



उत्पाद मैनुअल

आई एस 2556 (भाग 8):2021 के अनुसार

काचाभ चीनी मिट्टी के स्वच्छता उपकरण — विशिष्टि भाग 8 क्लोज-कपल्ड एवंवन-पीस वाशडाउन और साइफोनिक पैडस्टल शौचकुण्डों की विशिष्टि अपेक्षाएँ के लिए

दस्तावेज़ संख्या – पी एम/ आई एस 2556 (भाग 8)/1/फ़रवरी 23

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिश्रिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसी द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

PRODUCT MANUAL FOR VITREOUS CHINA SANITARY APPLIANCES: PART 8 - SPECIFIC REQUIREMENTS OF CLOSE-COUPLED AND ONE-PIECE PEDESTAL WASHDOWN AND SYPHONIC WATER CLOSETS ACCORDING TO IS 2556 (Pt 8): 2021

Document No.- PM/ IS 2556 (Pt 8)/1/Feb 23

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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**PRODUCT MANUAL FOR
VITREOUS CHINA SANITARY APPLIANCES: PART 8 - SPECIFIC
REQUIREMENTS OF CLOSE-COUPLED AND ONE-PIECE PEDESTAL
WASHDOWN AND SYPHONIC WATER CLOSETS
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1.	Product	: IS 2556 (Part 8) : 2021
	Title	: Vitreous China Sanitary Appliances: Part 8 - Specific Requirements of Close-Coupled and One-Piece Pedestal Washdown and Syphonic Water Closets
	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 :	Please refer ANNEX – D
6.	Scope of the Licence :	
	Licence is granted to use Standard Mark as per IS 2556 (Part 8) : 2021 with the following scope:	
	Name of the product	Vitreous China Sanitary Appliances: Part 8 - Specific Requirements of Close-Coupled and One-Piece Pedestal Washdown and Syphonic Water Closets
	Close-Coupled Water Closets	Pattern 1/ Pattern 2/ Pattern 3/ Pattern 4/ Pattern 5/ Any other Pattern declared
	Water Closets for Non-ambulatory Disabled Persons	Pattern 1/2/3
	One-Piece Water Closets	Pattern 6/ Pattern 7/ Any other Pattern declared
	Water Efficiency Rating (additional requirement)	1 Star/ 2 Stars/ 3 Stars

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ANNEX A**Grouping Guidelines**

1. IS 2556 (Part 8) : 2021 covers Vitreous China Sanitary Appliances: Part 8 - Specific Requirements of Close-Coupled and One-Piece Pedestal Washdown and Syphonic Water Closets which are categorized as detail given below:

(a)

Pattern	Type of outlet
Pattern 1	Close-Coupled Water Closets
Pattern 2	
Pattern 3	
Pattern 4	
Pattern 5	
Pattern 6	One-Piece Water Closets
Pattern 7	
Pattern 1/2/3	Water Closets for Non-ambulatory Disabled Persons

(The closets may also be made in other patterns where so agreed to between the manufacturer and the purchaser. However, except for functional dimensions relating to length and width of the water closet and its opening and height, all other requirements as laid down in this standard shall be complied with. In case of water closets for non-ambulant disabled persons and those for children, both functional and connecting dimensions shall be complied with)

(b) Additional requirements for Water Efficiency:

In case a manufacturer opts for water efficiency ratings and labelling of close-coupled water closets and one-piece water closets, the requirements given in IS 17650 (Part 1) shall be complied with.

2. Considering the above, following grouping guidelines for GoL/CSoL have been developed:
 - (a) One sample of water closet of each pattern shall be tested for all requirements to cover that particular pattern.
 - (b) Each water efficiency rating shall be tested for all the requirements given in IS 17650 (Part 1) for water closets to cover that particular water efficiency rating in the scope of licence.
3. The Firm shall declare the verities 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 8)] Construction [Clause 5 of IS 2556 (Part 8)]	- Vernier calliper - Steel scale - Measuring tape - Angle protractor - Radius gauges
11	Toilet paper test [Clause 9.1 of IS 2556 (Part 8)]	- Toilet paper or polyethylene sheet
12	Smudge test [Clause 9.2 of IS 2556 (Part 28)]	- Quartz powder - IS sieve 1.18 mm
13	Holding capacity test [Clause 9.3 of IS 2556 (Part 8)]	- Measuring cane - Steel scale
14	Ball test [Clause 9.4 of IS 2556 (Part 8)]	- Ball as per clause 8.4.1 of IS 2556 (Part 2) ; 2004 - Balls as per clause 8.4.2 of IS 2556 (Part 2) ; 2004
15	Load bearing test [Clause 10 of IS 2556 (Part 8)]	- Load of 400^{+5}_{-0} kg or $4^{+0.05}_{-0}$ kN - Wooden beam of 100 mm × 100 mm - Stop watch
16	Saw dust test [Clause 9.5 of IS 2556 (Part 8)]	- Saw dust - Weighing balance
17	Splash test [Clause 9.6 of IS 2556 (Part 8)]	- Colour water
18	Additional requirement for water efficiency rating	- Test facilities as per IS 17650 (Part 1):2021

