

Nederlandse norm

# NEN-EN 13407+A1

(en)

Urinoirs voor wandbevestiging - Functionele eisen en beproevingsmethoden

Wall-hung urinals - Functional requirements and test methods

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 Postbus 5059, 2600 GB Delft  
 Telefoon (015) 2 690 390, Fax (015) 2 690 190

EUROPEAN STANDARD

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English Version

**Wall-hung urinals - Functional requirements and test methods**

Urinoirs muraux - Prescriptions fonctionnelles et méthodes d'essai

Wandhängende Urinale - Funktionsanforderungen und Prüfverfahren

This European Standard was approved by CEN on 5 June 2015 and includes Amendment approved by CEN on 14 April 2018.

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## European foreword

This document (EN 13407:2015+A1:2018) has been prepared by Technical Committee CEN/TC 163 “Sanitary appliances”, the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by April 2019 and conflicting national standards shall be withdrawn at the latest by July 2020.

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 includes Amendment 1 approved by CEN on 14 April 2018.

This document supersedes <sup>A1</sup> EN 13407:2015 <sup>A1</sup>.

The start and finish of text introduced or altered by amendment is indicated in the text by tags <sup>A1</sup> <sup>A1</sup>.

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

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

<sup>A1</sup> The main changes introduced in EN 13407 were the following:

- a) introduction of a new Annex ZA according to the latest template (in the format of TF N 678 rev 1 of 2015-06-02);
- b) modification of the marking of products;
- c) modification of the clause “Test samples, testing and compliance criteria”;
- d) editorial modifications as agreed between representatives of EU/DG Growth, CEN/TC 163 and FECS on 2016-07-07 in Brussels for citation of standard in OJEU. <sup>A1</sup>

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## 1 Scope

This European Standard specifies constructional and performance  $\boxed{A_1}$  characteristics  $\boxed{A_1}$  together with test methods for wall-hung urinals made of vitreous china or stainless steel that are used for personal hygiene.

This European Standard does not apply to slab and stall urinals nor to waterless urinals.

## 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 80, *Wall-hung urinals - Connecting dimensions*

EN 274-1, *Waste fittings for sanitary appliances - Part 1: Requirements*

EN 12056-2, *Gravity drainage systems inside buildings - Part 2: Sanitary pipework, layout and calculation*

## 3 Terms and definitions

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

### 3.1

#### **wall-hung urinal**

sanitary appliance comprising a bowl to be fixed to a wall, for receiving urine and water used for flushing and directing both into a drainage system

Note 1 to entry: See Figure 1:

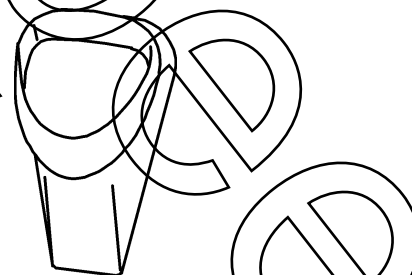


Figure 1 — Wall-hung urinal

### 3.2

#### **slab urinal**

sanitary appliance comprising a floor channel and a slab or sheet fixed to a wall, for receiving urine and water used for flushing and directing both into a drainage system

Note 1 to entry: See Figure 2:

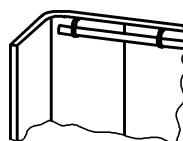


Figure 2 — Slab urinal

### 3.3 stall urinal

sanitary appliance for receiving and directing urine and water used for flushing to the drainage system consisting of a floor-mounted stall secured to a wall with an integral outlet

Note 1 to entry: See Figure 3:

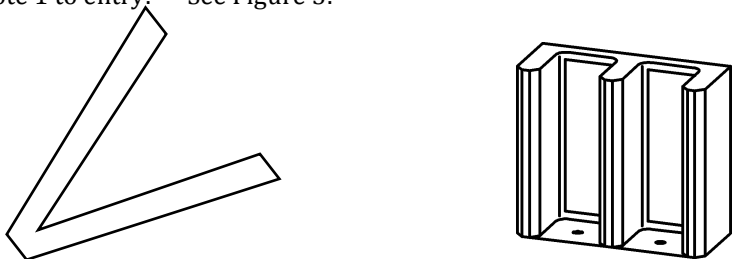


Figure 3 — Stall urinal

### 3.4 urinal with siphonic action

urinal in which urine is removed by siphonage (suction) induced by flushing water flowing through either an integral trap or a dedicated separate trap assembled in accordance with the manufacturer's instruction

