



उत्पाद मैनुअल
काँचाभ चीनी मिट्टी के स्वच्छता उपकरण –
भाग 2 – दीवार पर लगने वाले शौचकुडों के लिए विशेष अपेक्षाएँ के लिए
आई एस 2556 (भाग 16) :2024 के अनुसार

PRODUCT MANUAL FOR
VITREOUS CHINA SANITARY APPLIANCES — PART 16 –
SPECIFIC REQUIREMENTS OF WASHDOWN WALL MOUNTED WATER CLOSETS
ACCORDING TO IS 2556 (PART 16):2024

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो) अनुरूपता मूल्यांकन (विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity 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.

1.	मानक संख्या IS No.	:	IS 2556 (Part 16):2024
	शीर्षक Title	:	Vitreous China Sanitary Appliances — Part 16 - Specific Requirements of Washdown Wall Mounted Water Closets
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Nil Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/ Factory Surveillance
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer Annex-A

c)	नमूने का परिमाण Sample Quantity	:	2 water closets + 20 test bars for MOR test + 1 Liter Glaze for Lead Solubility test Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (incase of market surveillance, effort may be made to procure the required quantity of product sample, as far as possible since raw material sample may not be available in market)
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX-B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer ANNEX- C
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	- Dimensions and tolerance (Clause 5), Construction (Clause 6), Finish (Clause 7), - Toilet paper test (Clause 8.1), Smudge test (Clause 8.2), Holding capacity test (Clause 8.3), - Single Ball Test (Clause 8.4), Load test (Clause 9), - Application of glazing [Cl 5 of IS 2556 (Pt 1)] - Permissible blemishes or defects [Cl 6 of IS 2556 (Pt 1)], Thickness [Cl 7 of IS 2556 (Pt 1)] - Performance requirements as per IS 2556 (Pt 1) – warpage, modulus of rupture, lead solubility, resistance to staining and burning Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide readyreference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.		
6.	लाइसेंस का दायरा /Scope of the Licence:		
	Licence is granted to use Standard Mark as per IS 2556 (Part 16) : 2024 with the following scope:		
	Name of the product	Vitreous China Sanitary Appliances — Part 15 - Specific Requirements of Washdown Wall Mounted Water Closets	
	Pattern	Pattern 1/ Pattern 2/ other Pattern	
	Additional requirements for Water Efficiency	Without / 1 Star/ 2 Star/ 3 Star	

भारतीय मानक ब्यूरो
 BUREAU OF INDIAN STANDARDS
 मानक भवन, ९, बहादुर शाह ज़फ़र मार्ग
 Manak Bhawan, 9, Bahadur Shah Zafar Marg
 नई दिल्ली- ११०००२
 New Delhi – 110002

ANNEX-A
Grouping Guidelines

1. IS 2556 (Part 16): 2024 covers Vitreous China Sanitary Appliances — **Part 16** - Specific Requirements of Washdown Wall Mounted Water Closets which are categorized as given below:

a)

Pattern 1	Water Closet with frame rag bolts fixing and concealed outlet
Pattern 2	Water Closet with fixing arrangement on top of bracket

(Wall mounted water closets may also be made in other patterns and/or sizes where so agreed to between the manufacturer and the purchaser. However, except for functional dimensions, all other requirements as laid down in this standard shall be complied with.)

b) *Additional requirements for Water Efficiency:*

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

2. Considering the same, following grouping guideline developed for GoL/CSoL:
- (i) One sample of Water Closet from each type of Pattern shall be tested for all requirements to cover that particular Pattern in the scope of the licence.
 - (ii) Each water efficiency rating of a pattern shall be tested for all the requirements given in IS 17650 (Part 1) for water closets to cover that particular water efficiency rating of that pattern in the scope of licence.
3. The Firm shall declare the patterns of wall mounted wash down water closets they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. For other patterns and/or sizes, the manufacturer shall submit its declaration alongwith drawing of the pattern of water closet.
5. If a manufacturer opts for additional requirements for water efficiency, then he is required to give the water efficiency rating and marking label for each of the variety.
6. 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

(INDICATIVE LIST, FOR GUIDANCE ONLY)

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)
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) - Distilled water' - Cloth - Cigarette

