



SLOVENSKI STANDARD

SIST EN 1253-1:2015

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Nadomešča:

SIST EN 1253-1:2003

SIST EN 1253-2:2004

Odtoki v stavbah - 1. del: Talni odtoki s smradno zaporo z zaporo vode na višini najmanj 50 mm

Gullies for buildings - Part 1: Trapped floor gullies with a depth water seal of at least 50 mm

iTeh STANDARD PREVIEW

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Abläufe für Gebäude - Teil 1: Bodenabläufe mit Geruchverschluss mit einer Geruchverschlusshöhe von mindestens 50 mm

SIST EN 1253-1:2015

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Avaloirs et siphons pour bâtiments - Partie 1 : Siphons de sol avec garde d'eau de 50 mm minimum

Ta slovenski standard je istoveten z: EN 1253-1:2015

ICS:

91.140.80 Drenažni sistemi Drainage systems

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EUROPEAN STANDARD

EN 1253-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2015

ICS 91.140.80

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English Version

Gullies for buildings - Part 1: Trapped floor gullies with a depth water seal of at least 50 mm

Avaloirs et siphons pour bâtiments - Partie 1 : Siphons de sol avec garde d'eau de 50 mm minimum

Abläufe für Gebäude - Teil 1: Bodenabläufe mit Geruchverschluss mit einer Geruchverschlusshöhe von mindestens 50 mm

This European Standard was approved by CEN on 22 November 2014.

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Foreword

This document (EN 1253-1:2015) 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of an identical text or by endorsement, at the latest by July 2015 and conflicting national standards shall be withdrawn at the latest by July 2015.

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, together with EN 1253-2:2015, supersedes EN 1253-1:2003 and EN 1253-2:2003.

This is the first part of EN 1253, a series of standards relating to floor gullies, roof drains and access covers for drainage systems inside buildings. The EN 1253 series under the main title *Gullies for buildings* will actually consist 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 1253-1 and EN 1253-2, the most significant technical changes are the following:

- a) reduction of scope on trapped floor gullies with a depth of water seal of at least 50 mm for use in gravity drainage systems;
- b) more definitive description of products;
- c) modification of terms and definitions;
- d) precision in definition of places of installation;
- e) consideration of liquid applied membranes as connecting components;
- f) precision of test conditions for flow rate testing;
- g) revision of loading test concerning test loads, loading speed as well as shape, size and point of impact of test blocks in dependence on different configuration of gratings;
- h) revision of tightness tests for products for use with sheet floor coverings, membranes and liquid applied membranes.

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.

EN 1253-1:2015 (E)**1 Scope**

This European Standard classifies floor gullies for use inside buildings, gives guidance for places of installation and specifies requirements for the construction, design, performance and marking of factory made gullies for buildings, irrespective of the material, for use in drainage systems requiring a trap with a depth of water seal of at least 50 mm (further: floor gullies).

Although normally used to convey domestic wastewater, these floor gullies may convey other wastewater, e.g. industrial wastewater, provided there is no risk of damage to components or of injury to health.

This European Standard does not apply to:

- linear drainage channels as specified in EN 1433,
- gully tops and manhole tops which are specified in EN 124,
- roof drains and floor gullies without trap as specified in EN 1253-2.