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 8) : 2021.

3.1 For the additional water efficiency rating label requirement, the Guidelines on Labelling and Marking Requirements for Water Efficiency Rating of Plumbing Products – Sanitaryware & Sanitary Fittings as per IS 17650 (Part 1):2021 & IS 17650 (Part 2):2021 as mentioned at Annex-I shall be complied with.

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					
4	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	
4	Glazing	5.1	IS 2556 (Part 1)	R	-	Every appliance	-	-
4	Lead content (in case colouring oxides containing lead is used)	5.2, Annex A	IS 2556 (Part 1)	R	One	One mix of glazing material	-	-
4	Permissible blemishes or defects	6.0	IS 2556 (Part 1)	-	-	Every appliance	-	-
4	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	
4	Warpage	9.1	IS 2556 (Part 1)	R	-	Every appliance	-	-
4	Crazing*	9.2	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
4	Water absorption*	9.3	IS 2556 (Part 1)	R	Three sample pieces	One day's production	Daily	
4	Modulus of rupture*	9.4	IS 2556 (Part 1)	R	Ten sample bars	Eight sample pieces	Twice a week	

4	Test for chemical Resistance*	9.5, Annex B	IS 2556 (Part 1)	R	Three sample pieces	Eight sample pieces	Once a week	Resumed only when tests carried out on further sample for that requirement are found satisfactory.
4	Test for resistance to staining and burning*	9.6, Annex C	IS 2556 (Part 1)	R	Two sample pieces	Once a week	-	
6	Dimensions and tolerances	6	IS 2556(Part 8)	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity			
5	Construction	7	IS 2556(Part 8)	R	-	Every appliance		
7	Finish	7	IS 2556(Part 8)	R	-	Every appliances		
9.1	Toilet paper test	9.1	IS 2556(Part 8)	R	5	100 water closets or less of same pattern produced in a day	#	
9.2	Smudge test	9.2	IS 2556(Part 8)					
9.3	Holding capacity test	9.3	IS 2556 (Part 8)					
9.4	Ball test	9.4	IS 2556 (Part 8)					
10	Load Bearing Test	10	IS 2556 (Part 8)					
9.5	Saw dust Test	9.5	IS 2556 (Part 8)					
9.6	Splash Test	9.6	IS 2556 (Part 8)					
12	Additional Requirements for Water Efficiency	12 4	IS 2556 (Part 8) IS 17650 (Part 1)	S	5	Once in three months		-

* 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.

Five out of every 100 appliances or part thereof of same pattern/size 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.

ANNEX- D

All tests possible in a day

- i) General requirements & Construction (Cl 5),
- ii) Dimensions (Cl 6),
- iii) Finish (Clause 7),
- iv) Holding capacity test (Cl 9.3),
- v) Ball Test (Cl 9.4),
- vi) Load Bearing test (Cl 10),
- vii) Toilet paper test (Cl 9.1),
- viii) Saw dust test (Cl 9.5),
- ix) Smudge test (Cl 9.2),
- x) Splash test (Cl 9.6)

ANNEX-I

Ref: CMD-III/CED-Plumbing Products

Subject: Labelling & Marking Requirements for Water Efficiency Rating of Plumbing Products – Sanitaryware & Sanitary Fittings as per IS 17650 (Part 1):2021 & IS 17650 (Part 2):2021

1. This has reference to the conformity assessment of Plumbing products - Sanitaryware & Sanitary Fittings. In this regard, two new Indian Standards have been published for water efficiency requirements of plumbing products:

a) **IS 17650 (Part 1) : 2021** Water Efficient Plumbing Products — Requirements : Part 1 Sanitaryware

b) **IS 17650 (Part 2) : 2021** Water Efficient Plumbing Products — Requirements : Part 2 Sanitary Fittings

