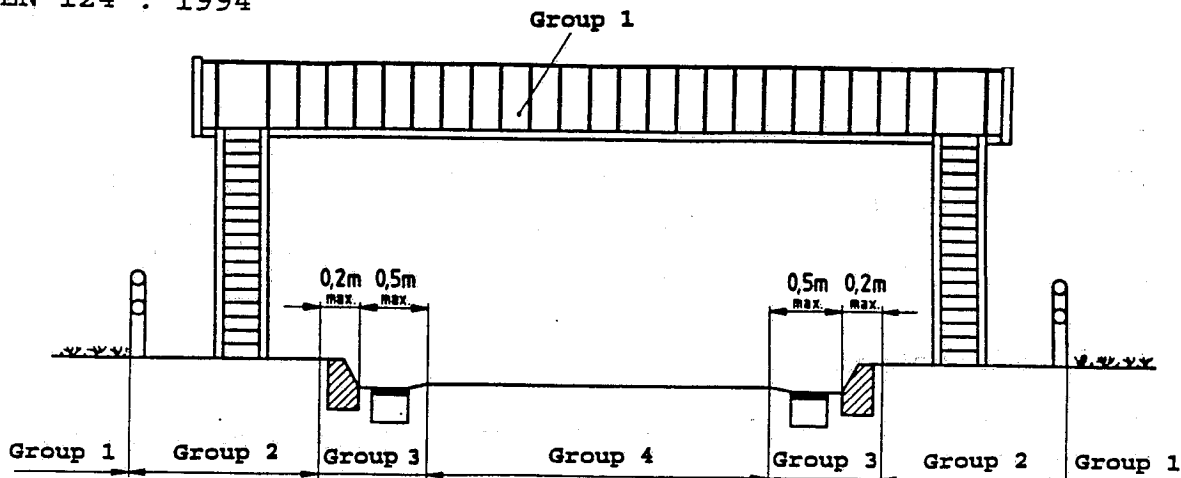


Figure 9a. Typical highway cross-section showing the location of some installation groups

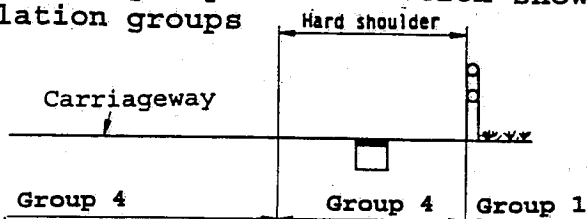


Figure 9b. Typical detail of a hard shoulder showing the location of some installation groups

6 Materials

6.1 General

6.1.1 Manhole tops and gully tops

Manhole tops and gully tops with the exception of gratings shall be made from either:

- flake graphite cast iron;
- spheroidal graphite cast iron;
- cast steel;
- rolled steel;
- one of the materials a) to d) combined with concrete; or
- steel reinforced concrete.

The use of rolled steel is admissible only if a sufficient corrosion resistance is ensured. This resistance can be achieved by hot-dip galvanizing on a clean surface with a thickness of equal or greater than the values given in table 1. The minimum thickness of rolled steel shall be 2,75 mm (except for contact and edge protection which shall comply with 7.7)