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

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

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

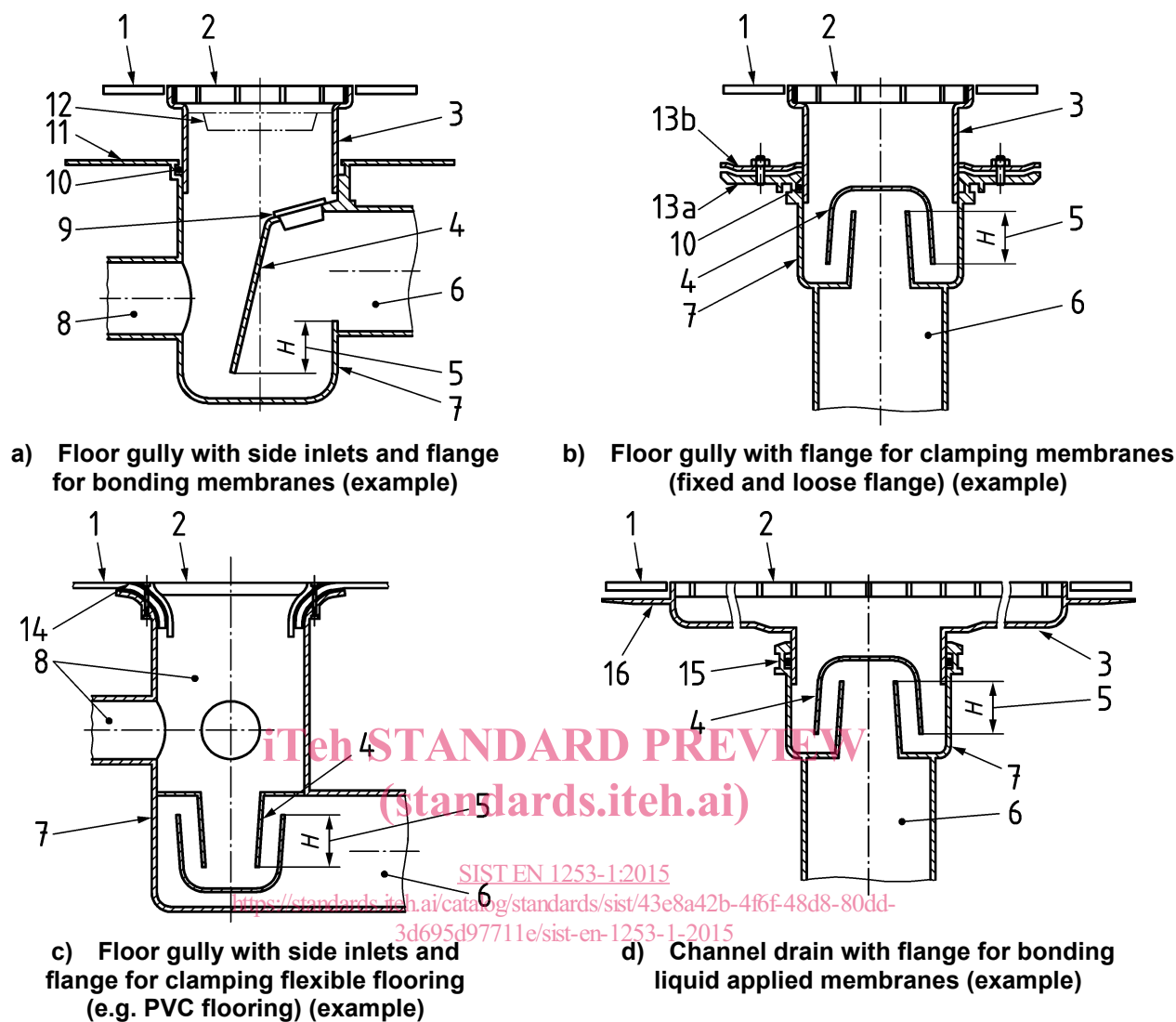
3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 trapped floor gully
discharge fitting the top of which is a grating or cover capable of installation at ground or floor level, intended to receive wastewater either through apertures in the grating and/or from side inlets and/or channels joined to the body of the gully and to drain that wastewater through the outlet

Note 1 to entry: See Figure 1.

Note 2 to entry: In this European Standard, the term trapped "floor gully" includes linear products, such as channel drains.

**Key**

1	finished floor	10	weep hole
2	grating/cover	11	flange for bonding membranes
3	extension	12	sediment bucket
4	trap	13	connecting flange with counter flange
5	depth of water seal ($H \geq 50$ mm)	a	fixed flange
6	outlet	b	loose flange
7	body	14	flange for clamping flexible flooring with a clamping ring
8	side inlet	15	seal
9	access for cleaning	16	flange for bonding liquid applied membrane

Figure 1 — Types of floor gullies**3.2****grating**

removable component with apertures which permits the discharge of water

3.3**frame**

support for a grating or cover which is connected to a body either directly or by means of a membrane clamping ring or an extension

