



**PRODUCT MANUAL FOR
VITREOUS SANITARY APPLIANCES (VITREOUS CHINA) –
SPECIFIC REQUIREMENTS FOR UNIVERSAL WATER CLOSETS
ACCORDING TO IS 2556 (PART 15): 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.

1.	Product	:	IS 2556 (Part 15): 2004
	Title	:	VITREOUS SANITARY APPLIANCES (VITREOUS CHINA)–SPECIFIC REQUIREMENTS FOR UNIVERSAL WATER CLOSETS
	No. of Amendments	:	2
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) Dimensions and tolerance (Clause 5)	(vi) Holding capacity test (Clause 8.4)	
	(ii) Construction (Clause 6)	(vii) Ball Test (Clause 8.5)	
	(iii) Finish (Clause 7)	(viii) Load Bearing test (Clause 9)	
	(iv) Toilet paper test (Clause 8.2)	(ix) Saw dust test (Clause 8.6)	
	(v) Smudge test (Clause 8.3)	(x) Splash test (Clause 8.7)	
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 2556 (Part 15) : 2004 with the following scope:		
	Name of the product	VITREOUS SANITARY APPLIANCES (VITREOUS CHINA)– UNIVERSAL WATER CLOSETS	
	Type of Trap	S- Trap / P- Trap	
	Size	--- mm × --- mm	

BUREAU OF INDIAN STANDARDS

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ANNEX A**Grouping Guidelines**

1. IS 2556 (Part 15): 2004 covers Vitreous sanitary appliances (Vitreous china)- Universal water closets which are categorized as given below:

Trap	Size 1	Size 2
P	560 mm × 460 mm	640 mm × 460 mm
S	560 mm × 460 mm	640 mm × 460 mm

(Water closets may be made in other sizes where so agreed to between the manufacturer and the purchaser. However, all requirements of the Standard shall be complied with except for functional dimensions)

2. The connecting dimensions are critical for plumbing requirements and are dependent on the type of connections. Considering the same, following grouping guidelines are developed for GoL/CSoL:
- ‘One sample of Water Closet from each type of trap (i.e. P - Trap and S- Trap) shall be tested for all requirements to cover all sizes of Water Closets with that particular type of trap in the scope of the licence’.
3. The Firm shall declare the varieties of universal water closets 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 5 of IS 2556 (Part 15)] Construction [Clause 6 of IS 2556 (Part 15)]	- Vernier calliper - Steel scale - Measuring tape - Angle protractor - Depth gauges - Radius gauges
11	Toilet paper test [Clause 8.2 of IS 2556 (Part 15)]	- Toilet paper or polyethylene sheet
12	Smudge test [Clause 8.3 of IS 2556 (Part 15)]	- Quartz powder - IS sieve 1.18 mm
13	Holding capacity test [Clause 8.4 of IS 2556 (Part 15)]	- Measuring cane - Steel scale
14	Ball test [Clause 8.5 of IS 2556 (Part 15)]	- Ball as per clause 8.5.1 of IS 2556 (Part 15) ; 2004 - Balls as per clause 8.5.2 of IS 2556 (Part 15) ; 2004
15	Saw dust test [Clause 8.6 of IS 2556 (Part 15)]	- Saw dust - Weighing balance
16	Splash test [Clause 8.7 of IS 2556 (Part 15)]	- Colour water
17	Load bearing test [Clause 9 of IS 2556 (Part 15)]	- Load of 400_{-0}^{+5} kg or $4_{-0}^{+0.05}$ kN - Wooden beam of 100 mm × 100 mm - Stop watch
18	General test requirement [Clause 8.1 of IS 2556 (Part 15)]	- Arrangement for installation of water closet with low level flushing cistern and 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 15): 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 resumed only when tests carried out on further sample for that requirement are found satisfactory.
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	
3	Test for resistance to staining and burning*	9.6, Annex C	IS 2556 (Part 1)	R	Two sample pieces	Once a week	-	

4	Sizes	4.1, 4.2	IS 2556 (Part 15)	-	-	Every appliance	-	-
5	Dimensions and tolerances	5.1, 5.2 Table 1, Table 2	IS 2556(Part 15)	R	5	100 water closets or less of same pattern produced in a day.	Each lot	\$
6.	Construction	6.1 to 6.3 Table 3	IS 2556(Part 15)	R	-	Every appliance	-	@
7.	Finish	7	IS 2556(Part 15)	R	-	Every appliances	-	@@
8.	Tests such as Toilet paper test, Smudge test, Holding capacity test, Ball test, Saw dust Test and Splash Test	8.1 to 8.7	IS 2556(Part 15)	R	5	100 water closets or less of same pattern produced in a day	-	# .
9	Load bearing test	9	IS 2556 (Part 15)	R	5	100 water closets or less of same pattern 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 percent inspection of the individual appliance shall be carried out. If any cast specimen is found defective in any way on visual inspection, it shall be repaired or scrapped.

\$ Five appliances out of every 100 appliances or part thereof of one type 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.