EAST AFRICAN STANDARD

Sanitary appliances (vitreous china) — Specification — Part 4: Squatting pans

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 037, Utensils, cutlery, Sanitary wares and fittings and domestic hardware.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.
Sanitary appliances (vitreous china) — Specification — Part 4: Squatting pans

1 Scope
This Draft East Africa Standard specifies the requirements for dimensions, construction, materials, and performance for vitreous China squatting water closet pans.

2 Normative references
The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

DEAS 1017-1:2019, Vitreous sanitary appliances (vitreous china) — Part 1: General requirements
DEAS 1017-2:2019, Sanitary appliances (vitreous china) — Part 2: Wash down water closets — Specifications
DEAS 1017-6:2019, Sanitary appliances (vitreous china) — Part 6: Flushing cisterns — Specifications
EAS 355, Toilet paper — Specifications

3 Terms and definitions
For the purposes of this document, the terms and definitions given in DEAS 1017-1:2019 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:
— ISO Online browsing platform: available at http://www.iso.org/obp

4 General requirements
The general requirements relating to material, glazing, defects, minimum thickness and tolerances shall conform to DEAS 1017-1:2019.

4.1 Performance requirements
4.1.1 Squatting pans shall pass all the flush tests as given in clause 7 of this standard.
4.1.2 Traps for Squatting pans should be designed to minimize the risk of blockage and should prevent the leakage of contaminated water and foul air into the building.
4.1.3 Squatting pans including their traps conforming to the requirements in clause 4, shall be deemed to be durable under normal operating conditions.
4.2 Dimensions and tolerances

4.2.1 The functional and connecting dimensions of S and P traps shall conform to those given in Tables 1

4.2.2 Squatting pans shall comply with the dimensions shown in Table 1 as indicated in Figure 1 and shall be subjected to the tolerances permitted:

Table 1 — Dimensions of squatting pans and traps

<table>
<thead>
<tr>
<th>Description</th>
<th>Code lettering Figure 1</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Integral trap</td>
</tr>
<tr>
<td>Height</td>
<td>A</td>
<td>320 ± 20</td>
</tr>
<tr>
<td>Overall length</td>
<td>B</td>
<td>600 min.</td>
</tr>
<tr>
<td>Width of pan</td>
<td>C</td>
<td>265 min.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>310 max.</td>
</tr>
<tr>
<td>External diameter of outlet of pans</td>
<td>D</td>
<td>110 max.</td>
</tr>
<tr>
<td>Internal diameter of flush inlet socket</td>
<td>E</td>
<td>50 m</td>
</tr>
<tr>
<td>Length of squatting plate</td>
<td>F</td>
<td>230 min.</td>
</tr>
<tr>
<td>Width of squatting plate</td>
<td>G</td>
<td>100 min.</td>
</tr>
<tr>
<td>Depth of flush inlet socket</td>
<td>H</td>
<td>25 min.</td>
</tr>
<tr>
<td>Depth of water seal</td>
<td>I</td>
<td>50 ± 5</td>
</tr>
<tr>
<td>Clearance below tip of plate</td>
<td>J</td>
<td>75 min.</td>
</tr>
<tr>
<td>External diameter of outlet of the trap</td>
<td>K</td>
<td>—</td>
</tr>
<tr>
<td>Internal length</td>
<td>L</td>
<td>400 ± 10</td>
</tr>
</tbody>
</table>
5 Construction

5.1 General

The WC pan shall be of one-piece construction. Each pan shall have an integral flushing rim. The inside of the bottom of the pan shall be designed with a minimum slope of 25° from the front towards the outlet to enable easy and quick disposal while flushing. The pan shall be provided with a trapped outlet. The designed flushing surface shall be smooth and regularly glazed to enable cleaning and prevent accumulation of...
excrement The squatting pan shall comply with the dimensions shown in Table 1 and indicated in Figure 1 and shall be subject to the tolerances permitted.

5.2 Each pan shall have either S or P trap with or without gas vent.

6 Finish

The inside of the pan shall be glazed uniform and smooth in order to ensure an efficient flush.