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- 3.4**
cover
removable part of an access cover which covers the opening
- 3.5**
body
part of a floor gully below or in the floor on which the grating/frame/extension is mounted, and to which the pipework is connected
- 3.6**
extension
component used to adjust the height of a grating or cover above a body
- 3.7**
joint
connection between the adjacent ends of two components including the means of sealing
- 3.8**
membrane clamping ring
component used to clamp a membrane or a sheet floor covering to a body or extension
- 3.9**
connecting flange
separate or an integral part of a body or of an extension which receives a membrane or sheet floor covering
- 3.10**
external diameter
OD
mean external diameter of the pipe barrel at any cross section
- 3.11**
internal diameter
ID
mean internal diameter of the pipe barrel at any cross section
- 3.12**
trap
removable or integral part of the body which prevents, by means of water seal, the passage of foul air from the outlet to the inlet
- 3.13**
depth of water seal
effective height of water in the trap (H) which prevents the passage of foul air

Note 1 to entry: See Figure 1.

- 3.14**
domestic wastewater
water polluted by the human life, including water discharged from kitchens, laundry rooms, lavatories, bathrooms, toilets and similar facilities

[SOURCE: EN 16323:2014, 2.1.2.3]

- 3.15**
industrial wastewater
wastewater discharge resulting from any industrial or commercial activity

[SOURCE: EN 16323:2014, 2.1.2.7]

3.16**sheet floor covering**

flexible watertight finished layer for floors affixed to the flange by bonding, welding and/or by means of a clamping ring

3.17**membrane**

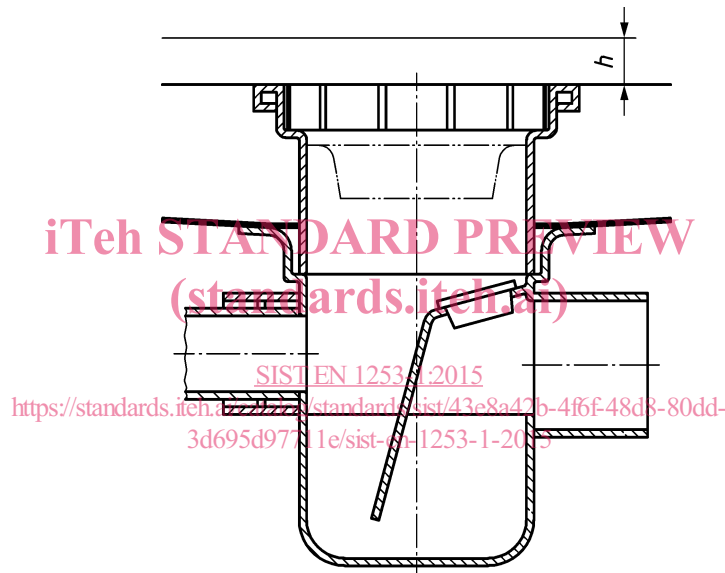
watertight and damp proof layer attached to the floor gully either in the floor or on the floor

3.18**head of water**

depth h of a water line over the frame of the floor gully

Note 1 to entry: See Figure 2.

Note 2 to entry: For floor gullies without frame, the depth of water line is the lowest level over the finished floor.

**Key**

h head of water

Figure 2 — Head of water for floor gullies

3.19**outlet**

male or female connection to the discharge pipe

3.20**nominal size****DN**

numerical indication of size which is a convenient integer approximately equal to the internal diameter (DN/ID) or the external diameter (DN/OD) in millimetres

3.21**clear opening****CO**

diameter of the largest circle that can be inscribed within the unsupported area of the grating

EN 1253-1:2015 (E)**3.22****test load**

specified load which a component is required to withstand

3.23**liquid applied waterproofing kit**

particular combination of a defined set of components to be installed in liquid form for waterproofing by application and/or incorporation and/or joining of the components in accordance with particular design methods

Note 1 to entry: The liquid applied watertight kit is usually a paste-like composite material or a combination of separate materials that can be poured, spread or sprayed on the subsurface by brush, roller or similar suitable applicator.

4 Requirements**4.1 Design and construction****4.1.1 General**

Floor gullies shall be capable of being connected to the pipework system covered by relevant European Standards, and, when installed in accordance with the manufacturer's instructions, shall form an integral part of the building. There shall be no movement possible between the body and the floor, which would impair the functioning of the installed gully.

In areas where pressure testing of the pipe system is necessary floor gullies for use in the ground floor shall enable such test to be performed.