10	Dimensions and tolerance [Clause 5 of IS 2556 (Part 16)] Construction [Clause 6 of IS 2556 (Part 16)]	- Vernier calliper - Steel scale - Measuring tape - Angle protractor - Radius gauges
11	Toilet paper test [Clause 8.1 of IS 2556 (Part 16)]	- Toilet paper or polyethylene sheet
12	Smudge test [Clause 8.2 of IS 2556 (Part 16)]	- Quartz powder - IS sieve 1.18 mm
13	Holding capacity test [Clause 8.3 of IS 2556 (Part 16)]	- Measuring cane - Steel scale
14	Single Ball test [Clause 8.4 of IS 2556 (Part 16)]	- Ball as per clause 8.4.1 of IS 2556 (Part 16) - Balls as per clause 8.4.2 of IS 2556 (Part 16)
16	Load test [Clause 9 of IS 2556 (Part 16)]	- Load of 400^{+5}_{-0} kg or $4^{+0.05}_{-0}$ kN - Wooden beam of 100 mm × 100 mm - Stop watch
17	General test requirement [Clause 8 of IS 2556 (Part 16)]	- Arrangement for installation of water closet with low level flushing cistern and all connections for conducting test
18	Additional requirements for Water Efficiency [IS 17650 (Part 1)]	- Methylene blue - Vernier caliper - HDPE cylindrical granules as per Cl 4.6.2.1.a of IS 17650-1 - Nylon balls as per Cl 4.6.2.1.b of IS 17650-1 - Drop guide apparatus as per Cl 4.6.3.1 of IS 17650-1 - Test media as per Cl 4.6.3.2 of IS 17650-1 - Refrigerator - Apparatus to measure water pressure - Thermometer, stop watch - Polypropylene balls as per Cl 4.6.4.1 of IS 17650-1 - Test assembly as per fig 2 and Cl 4.6.4.2 of IS 17650-1 - Measuring tape

ANNEX C

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is : Water closets having the same pattern and water efficiency rating manufactured under similar conditions in a day subject to a maximum of 100 closets, shall constitute a control unit.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1), where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 TEST RECORDS- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

PACKING AND MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated indelibly and clearly marked on each piece of water closet provided always that the product so marked conforms to each requirement of the specification.

2.5 Marking shall be done as per Clause 11 & 12 of IS 2556 (Part 16):2024.

2.6 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.

2.7 Additional Marking requirements: The material shall also be marked with the following additional requirement on the packing boxes:

a) “For BIS certification details please visit www.bis.gov.in”

3. REJECTION - All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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
(ONLY FOR GUIDANCE PURPOSE)

(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	Frequency	Remarks
		Clause	Reference				
3	Material and Manufacture	4	IS 2556 (Part 1)	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		
3	Glazing	5.1	IS 2556 (Part 1)	R			
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)	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		
3	Minimum thickness	7.0	IS 2556 (Part 1)	R			
3	Warpage	10.1	IS 2556 (Part 1)	R			
3	Crazing*	10.2	IS 2556 (Part 1)	R	Three sample pieces	Each control unit	
3	Water absorption*	10.3	IS 2556 (Part 1)	R	Three sample pieces	Each control unit	
3	Modulus of rupture*	10.4	IS 2556 (Part 1)	R	Ten sample bars	Each control unit	
3	Test for chemical Resistance*	9.5, Annex B	IS 2556 (Part 1)	R	Three sample pieces	Once a week for each variety	

3	Test for resistance to staining and burning*	9.6, Annex C	IS 2556 (Part 1)	R	Two sample pieces	Once a week for each variety	
5	Dimensions and tolerances	5, Table 1, Table 2	IS 2556(Part 16)	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		
6.	Construction	6.1 to 6.4	IS 2556(Part 16)	R			
7.	Finish	7	IS 2556(Part 16)	R			
8.1	Toilet paper test	8.1	IS 2556(Part 16)	R	One	Each Control Unit	
8.2	Smudge test	8.2	IS 2556(Part 16)	R	Five closets	Each Control Unit	
8.3	Holding capacity test	8.3	IS 2556(Part 16)	R	Five closets	Each Control Unit	
8.4	Single Ball test	8.4	IS 2556(Part 16)	R	Five closets	Each Control Unit	
9	Load test	9	IS 2556(Part 16)	R	Five closets	Each Control Unit	
11	Additional requirements for Water Efficiency	4	IS 17650 (Part 1)	S	Five closets	Once in three months for each water efficiency rating of water closets produced during the period	

* 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.