7 Tests

7.1 Flushing tests

Tests for squatting pans shall be done in accordance with requirements given in 7.1.1, 7.1.2, 7.1.3, 7.1.4 7.1.5, 7.1.6, 7.1.7, 7.1.8 and 7.1.9. For carrying out these tests, a flushing cistern conforming to DEAS 1017-6:2019 shall be fixed such that the height between the top of closet pan and bottom of the cistern is 1 250 mm, minimum for high level and 700 mm, minimum for low level and the closet pan is connected with cistern by a 40 mm outer diameter pipe.

7.1.1 Toilet paper test

The pan shall be filled with water to its nominal water seal level and charged with six pieces of EAS 355 toilet paper. It shall then be flushed. This test shall be repeated four times and the pan shall discharge the full charge of the paper at least thrice out of four times.

7.1.2 Smudge test

The whole of the interior surface of the pan to 40 mm below the flushing rim shall be smudged with quartz power of contrasting colour passing through 1.18 mm sieve and shall then be flushed, carefully observing the surface of the pan during the flushing. Immediately after the flushing, there shall be no smudge left on the pan.

7.1.3 Water holding capacity test

The pan, when sealed at the outlet and vent (if fitted) with watertight seal, shall be capable of holding not less than 10 l of water between the normal water level and the highest possible water level of the pan as installed.

7.1.4 Saw Dust Test

7.1.4.1 Specification of the saw dust

20 g of dry sawdust test sifted through 2 mm sieve.

7.1.4.2 Procedure

Set up the pan, cistern or flush valve and flush pipe (if required) as specified by the manufacturer. Charge the pan with water to its designed water seal level. Fully wet the entire internal surface of the pan below the rim. Sprinkle 20 g of fine dry sawdust of above specification on the inside of the pan between the normal water level and the flushing rim as completely and evenly as possible. Then flush the pan.

The sprinkle saw dust should be cleaned below 40 mm of rim of pan.
7.1.5 Splash test

Set up pan, cistern or flush valve and flush pipe (if required) as specified by the manufacturer. Charge the pan with coloured water to its design water seal level. Ensure that the floor area is cleaned and dry where the splash test to be carried out. Activate the flush valve or cistern to discharge the squatting pan. Observe and record whether flushing water splashed over rim onto the floor. Repeat the test 5 times. Record whether the flushing water splash over the rime onto the floor. Up to 10 isolated droplets shall not be the cause for rejection.

7.1.6 Ball test

7.1.6.1 Single ball test

The ball shall be made of non-absorbent material. The relative density of the ball shall be between 1.075 and 1.080. The diameter of the ball shall be 43 + 0.5 mm. Place the ball into the water closet to be tested and then flush the water closet. The ball shall be discharged in the normal manner.

7.1.6.2 Fifty ball test

Fifty balls of non-absorbent material, having a mass each of 3.7 + 0.1 g, and a diameter of 20 + 0.1 mm shall be dropped into the water closet bowl and flushed. Repeat the test five times. A minimum of 85 % of all balls should be flushed out in the five tests.

7.1.7 Load bearing test

The water closet shall be fixed in a stable arrangement on the floor with proper screw. A load of $400 \pm 5$ kg or a force of 4.05 kN shall be applied for period of one hour by placing it on a wooden beam with a cross section of 100 mm x 100 mm positioned across the centre of the opening of the top surface of the water closet. There shall be no damage or defect which shall occur to the water closet.

7.1.8 Water renewal test

Place one millimetre normal potassium permanganate solution in the trap and mix thoroughly by stirring and flush the pan/suit. The trace of colour shall be cleared completely by the second flush for each test.

7.1.9 Visual examination test

When examined visually from a distance of 0.6 m, the surface of the WC pan shall not show, to the unaided eye, blemishes or defects covered in DEAS 1017-1:2019.

8 Sampling process, inspection and lot inspection

The recommended method of sampling, process inspection and lot inspection shall be the same for water closets as given in DEAS 1017-2:2019.

9 Marking

Each piece of squatting pan shall be legibly and indelibly marked at a suitable place with the following:

a) name or trade mark of the manufacturer, and

b) batch/lot number.
Bibliography


