



**PRODUCT MANUAL FOR
VITREOUS SANITARY APPLIANCES (VITREOUS CHINA) –
SPECIFIC REQUIREMENTS FOR SQUATTING PANS
ACCORDING TO IS 2556 (PART 3) : 2004**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

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|----|---|---|--|
| 1. | Product | : | IS 2556 (PART 3) : 2004 |
| | Title | : | VITREOUS SANITARY APPLIANCES (VITREOUS CHINA)–SPECIFIC REQUIREMENTS FOR SQUATTING PANS |
| | No. of Amendments | : | NIL |
| 2. | Sampling Guidelines: | | |
| a) | Raw material | : | - |
| b) | Grouping guidelines | : | Please refer ANNEX – A |
| c) | Sample Size | : | 2 Nos for all tests |
| 3. | List of Test Equipment | : | Please refer ANNEX – B |
| 4. | Scheme of Inspection and Testing | : | Please refer ANNEX – C |
| 5. | Possible tests in a day : | | |
| | (i) Construction (Clause 5) | (vi) Holding capacity test (Clause 8.3) | |
| | (ii) Dimensions and tolerance (Clause 6) | (vii) Saw dust test (Clause 8.4) | |
| | (iii) Finish (Clause 7) | (viii) Splash test (Clause 8.5) | |
| | (iv) Toilet paper test (Clause 8.1) | | |
| | (v) Smudge test (Clause 8.2) | | |
| 6. | Scope of the Licence : | | |
| | “Licence is granted to use Standard Mark as per IS 2556 (Part 3) : 2004 with the following scope: | | |
| | Name of the product | VITREOUS SANITARY APPLIANCES (VITREOUS CHINA)– SQUATTING PANS | |
| | Patterns and Size | Long/Orissa/Rural/ Any other Pattern declared | |

BUREAU OF INDIAN STANDARDS

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ANNEX A**Grouping Guidelines**

1. IS 2556 (Part 3) : 2004 covers vitreous sanitary appliances (Vitreous china)- squatting pans which are categorized as detail given below:

| Pattern | Sizes |
|----------------|-------------------------------|
| Long | 580 and 630 mm |
| Orissa | 580 × 440 mm and 630 × 450 mm |
| Rural | 480 mm |

(Squatting pans may be made in other patterns and/or sizes where so agreed to between the manufacturer and the purchaser. However, all requirements of standard shall be complied with except for functional dimensions)

2. Considering the above, following grouping guideline developed for GoL/CSoL:
‘One sample of squatting pan of any size of each pattern shall be tested for all requirements to cover all sizes of that patterns in the scope of the licence’.
3. The Firm shall declare the patterns of varieties they intend to cover in the Licence.
4. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
5. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

ANNEX B**List of Test Equipment***Major test equipment required to test as per the Indian Standard*

| S. No. | Tests used in with Clause Reference | Test Equipment |
|---------------|---|---|
| 1 | Material and manufacture- Water absorption [Clause 4 of IS 2556 (Part 1)] Water absorption [Clause 9.3 of IS 2556 (Part 1)] | - Hot air oven - Weighing balance - Pressure vessel - Hot plate - Distilled water - Smooth cloth |
| 2 | Lead content in glaze material [Clause 5.2 of IS 2556 (Part 1)] | - Weighing balance - Hot air oven - Hydrochloric acid - Shaker machine |
| 3 | Permissible blemishes or defects [Clause 6.4 of IS 2556 (Part 1)] | - Steel scale - Observation platform with requisite lighting arrangement as per clause 6.4 of IS 2556 (Part 1) : 1994 |
| 4 | Minimum thickness [Clause 7 of IS 2556 (Part 1)] | - Micrometer / vernier calliper |
| 5 | Warpage [Clause 9.1 of IS 2556 (Part 1)] | - Filler gauges |
| 6 | Crazing [Clause 9.2 of IS 2556 (Part 1)] | - Autoclave vessel - Solution of dye - Wetting agent |
| 7 | Modulus of rupture [Clause 9.4 of IS 2556 (Part 1)] | - Modulus of rupture test arrangement as per clause 10.4.2 of IS 2556 (Part 1) : 1994 |
| 8 | Chemical resistance [Clause 9.5 of IS 2556 (Part 1)] | - Chemicals such as Acetic acid, Citric acid, Detergent, Hydrochloric acid, Sodium hydroxide, Sodium stearate, Sulphuric acid - Desiccator |
| 9 | Resistance to staining and burning [Clause 9.6 of IS 2556 (Part 1)] | - Chemicals as per clause C-2.2 of IS 2556 (Part 1) : 1994 - Distilled water - Cloth - Cigarette |

