



उत्पाद मैनुअल
आई एस 774:2021 के अनुसार
शौचकुण्डों व मूत्रालयों के लिए सिरेमिक (चीनी मिट्टी)
के प्रधावन टंकियां के लिए

दस्तावेज संख्या – पी एम/आई एस 774/3/जून 2022

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 दस्तावेज का उपयोग किया जा सकता है।

**PRODUCT MANUAL FOR
CERAMIC (VITREOUS CHINA) FLUSHING
CISTERNS FOR WATER CLOSETS AND URINALS
ACCORDING TO IS 774: 2021**

Document No.- PM/IS 774/3/June 2022

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 774: 2021
	Title	:	Ceramic (Vitreous China) Flushing Cisterns for Water Closets and Urinals
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	As per clause 4 and Table 1 of IS 774: 2021
b)	Grouping guidelines	:	Please refer ANNEX -A
c)	Sample Size	:	Flushing Cistern – 1 No
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 774: 2021 with the following scope:		
	Name of the product		Ceramic (Vitreous China) Flushing Cisterns for Water Closets and Urinals
	Capacity		Discharge capacity --- litre
	Water Efficiency Rating (additional requirement)		1 Star/ 2 Stars/ 3 Stars

ANNEX A

Grouping Guidelines

1. Ceramic (Vitreous China) Flushing Cisterns for Water Closets and Urinals as per IS 774 : 2021 is classified as given below:
 - a) **Discharge Capacity:**
 - 6/3 litre
 - 4.8/2.8 litre
 - 4/2 litre
 - b) **Additional requirements for Water Efficiency:**

In case a manufacturer opts for water efficiency ratings and labelling of cisterns, the requirements given in IS 17650 (Part 1):2021 shall be complied with.
2. Considering the above, following grouping guidelines for GoL/CSoL have been developed:
 - a) Flushing cistern of each discharge capacity shall be tested for all requirements to cover that particular discharge capacity.
 - b) Each water efficiency rating shall be tested for all the requirements given in IS 17650 (Part 1) : 2021 to cover that particular water efficiency rating in the scope of licence.
3. The Firm shall declare the varieties of Flushing Cisterns intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing capability and Testing facilities of the Manufacturer.
4. 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***

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Material (Clause.4 and Table 1)	
b)	For Vitreous China Cistern [As per IS 2556 (Part 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
	Lead content in glaze material [Clause 5.2 of IS 2556 (Part 1)]	- Weighing balance - Hot air oven - Hydrochloric acid - Shaker machine
	Permissible blemishes and 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.
	Minimum thickness [Clause 7 of IS 2556 (Part 1)]	- Micrometer / Vernier calliper
	Warpage [Clause 9.1 of IS 2556 (Part 1)]	- Filler gauges
	Crazing [Clause 9.2 of IS 2556 (Part 1)]	- Autoclave vessel - Solution of dye - Wetting agent
	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
	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

	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
2	Construction (Clause 5)	- Vernier Callipers - Bevel Protractor - Thread Ring Gauge - Right Angle - Protractor with Spirit Level - Surface Table - Feeler Gauge - Goose neck Callipers - GO and NO-GO Gauges.
3	Working Water Level (Clause 7.2) Freedom from Leakage (Clause 7.3), Reduced water level (Clause 7.4)	- Vernier Callipers
4	Discharge capacity (Clause 7.5) Discharge rate (Clause 7.6)	- Stop watch - Measuring Jars
5	Endurance test (Clause 8.3)	- Endurance Test Apparatus - Spirit Level
6	Additional tests for Water efficient Cistern (water closet pan is required along with cistern with water connection to perform these tests) -	
	Surface Wash test	- Ink, methylene blue, Vernier caliper
	Granule and ball test	- Cylindrical HDPE granules (2500 No) & Nylon balls (100 No) as per clause 4.7.2.1 of IS 17650 (Pt 1)
	Bean and Sausage test	- Drop guide apparatus as per clause 4.7.3.1 of IS 17650 (Pt 1) - Test media as per clause 4.7.3.2 of IS 17650 (Pt 1) - Thermometer and refrigerator - Pressure gauge
	Drain line transport characterization test	- Polypropylene balls (100 No) as per clause 4.7.4.1 of IS 17650 (Pt 1) - Water supply arrangement and test set up as per fig 2 of IS 17650 (Pt 1)
	Overflow test for gravity flush tanks	- Water supply arrangement and test set up as per fig 2B of IS 17650 (Pt 1)