2. The above two new standards on water efficient plumbing products cover additional requirements to be met by respective plumbing products to qualify for water efficiency rating based on water consumption; the criteria for being rated as 1 Star, 2 Stars or 3 Stars based on water consumption; and labelling requirements. Further, as per the above Indian Standards, in order to qualify for water efficiency rating, the products must conform to the respective product Standards, i.e. Sanitaryware-IS 2556 (Part 6), IS 2556 (Part 8), IS 774, IS 7231 and Sanitary Fittings- IS 8931. These Standards specify water efficiency as an additional requirement which is to be complied as per IS 17650 (Part 1):2021 or IS 17650 (Part 2):2021, as the case may be.

3. In case a manufacturer opts for the additional requirement for water efficiency, then water efficiency rating label of plumbing products as given in IS 17650 (Part 1):2021 or IS 17650 (Part 2):2021 is required, in addition to the marking requirements laid down in the product Standards. Licence shall be granted under the respective plumbing Product Standards and in case a manufacturer opts for the additional requirement for water efficiency, the same shall be included in the scope of licence.

4. For water efficient plumbing products, the water efficiency rating label shall be pasted with water proof sticker having water rating label along with the BIS Standard Mark for the product (for which the licence is granted) on each appliance/ sanitaryware/ sanitary fittings. The carton containing the product shall also be pasted with a sticker as above.

5. IS 17650 (Part 1):2021 or IS 17650 (Part 2):2021 have depicted the marking requirements of the label which is only typical in nature. Based on this, labelling and marking requirements of water efficiency rating labels for water efficient sanitaryware and sanitary fittings have been designed which are enclosed at Annex-I(A). Dimensions and color scheme of water efficiency rating label are enclosed at Annex-I(B).

6. The label shall be reproduced in full. The label shall be faithfully reproduced, and all text shall be readable with normal or corrected vision. The dimensions of the label can be proportionately reduced or enlarged with respect to the size of the plumbing product, but should be prominently visible. The label shall be prominent and visible when the product is profiled, displayed, promoted, marketed, sold or supplied at any point in the supply chain.
7. It may be noted that IS 17650 (Part 1):2021 and IS 17650 (Part 2):2021 as standalone Standards are not certifiable. Licence shall not be granted to a manufacturer in standalone as per IS 17650 (Part 1):2021 or IS 17650 (Part 2):2021 only.

ANNEX-I (A)**A) WATER EFFICIENT SANITARYWARE (Water Closet/ Squatting Pan/ Flushing Cistern/ Flush Valve)****(i) 3 STARS –**

			3 STARS	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 1)				
Name of Manufacturer: Model No: Product Name: Full Flush:_ litres/ flush Reduced Flush:_ litres/ flush				

(ii) 2 STARS –

			2 STARS	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 1)				
Name of Manufacturer: Model No: Product Name: Full Flush:_ litres/ flush Reduced Flush:_ litres/ flush				

(iii) 1 STAR –

			1 STAR	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 1)				
Name of Manufacturer: Model No: Product Name: Full Flush:_ litres/ flush Reduced Flush:_ litres/ flush				

B) WATER EFFICIENT SANITARYWARE (URINALS)**(i) 3 STARS –**

			3 STARS	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 1)				
Name of Manufacturer: Model No: Product Name: Flush Volume of Urinals :_ litres/ flush				

(ii) 2 STARS –

			2 STARS	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 1)				
Name of Manufacturer: Model No: Product Name: Flush Volume of Urinals :_ litres/ flush				

(iii) 1 STAR –

			1 STAR	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 1)				
Name of Manufacturer: Model No: Product Name: Flush Volume of Urinals :_ litres/ flush				