The upper surfaces of frame and grating shall be flush. When in position, it shall not be possible for gratings and covers to be dislodged from the frame, but they shall be easy to be released for e.g. maintenance and cleaning.

Traps shall be prevented, by design features such as fixings or weights, from uncontrolled floating or becoming displaced.

Floor gullies and their components shall be resistant to normal actions of mechanical and thermal character.

Floor gullies may be designed with or without side inlet.

Floor gullies shall be delivered with installation instructions.

All pipe joints to and from the floor gully shall be designed to be watertight in accordance with EN 476.

4.1.2 Appearance

Internal and external surfaces shall be free from sharp edges and imperfections which could impair functioning of the floor gully or give risk of injury.

4.1.3 Apertures in gratings

Apertures can be holes or slots of any shape and may also be formed between grating and frame.

When measured in accordance with 5.1, the permissible aperture dimensions for gratings are given in Table 1.

Table 1 — Apertures in gratings

Class		Dimensions of apertures in gratings	
		Minimum width mm	Maximum width mm
H	1,5	4 ^b	15 (max. 8 mm in barefoot areas)
K	3	4 ^b	10 (max. 8 mm in barefoot areas)
L	15 ^a	4	15 (max. 8 mm in barefoot areas)
R	50 ^a	4	25 (max. 8 mm in barefoot areas)
M	125 ^a	4	25
N	250	4	25
P	400	4	25

^a In commercially used premises, gratings may also be used with a maximum width of apertures up to 31 mm.

^b Apertures of less than 4 mm width are permitted and shall not form part of the hydraulic tests.

4.1.4 Side inlets

There are two types of floor gully with side inlets as follows:

- 1) Type I: side inlets either partially or totally below the water level;
- 2) Type II: side inlets completely above the water level.

The positioning of side inlets shall be checked in accordance with 5.2.

4.1.5 Depth of water seal

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Floor gullies for wastewater shall provide a minimum depth of water seal H of 50 mm and be tested in accordance with 5.3.1.

4.1.6 Resistance of water seal to pressure

When tested in accordance with 5.3.2, the applied pressure which just causes passage of air shall be > 400 Pa.

Floor gullies with water seals of a depth (H) ≥ 60 mm are deemed to satisfy this requirement.

4.2 Blockage prevention

4.2.1 Access for cleaning

Floor gullies should have provision for mechanical cleaning of the outlet pipe systems leading to and from the gully. When an opening with an airtight and watertight cover or plug is provided, the clear diameter of such opening shall not be less than 32 mm in a floor gully having a nominal outlet size of DN 110 or below, and not less than 50 mm in a gully of nominal outlet size DN 125 to DN 200.

Any opening provided for mechanical cleaning shall be tested in accordance with 5.4.1.

EN 1253-1:2015 (E)**4.2.2 Self-cleansing capacity**

The self-cleansing capacity of floor gullies which cannot be cleaned by removing the trap, or by an access for cleaning in accordance with 4.2.1, shall be tested in accordance with 5.4.2.

When tested in accordance with 5.4.2, the expelled volume of glass beads for each of the flow rates in the interval between 0,3 l/s and 0,6 l/s shall be greater than that indicated by the straight line between the two end points 0 % at 0,3 l/s and 50 % at 0,6 l/s. Expulsion of glass beads shall commence at a flow rate less than 0,3 l/s, and at least 50 % of the glass beads shall have been expelled at a flow rate of 0,6 l/s.

4.2.3 Anti-blockage

Floor gullies and their components shall not be liable to clogging. Floor gullies with gratings or covers removed shall be capable of accommodating the passage of a 8 mm diameter ball when tested in accordance with 5.4.3.

4.3 Places of installation**4.3.1 General**

A guide for selecting the class of a floor gully 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 EN 124 may be used for all areas subject to special stresses such as exhibition halls, market halls, factory sheds and aircraft hangars.

4.3.2 Exceptions

Non-load bearing gratings for places of installation which are not accessible to vehicles and pedestrians (protected by suitable masonry surroundings) and which are not covered by the places of installation listed above nor by EN 124 shall at least conform to the test requirements given in 5.6 for class H 1,5.

4.4 Materials

Materials shall withstand a maximum intermittent wastewater temperature of 95 °C.

Materials shall withstand the stresses likely to occur during installation and operation.