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 requirements of IS 774: 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-E shall be complied with.

4. 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.

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

5. 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 Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4, Table1	Material						
i)	Cistern						
	Vitreous china	4, Table 1	IS 2556 (Part 1)	Refer Table 2 of SIT			
ii)	Flush pipe	4, Table 1					
	Un-plasticized PVC pipe		IS 774 IS 4985	S	One	Each consignment	No further testing is required if received with test certificate or ISI marked.
	Polyethylene Pipe		IS 774 IS 4984	S	One	Each consignment	
iii)	Cover	4, Table 1	IS 774	Same as (i) above			
iv)	Overflow pipe	4, Table 1	IS 774	Same as (ii) above			
v)	Beta (outflow) valve	4, Table 1	IS 774 IS 17585	S	One	Each consignment	No further testing is required if received with test certificate or ISI marked.
vi)	Float valve	4, Table 1	IS 1703 IS 12234 IS 13049	Float valves shall confirm to IS 1703 (Copper Alloy)/ IS 12234 (Diaphragm Type- Plastic Body)/ IS 13049 (Plastic Equilibrium) and Polyethylene Float shall confirm to IS 9762.			
vii)	Polyethylene float for float valve	4, Table 1	IS 9762	In case float valves and floats are manufactured by the firm in the same premises, the tests as indicated in <u>Table 3/ Table 4/ Table 5/ Table 6</u> (as applicable) shall be carried out on whole production of float valves used in cisterns.			
				In case floats are purchased from outside, no further testing is required if received with test certificate or ISI marked.			
				In case float valves are purchased from outside please see Note 1.			

5	Construction	5.1 to 5.7	IS 774	R	Each cistern	-	-
6	Finish	6	IS 774	R	Each cistern	-	-
7	Operational and Performance Requirements						
7.1	Flushing arrangement	7.1	IS 774	R	Each cistern	-	-
7.2	Working water level	7.2	IS 774	R	10 % of Cisterns manufactured in a day		If a cistern fails in any one of these requirements, all the cisterns manufactured on that day shall be tested for all requirements and only passing cisterns shall be marked.
7.3	Freedom from Leakage	7.3	IS 774	R			
7.4	Reduced Water Level	7.4	IS 774	R			
7.5	Discharge Capacity	7.5, 8.1	IS 774	R			
7.6	Discharge Rate	7.6, 8.2	IS 774	R			
8.3	Endurance Test	8.3	IS 774	S	One	Once in a year	(See Note 2)
12	Additional tests for Water efficiency [as per IS 17650 (Part 1)]						
	Surface Wash test	4.7.1	IS 17650 (Part 1)	S	One	Once in six months	-
	Granule and ball test	4.7.2	IS 17650 (Part 1)				
	Bean and Sausage test	4.7.3	IS 17650 (Part 1)				
	Drain line transport characterization test	4.7.4	IS 17650 (Part 1)				
	Overflow test for gravity flush tanks	4.7.5	IS 17650 (Part 1)				

Note 1: Float valve

a) In case float valves are purchased from outside, no further testing is required if the valves are ISI marked.

b) In case the purchased float valves are not ISI marked, then the licensee shall ensure that these valves are made from the material as specified. Five percent of the valves from each batch of valves received shall be tested for all tests (except ant-siphonage, endurance and deflection test) ensuring conformity to IS 1703/ IS 12234/IS 13049. In case of any failure the batch shall be rejected.