C) WATER EFFICIENT SANITARY FITTINGS

(i) 3 STARS –

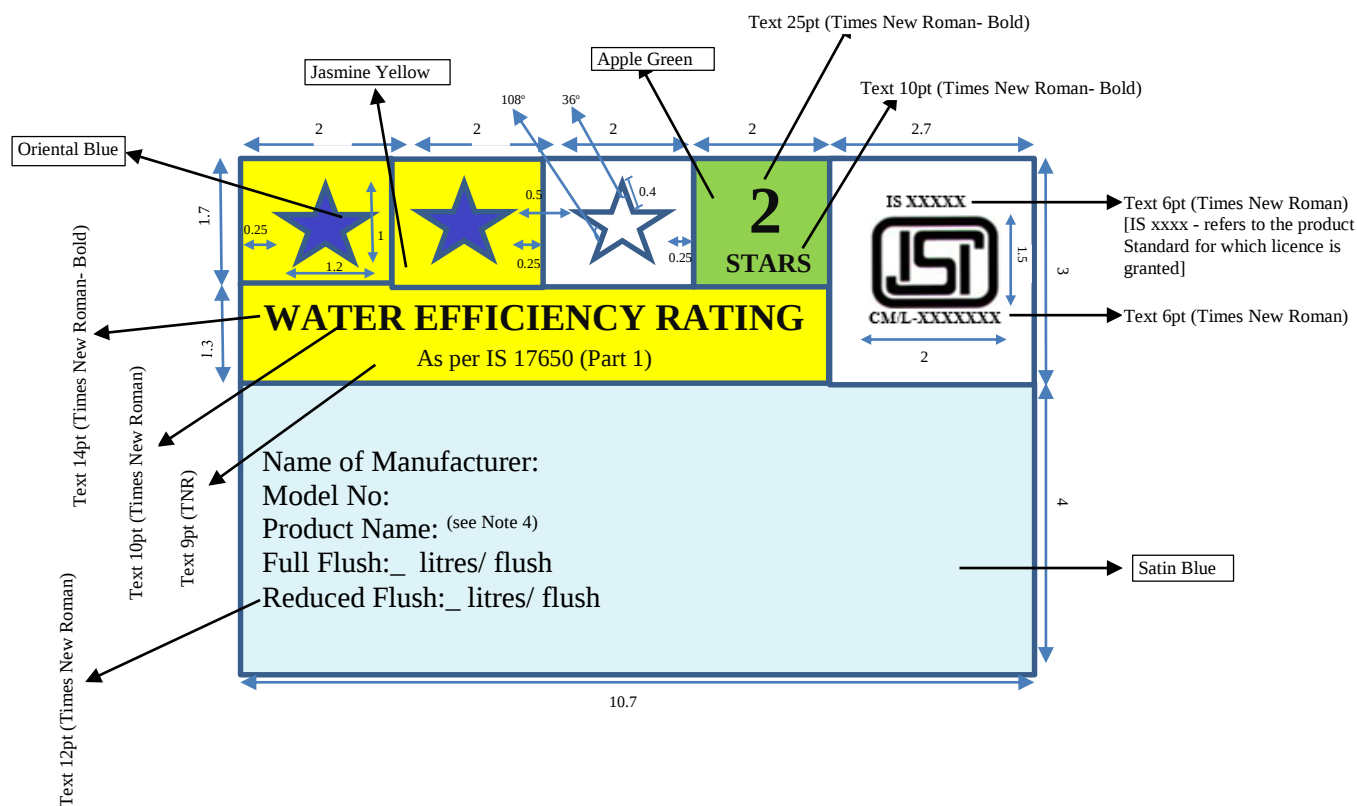
			3 STARS	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 2)				
Name of Manufacturer: Model No: Product Name: Pressure Range for functional requirement Flow Rate : _ litres/ min, or litres/ use				

(ii) 2 STARS –

			2 STARS	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 2)				
Name of Manufacturer: Model No: Product Name: Pressure Range for functional requirement Flow Rate : _ litres/ min, or litres/ use				

(iii) 1 STAR –

			1 STAR	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 2)				
Name of Manufacturer: Model No: Product Name: Pressure Range for functional requirement Flow Rate : _ litres/ min, or litres/ use				

ANNEX-I (B)**DIMENSIONS AND COLOR SCHEME OF WATER EFFICIENCY RATING LABEL**

- Note: (1) All dimensions are in cm & all letters are in black colour
 (2) The font sizes are typical in nature.
 (3) The dimensions of the label can be proportionately reduced or enlarged with respect to the size of the plumbing product, but should be prominently visible.
 (4) Indicate the exact name of the products such as Washdown water closet, Close-coupled water closet, One-piece water closet, One-piece syphonic water closet, Universal water closet, Washdown Wall Mounted water closet, Squatting pan, Integrated squatting pan, Plastic flushing cistern, Ceramic flushing cistern and Flush valves

Colour Scheme for Logo:

- Satin Blue - Shade No 177 of IS 5
- Apple Green - Shade No 281 of IS 5
- Jasmine Yellow – Shade No 397 of IS 5
- Oriental Blue - Shade No 174 of IS 5