PRODUCT MANUAL FOR FLUSH VALVES AND FITTINGS FOR WATER CLOSETS AND URINALS ACCORDING TO IS 9758 :1981

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 9758: 1981
	Title	:	Flush Valves and Fittings for Water Closets and Urinals
	No. of Amendments	:	2
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	As per clause 3 and Table 1 of IS 9758: 1981.
b)	**Grouping guidelines**	:	Please refer ANNEX – A
c)	**Sample Size**	:	1 Valve with fittings
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) Manufacture and Construction (Clause 5) ii) Discharge Capacity (Clause 6.1) iii) Discharge Rate (Clause 6.2) iv) Working Pressure (Clause 6.3) v) Hydraulic Pressure Test (Clause 7.1)		
6.	**Scope of the Licence:**		
	"Licence is granted to use Standard Mark as per IS 9758: 1981 with the following scope:		
	Name of the product		Flush Valves and Fittings for Water Closets and Urinals
	Nominal sizes		15mm/ 25 mm/ 32 mm
	Discharge capacity		5/10 litres

ANNEX A

Grouping Guidelines

1. IS 9758: 1981 covers flush valves and fittings for water closets and urinals as per the details given below:

   a) Nominal Size of Flush Valve – 15, 25, 32 mm

   b) Discharge capacity – 5 litres / 10 litres

2. Considering the above, following grouping guidelines is developed for GoL/CSoL:

   - Sample of flush valve and fittings of each nominal size and discharge capacity shall be tested for all requirements to cover valve and fittings of the particular nominal size and discharge capacity tested.

3. The Firm shall declare the varieties 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. 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	Manufacture and Construction (Clause 5)	- Vernier calliper - Micrometre - Ring thread gauges - Plug thread gauges
2	Discharge Capacity (Clause 6.1)	- Measuring Jar - Stop watch - Arrangement for checking discharge of valves at specified pressure i.e pressure regulator with pressure gauge
3	Discharge Rate (Clause 6.2)	
4	Working Pressure (Clause 6.3)	
5	Hydraulic Pressure Test (Clause 7.1)	- Hydrostatic pressure testing arrangement with end plugs and pressure gauge - Stop watch
6	Endurance Test (Clause 7.2)	- Endurance test setup for continuous operation of valve with electrically operated timer and measuring counter
7	Finish (Clause 8)	- Jigs and Fixtures for finishing - Electrolytic analyser with Platinum electrodes - Metallic Coating thickness measurement meter - B.N.F Jet Test apparatus - Plating thickness checking apparatus for chromium - Analytical weighing balance - Oven - Furnace

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 equipments.

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

3. LABELLING AND MARKING – As per the requirement of IS 9758: 1981.

4. CONTROL UNIT – All valves of same nominal size and discharge capacity manufactured from same cast of body material under similar conditions of manufacturing in a day shall constitute a control unit.

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 Standards 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 Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
3, Table 1	**Material**						
i)	Body of flush valve	3.1, Table 1	IS 9758 IS 292 IS 1264	S	One	Each cast	
	Tensile tests	3.1, Table 1	IS 292 IS 1264	S	Three	Every tenth or fifth melt manufactured (See remarks)	@
	Chemical composition (For body casting of flush valve and stop valve)	3.1, Table 1	IS 292 IS 1264	S	Three		
ii)	Flush Pipe	3.1, Table 1	IS 9758 IS 1239 (Part 1) IS 4985 IS 4984 IS 40 (Part 1)	S	One	Each consignment	##
iii)	Washers	3.1, Table 1	IS 9758 IS 4346	S	One	Each Consignment	##
iv)	Spring	3.1, Table 1	IS 9758 IS 7608 IS 4454 (Part 4)	S	One	Each Consignment	##
v)	Stop valve	3.1, Table 1	IS 9758 IS 292 IS 1264	S	One	Each Consignment	##

vi)	Spindle of stop valve, lever or flush valve - Extruded Brass	3.1, Table 1	IS 9758 IS 319	S	One	Each Consignment	##
5	Manufacture and Construction	5	IS 9758	R	Each valve		-
6	**Performance requirements**						
	Discharge capacity	6.1	IS 9758	R	Three	Each control unit	Samples shall be taken at regular intervals to represent complete day's production
	Discharge rate	6.2					
	Working pressure	6.3					
7	**Testing**						
7.1	Hydraulic pressure test	7.1	IS 9758	R	Each valve		-
7.2	Endurance test	7.2	IS 9758	R	One	Every 15^{th} control unit or 400 pieces, whichever is less	This is a type test. Additional test shall be conducted whenever there is change in the design, materials, manufacture and construction of valve
8	Finish	8	IS 9758	R	Three	Each control unit	Samples shall be taken at regular intervals to represent complete day's production

@ Frequency of testing shall be one sample for each melt of 2500 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.

Further testing is not required, if received with manufacturers test certificate or ISI marked. Product under mandatory certification of BIS shall be ISI marked and received with test certificate

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