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 2), IS 2556 (Part 6), IS 2556 (Part 8), IS 2556 (Part 16), IS 2556 (Part 16), 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-XXXXXXXX
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-XXXXXXXX
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 –

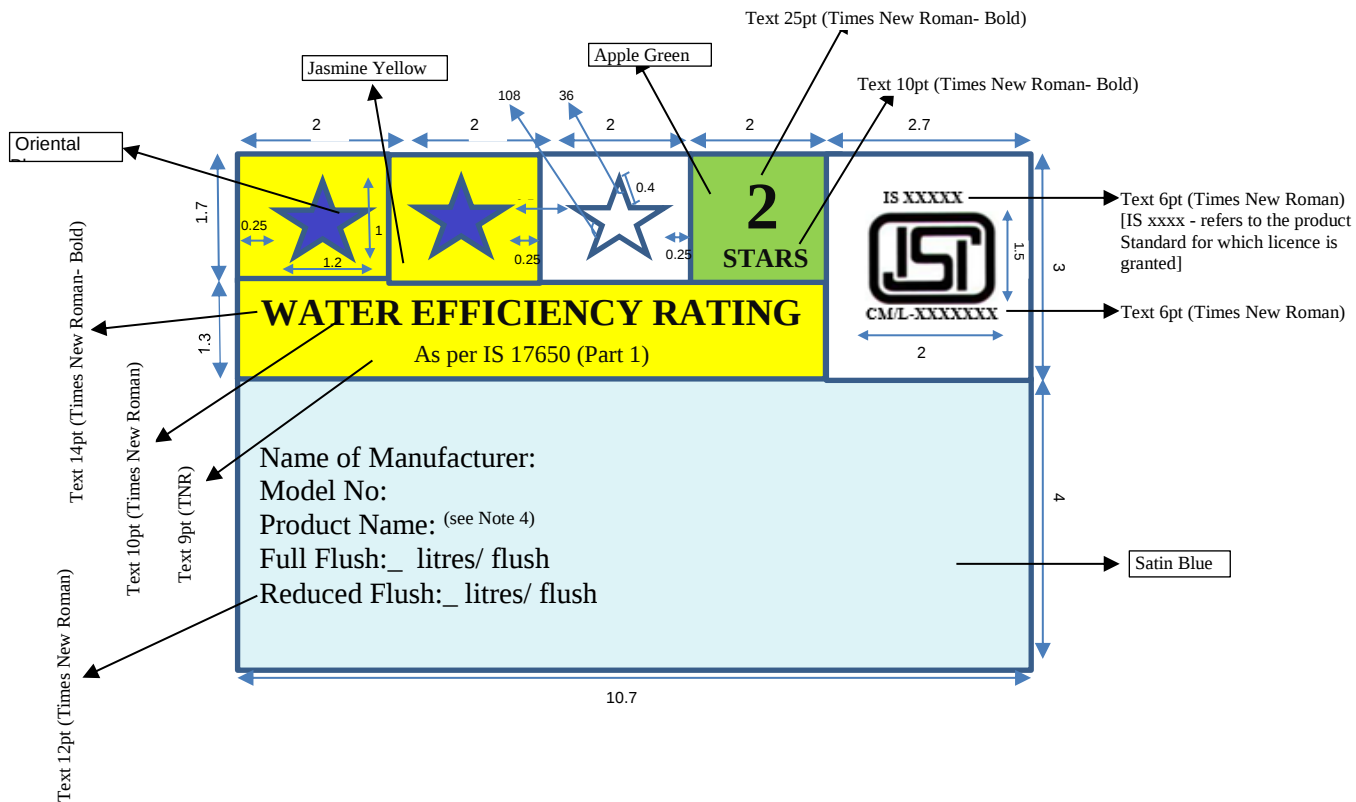
			2 STARS	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 2)				
Name of Manufacturer: Model No: Product Name: Pressure Range for functional requirement Flow Rate : _ litres/ min, or litres/ use				

(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 UNIVERSAL water closet, Close-coupled water closet, One-piece water closet, One-piece syphonic water closet, Universal water closet, UNIVERSAL Wall Mounted water closet, Squatting pan, Integrated squatting pan, Plastic flushing cistern, Ceramic flushing cistern and Flush valves

Colour Scheme for Logo:

- a) Satin Blue - Shade No 177 of IS 5
- b) Apple Green - Shade No 281 of IS 5
- c) Jasmine Yellow – Shade No 397 of IS 5
- d) Oriental Blue - Shade No 174 of IS 5