- For IS 12234 valves, Antisiphonage test shall be conducted on one sample from every batch procured and endurance test shall be conducted once in six months and whenever there is change of source.
- For IS 13049 valves, Antisiphonage test shall be conducted on one sample from every batch procured, deflection test for assembly and endurance test shall be conducted once in a month and whenever there is change of source.
- For flush pipe, lever, chain over-flow pipe, bolts and nuts the firm shall maintain test certificates or test them inhouse for ensuring conformity to the requirements of the specification.

Note 2 – Approval of BIS shall be taken before marking any cistern with changed design, material manufacture & construction. This is type test and shall be conducted whenever there are changes in design or materials or manufacturing process or construction. Even if no change is envisaged, this test shall be done once in a year.

Note 3 - Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note 4 - 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.

TABLE-2**VITREOUS CHINA CISTERNS: AS PER IS 2556 (PART 1)**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4	Material and manufacture	4	IS 2556 (Part 1)	S	One	Each Lot	Once in three months or whenever there is change in source of material
5.1	Glazing	5.1	IS 2556 (Part 1)	R	Every cistern	-	-
5.2	Lead Content (in case of glazes containing lead)	5.2, Annex-A	IS 2556 (Part 1)	R	One	One mix of glazing material	
6	Permissible blemishes or defects	6	IS 2556 (Part 1)		Every cistern		
7	Minimum thickness	7	IS 2556 (Part 1)	R	One	Every trolley load after firing	One sample of each type shall be tested.
10.1	Warpage	10.1	IS 2556 (Part 1)	R	Every cistern		In case of failure in any one of the requirements, the material representing that day's production shall not be marked and immediate corrective measures shall be initiated. Marking shall be resumed only when tests carried out on further sample for that requirement are found satisfactory.
10.2	Crazing *	10.2	IS 2556 (Part 1)	R	Three Sample pieces	Twice a week	
10.3	Water Absorption*	10.3	IS 2556 (Part 1)	R	Three	Daily	
10.4	Modulus of rupture *	10.4	IS 2556 (Part 1)	R	Ten sample bars	Twice in week	
9.5	Test for Chemical Resistance *	9.5, Annex B	IS 2556 (Part 1)	R	Eight Sample pieces	Once in a week	
9.6	Test for resistance to staining and burning *	9.6, Annex C	IS 2556 (Part 1)	R	Two sample pieces	Once a week	

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

TABLE 3**WATER FITTINGS - COPPER ALLOY FLOAT VALVES (HORIZONTAL PLUNGR TYPE) AS PER IS 1703: 2000**

(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				
5, Table 1	Material						
i)	Body and parts of fittings (except lever or rod and back nut): a) Cast brass b) Leaded Tin Bronze	5.1, Table 1	IS 1703 IS 292 IS 1264 IS 318	S	One	Each cast	@
	Physical Test			S	Three	Every tenth or fifth melt manufactured (See remarks)	
	Chemical Composition			S	Three		
ii)	Lever rod: Brass rod	5.1, Table 1	IS 1703 IS 319 IS 8364 IS 320 IS 6912		One	Each consignment	S
iii)	Back nut and nuts for inlet pipe a) Brass b) Leaded tin bronze	5.1, Table 1	IS 1703 IS 320 IS 1264 IS 292 IS 318	S	One	Each consignment	Further testing is not required, if received with test certificate or ISI marked. In case of cast or die cast brass, testing as per (i) above to be carried out.
iv)	Washer: Synthetic rubber	5.1, Table 1	IS 1703 IS 4346	S	One	Each consignment	
v)	Inlet pipe: Brass	5.1, Table 1	IS 1703 IS 407	S	One	Each consignment	