| | | |
|----|--|---|
| 10 | Dimensions and tolerance [Clause 6 of IS 2556 (Part 3)] | <ul style="list-style-type: none"> - Vernier calliper - Steel scale - Measuring tape - Angle protractor - Radius gauges |
| 11 | Toilet paper test [Clause 8.1 of IS 2556 (Part 3)] | <ul style="list-style-type: none"> - Toilet paper or polyethylene sheet |
| 12 | Smudge test [Clause 8.2 of IS 2556 (Part 3)] | <ul style="list-style-type: none"> - Quartz powder - IS sieve 1.18 mm |
| 13 | Holding capacity test [Clause 8.3 of IS 2556 (Part 2)] | <ul style="list-style-type: none"> - Measuring cane - Steel scale |
| 14 | Saw dust test [Clause 8.4 of IS 2556 (Part 3)] | <ul style="list-style-type: none"> - Saw dust - Weighing balance |
| 15 | Splash test [Clause 8.5 of IS 2556 (Part 3)] | <ul style="list-style-type: none"> - Colour water |
| 18 | General test requirement [Clause 8 of IS 2556 (Part 3)] | <ul style="list-style-type: none"> - Arrangement for installation of squatting pan with trap and low level flushing cistern with all connections for conducting test |

The above list is indicative only and may not be treated as exhaustive.

ANNEX C

Scheme of Inspection and Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirements of IS 2556 (Part 3) : 2004

4. CONTROL UNIT – For the purpose of this Scheme, control unit shall be as defined in Table 1 for respective test.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of [Table 1](#) and the levels of control in column 3 of [Table 1](#), shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

6. REJECTIONS – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1

| (1) | | | | (2) | (3) | | | |
|--------------|---|--------------|------------------|--|---------------------|--------------------------------|--|--|
| Test Details | | | | Test equipment requirement R: required (or) S: Sub-contracting permitted | Levels of Control | | | |
| Cl. | Requirement | Test Methods | | | No. of Sample | Control Unit | Frequency | Remarks |
| | | Clause | Reference | | | | | |
| 3 | Material and Manufacture | 4 | IS 2556 (Part 1) | S | One | Lot received | Once in three months or whenever there is change in source of material | |
| 3 | Glazing | 5.1 | IS 2556 (Part 1) | R | - | Every appliance | - | - |
| 3 | Lead content (in case of glaze containing lead) | 5.2, Annex A | IS 2556 (Part 1) | R | One | One mix of glazing material | - | - |
| 3 | Permissible blemishes or defects | 6.0 | IS 2556 (Part 1) | - | - | Every appliance | - | - |
| 3 | Minimum thickness | 7.0 | IS 2556 (Part 1) | R | One | Each trolley load after firing | One sample for each type of appliances shall be tested | |
| 3 | Warpage | 10.1 | IS 2556 (Part 1) | R | - | Every appliance | - | - |
| 3 | Crazing* | 10.2 | IS 2556 (Part 1) | R | Three sample pieces | One day's production | Twice a week | In case of failure in any one of the requirements, the material representing that day's production shall not be marked with ISI mark and immediate corrective measures initiated. Marking shall be |
| 3 | Water absorption* | 10.3 | IS 2556 (Part 1) | R | Three sample pieces | One day's production | Daily | |
| 3 | Modulus of rupture* | 10.4 | IS 2556 (Part 1) | R | Ten sample bars | Eight sample pieces | Twice a week | |

| | | | | | | | | |
|---|--|----------------------------|------------------|---|---------------------|---|-------------|--|
| 3 | Test for chemical Resistance* | 9.5, Annex B | IS 2556 (Part 1) | R | Three sample pieces | -do- | Once a week | resumed only when tests carried out on further sample for that requirement are found satisfactory. |
| 3 | Test for resistance to staining and burning* | 9.6, Annex C | IS 2556 (Part 1) | R | Two sample pieces | Once a week | - | |
| 5 | Construction | 5.1 to 5.3 | IS 2556(Part 3) | R | - | Every appliance | - | @ |
| 6 | Dimensions and tolerances | 6.1, 6.2, Table 1, Table 2 | IS 2556(Part 3) | R | 5 | 100 squatting pans or less of same pattern and size produced in a day | Each lot | \$ |
| 7 | Finish | 7 | IS 2556(Part 3) | R | - | Every appliances | - | @@ |
| 8 | Tests such as Toilet paper test, Smudge test, Holding capacity test, Saw dust Test and Splash Test | 8.1 to 8.5 | IS 2556(Part 3) | R | 5 | 100 squatting pans or less of same pattern and size produced in a day | - | # . |

* For crazing, water absorption, test for chemical resistance, modulus of rupture and test for resistance to staining and burning, test pieces may be separately made using the same body and glazed materials as used in the making of appliance and put through the kiln along with the same appliance.

@ Each appliance shall be accurately moulded in accordance with the pattern or working drawings. After moulding operation 100 per cent inspection of the individual appliance shall be carried out. If any cast specimen is found defective in any way on visual inspection shall be repaired or scrapped.

\$ Five appliances out of every 100 appliances or part thereof of each pattern and size produced in a day shall be selected and checked for dimensional

requirements. In case any sample fails, all the appliances shall be individually checked and those failing shall be rejected.

@@ Every appliance shall be checked for finish and those found not conforming shall be rejected.

FLUSHING TEST AND CLEANABILITY TESTS – Five out of every 100 appliances or part thereof of same pattern produced in a day shall be selected and checked for these tests. In case any appliance fails, all the appliances shall be checked and those found failing shall be rejected.

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.