### 3.5 wash-down urinal

non-siphonic acting urinal with or without integral trap

### 3.6 waterless urinal

sanitary appliance for receiving urine and directing it into a drainage system, which functions without the use of water

### 3.7 flushing cistern

cistern for storage and discharge of a defined volume of flushing water for removal of urine from urinals

### 3.8 flush valve

valve connected directly to a water supply, which delivers a pre-determined volume of flushing water for removal of urine from a urinal

### 3.9 cleanability

characteristics which allow surfaces intended to come into contact with water and/or urine and cleansing materials to be visibly smooth, non-absorbent and free from acute internal corners, such that they can be kept visibly free from dirt and/or stains when subject to a regular maintenance regime, which may include, when appropriate, specific instructions for use and care specified by the manufacturer

### 3.10 product type

**[A1]** set of representative performance levels or classes of a construction product, in relation to its essential characteristics, produced using a given combination of raw materials or other elements in a specific production process

Note 1 to entry: This definition is taken from Regulation (EU) No. 305/2011. **[A1]**

## 4 Principles of design

### 4.1 General

Wall-hung urinals in accordance with Table 1 shall meet the following  $\langle A_1 \rangle$  characteristics  $\langle A_1 \rangle$ :

- for connection to supply and drainage systems the connecting dimensions shall be in accordance with EN 80 or the manufacturer shall provide or recommend necessary auxiliary components;
- wall-hung urinals shall function with flushing device(s) supplying flushing volumes and/or flow rates as specified by the manufacturer in accordance with Table 2.

Table 1 —  $\langle A_1 \rangle$  Sub-types  $\langle A_1 \rangle$  of wall-hung urinals

$\langle A_1 \rangle$ Sub-type $\langle A_1 \rangle$	Construction
I	Siphonic action urinal with flushing rim and with integral trap or with dedicated trap specified by the manufacturer
II	Wash-down urinal with or without flushing rim and with integral trap or with dedicated trap specified by the manufacturer
III	Wash-down urinal with or without flushing rim and without dedicated trap
IV	Urinal of $\langle A_1 \rangle$ sub-types $\langle A_1 \rangle$ I, II or III with dedicated flushing device specified by the manufacturer

### 4.2 Flushing volume and flow rate

The flushing volumes and flow rates for particular flushing devices shall be as given in Table 2.

Table 2 — Flushing devices, volumes and flow rate

$\langle A_1 \rangle$ Sub-type $\langle A_1 \rangle$ of urinal	Flushing device for testing			
	Flush valve (C) in accordance with Annex A		Manually operated flushing cistern (A) in accordance with Annex B	Automatic flushing cistern (B) in accordance with Annex C
	Flushing volume l	Flow rate l/s	Flushing volume l	Flushing volume l
I	> 0,5 ≤ 5,0	0,5 <sup>+0,1</sup> <sub>-0,2</sub>	> 0,5 ≤ 5,0	— > 0,5 ≤ 4,5
II		0,2 <sup>+0,2</sup> <sub>-0,1</sub>		
III		≤ 0,2		
IV		0,5 <sup>+0,1</sup> <sub>-0,4</sub>		



## 5 Classification

Wall-hung urinals are classified as described below:

- **A1** Type **A1** 1: Wall-hung urinals intended to be installed in drainage systems of **A1** sub-type **A1** I, II or IV in accordance with EN 12056-2 and tested in accordance with Clause 6.
- **A1** Type **A1** 2: Wall-hung urinals intended to be installed in drainage systems of **A1** sub-type **A1** III in accordance with EN 12056-2 and tested in accordance with Clause 7.

## 6 Functional **A1** characteristics **A1** and test methods for **A1** type **A1** 1 products

### 6.1 Depth of water seal

When tested as described in 6.6.1.2, the depth of water seal in urinals of **A1** sub-types **A1** I and II shall be not less than 50 mm. Ensure that the trap will be re-filled up to not less than 50 mm.

Traps in accordance with EN 274-1 are exempted from this test.

### 6.2 Flushing **A1** characteristics **A1**

#### 6.2.1 Wash of bowl

When tested as described in 6.6.1.3.1, the arithmetic average of any un-flushed area of the surface to be tested shall not be greater than 80 cm<sup>2</sup> after five flushing operations.

The surface to be tested is defined as described below:

- a) for urinals with flushing rim: the area below the flushing rim and above the water surface in the trap;
- b) for urinals without flushing rim: the surface enclosed by:
  - 1) an angle of 25° on the surface of urinal beginning from the central point of the water inflow, and
  - 2) a line in a distance of 80 mm from the edge of the bowl (see Figure 4).

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