6	Manufacture and workmanship	6.1, 6.2	IS 1703	-	Each valve	-	-
7	Construction	7.2,	IS 1703	R	Each valve	-	-
7.4	Dimensions of body	7.4, Fig 2 Table 2(a), Table 2(b), Table 3(a), Table 3(b)	IS 1703	R	One valve	Every hour for each type of valve produced	In case of failure, entire production during that hour shall be tested and only conforming components shall be accepted.
7.5	Screw threads	7.5	IS 1703 IS 2643 (Part 3) IS 4218 (Part 1 to 6)	R	One valve	Every hour for each type of valve produced	
7.6	Piston	7.6, Table 4(a), Table 4(b)	IS 1703	R	One valve	Every hour for each type of valve produced	
7.7	Levers	7.7.1, 7.7.2, 7.7.3, 7.7.4, 7.7.5, 7.7.6, 7.7.7 Table 5(a), Table 5(b)	IS 1703 IS 9762	R	One valve	Every hour for each type of valve produced	
7.8	Washer	7.8, Table 4(a), Table 4(b)	IS 1703	R	One valve	Every hour for each type of valve produced	
7.9	Silencing pipes and anti-siphonage provision	7.9.1, 7.9.2	IS 1703	R	Each		Arrangement for installing silencing pipe may be made as per requirements of the purchaser.
7.10	Floats	7.10	IS 1703 IS 9762	S	One	Each consignment	No further testing is required if received with test certificate or ISI marked.
7.11	Back nut	7.11, Table 6	IS 1703 IS 2643 (Part 3)	R	One	From each hour production for each type of valve	In case of failure, entire production during that hour shall be tested and only conforming components shall be accepted.

8	Testing						
8.1	Hydraulic test	8.1	IS 1703	R	Each Valve	-	-
8.2	Shutting off test	8.2	IS 1703	R	One	Every tenth valve assembled	-
8.3	Test for mechanical strength of lever	8.3, Table 7	IS 1703	R	One	Every tenth valve assembled	-

@ Frequency of testing shall be one sample for each melt of 1000 kg or part thereof for first three melts. After that one sample shall be tested from every tenth melt, if manufactured from tested ingots/billets else one sample from every fifth melt shall be tested. On failure of any sample, every melt shall be tested till three consecutive samples pass.

TABLE 4**DIAPHRAGM TYPE (PLASTIC BODY) FLOAT OPERATED VALVES FOR COLD WATER SERVICES AS PER IS 13049: 1991**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
CI No	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
5	Materials	5.1, 5.2, 5.3, Table 1 and 6.2	IS 13049	-	One	Each consignment received	No further testing is required if received with test certificate.
6	Manufacture and workmanship	6.1	IS 13049	-	Each valve	-	-
7	Construction						
	Inlet connection	7.1, Annex- A	IS 13049	R	Each valve	-	-
	Seats and Body	7.2.1, 7.2.2	IS 13049	-	Each valve	-	-
		7.2.3	IS 13049	R	Two	Each control unit ##	-
	Diaphragm	7.3	IS 13049	R	Each valve	-	-
	Backnuts	7.4, Annex-A	IS 13049	R	Each valve	-	-
	Floats	7.5.1	IS 13049	S	One	Each consignment received/ Each shift production	No further testing is required if received with test certificate or ISI marked
		6	IS 9762				
Float arm and Assembly	7.5.2, 7.5.3, Annex- B	IS 13049	R	One	1000 valves or part thereof manufactured from same material received in a consignment	In case of failure marking shall be stopped immediately, cause of failure investigated, and appropriate corrective action taken and verified before resuming marking.	

	Discharge arrangements	7.6.1, 7.6.2, 7.6.3	IS 13049	R	Each valve	-	-
8	Performance Test						
8.1	Hydraulic test	8.1	IS 13049	R	Three	Each control unit ##	-
8.2	Shut-Off test	8.2, Annex- C	IS 13049	R	Three	Each control unit ##	-
8.3	Anti-siphonage test	8.3, Annex- D	IS 13049	S	One	Once in a month	These tests are categorized as type tests. @@
8.4	Flow test	8.4, Annex- E	IS 13049	R	Three	Each control unit ##	-
8.5	Endurance test	8.5, Annex- F	IS 13049	S	One	Once in a month	These tests are categorized as type tests. @@
8.6	Test for hydraulic pressure on discharge arrangement	8.6, Annex- G	IS 13049	R	Three	Each control unit ##	-

@@ In case of failure of sample in these tests, marking shall be stopped and corrective action shall be taken. Marking shall be resumed only if improved sample is found conforming to all requirements. These tests shall also be conducted whenever there is change in material, construction or manufacturing process.

Note: Control unit for the valves defined as all valves of the same type manufactured from same material under similar conditions of manufacturing in a shift of maximum eight hours

TABLE-5
PLASTIC EQUILIBRIUM FLOAT VALVES FOR COLD WATER SERVICES AS PER IS 12234: 1988

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
CI No	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4	Materials	4	IS 12234	-	-	Each consignment	Conformity shall be ensured
5	Manufacture and workmanship	5.1	IS 12234	R	Each valve	-	-
		5.2	IS 12234	-	-	Each consignment	Conformity shall be ensured
6	Construction	6.1 to 6.3, 6.6 to 6.9	IS 12234	R	Each valve	-	-
	Dimension, Screw threads and Back nut	6.4.6.5 and 6.10	IS 12234	R	One	Each hour production for each type of valve	
7.1	Hydraulic and Shut-Off test	7.1.1, 7.1.2	IS 12234	R	One	Each control unit	-
7.2	Antisiphonage test	Appendix-A	IS 12234	R	One	Once in a month	-
7.3	Flow test	Appendix-B	IS 12234	R	One	Each control unit	-
7.4	Endurance test	Appendix-C	IS 12234	S	One	Once in six months	-

Note: Control unit for the product is defined as float valves of same type manufactured from same material under similar conditions of manufacturing in a day.

TABLE-6**POLYETHYLENE FLOATS (SPHERICAL) FOR FLOAT VALVES AS PER IS 9762: 1994**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub- contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4	Material	4	IS 9672 IS 7328	S	One	Each Consignment	No further testing is required if received with test certificate or ISI marked.
6	Dimensions						
6.1	Diameter of float	6.1, Table 1	IS 9762	R	One	One-hour production from each machine	-
6.2	Wall Thickness	6.2.1, Table 1	IS 9762	R	One	One-hour production from each machine	-
	Wall thickness of boss – Thickness of metal inserted	6.2.2, 7.1, 7.3, Table 1	IS 9762	R	Thirteen	Each control unit	Thirteen samples of each size from each consignment during each shift shall be checked for its conformity before releasing the material for actual production.
7	Manufacture and Workmanship	7.1	IS 9762	R	All floats	-	-
8.1	Leakage and Water Absorption Tests	8.1, Annex-A	IS 9762	R	One	Each Control Unit	-
8.2	Deflection Test	8.2, Annex-B	IS 9762	R	One	Each Control Unit	-
8.3	Impact Test	8.3	IS 9762	R	One	Each Control Unit	-
8.4	Boss Test	8.4, Annex-C	IS 9762	R	One	Each Control Unit	-

Note: Control unit for the product is defined as all floats of same designation i.e nominal size and pressure application manufactured under similar conditions of manufacturing in one shift.

ANNEX D

Possible Tests in a Day

- (i) Construction (Clause 5)
- (ii) Finish (Clause 6)
- (iii) Flushing arrangement (Clause 7.1)
- (iv) Working Water Level (Clause 7.2)
- (v) Freedom from Leakage (Clause 7.3)
- (vi) Reduced Water Level (Clause 7.4)
- (vii) Discharge Capacity (Clause 7.5)
- (viii) Discharge Rate (Clause 7.6)

ANNEX-E

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-E(1). Dimensions and color scheme of water efficiency rating label are enclosed at Annex-E(2).

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-E(1)

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				

A) 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				

B) 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 –

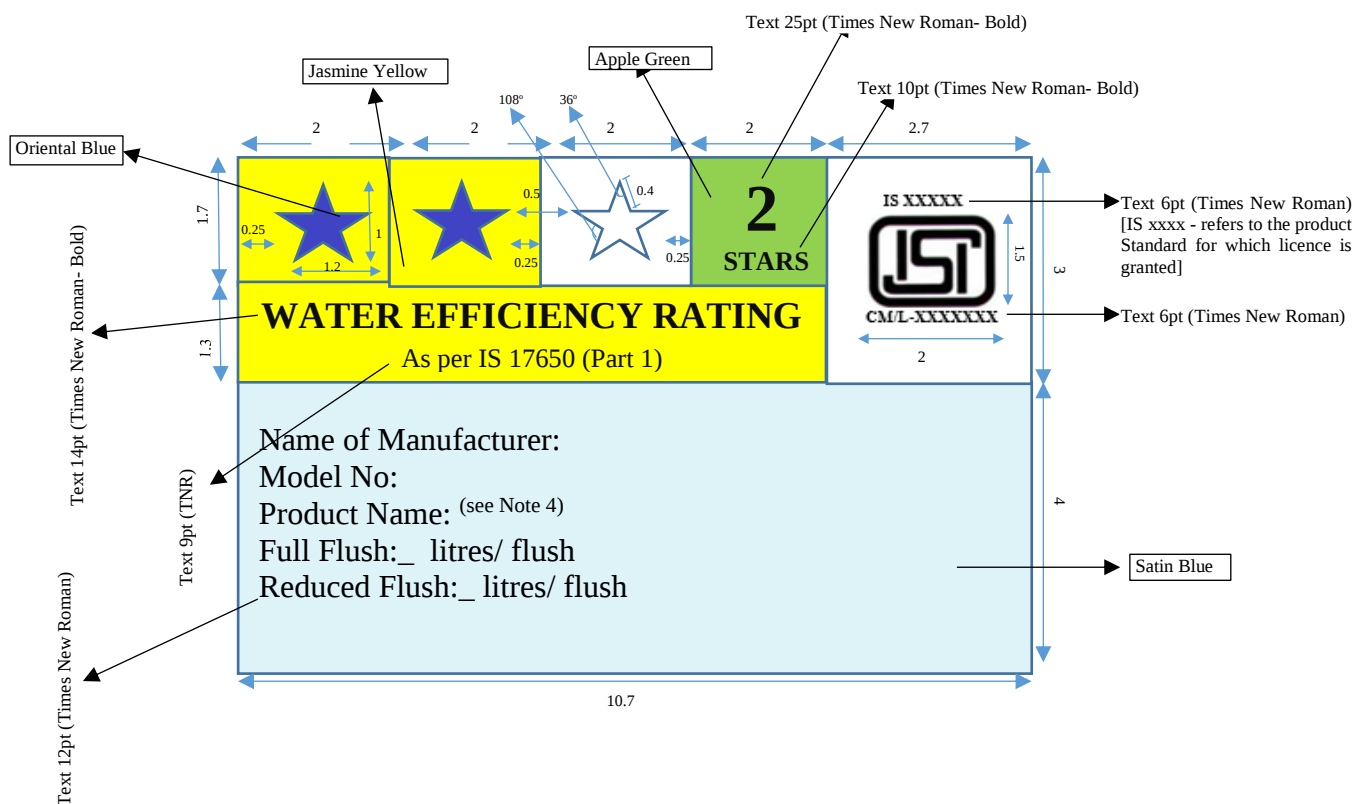
			2 STARS	IS XXXXX  CM/L-XXXXXXX
WATER EFFICIENCY RATING As per IS 17650 (Part 2)				
Name of Manufacturer: Model No: Product Name: Pressure Range for functional requirement Flow Rate : _ litres/ min, or litres/ use				

(i) 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-E(2)

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 waster 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