



**PRODUCT MANUAL FOR
CAST COPPER ALLOY SCREW DOWN BIB TAPS
AND STOP VALVES FOR WATER SERVICES
ACCORDING TO IS 781: 1984**

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 781: 1984
	Title	:	Cast Copper Alloy Screw Down Bib Taps and Stop Valves for Water Services
	No. of Amendments	:	2
2.	Sampling Guidelines:		
a)	Raw material	:	As per Clause 4 and Table 1 of IS 781: 1984
b)	Grouping guidelines	:	Please refer ANNEX - A
c)	Sample Size	:	Bib tap/Stop valve – 1 No and Drillings from components for chemical analysis – 100 gm (Approx.)
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 Tolerances (Clause 5, Table 2)		
	(ii) Construction and workmanship (Clause 6)		
	(iii) Finish (Clause 7)		
	(iv) Hydrostatic pressure testing (Clause 8.1)		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 781: 1984 with the following scope:		
	Name of the product	Cast Copper Alloy Screw Down Bib Taps and Stop Valves for Water Services	
	Type	Bib Taps/Stop Valves	
	Nominal Size (mm)	-	
	Inlet/outlet connection		
	Finish		

ANNEX A

Grouping Guidelines

1. IS 781: 1984 covers Cast Copper Alloy Screw Down Bib Taps and Stop Valves for Water Services as given below:

- a) Type
 - i) Bib Tap
 - ii) Stop Valve
- b) Nominal Size
 - i) Bib Taps – 8, 10, 15, 20 and 25 mm
 - ii) Stop Valves – 8, 10, 15, 20, 25, 32, 40 and 50 mm
- c) Inlet and Outlet connection
 - i) Bib taps – Male inlet (External thread)
 - ii) Stop valve – Male end (External thread)
Female end (Internal thread)
Mixed end (One end with internal threads and other end with external thread)
- d) Finish
 - i) Bib Taps – Polished bright/Nickel-chromium plated
 - ii) Stop Valve –Unpolished (Cast finish)/ Polished bright /Nickel-chromium plated

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

- a) Sample of any size of each type i.e. Bib tap/ Stop valve shall be tested to cover all sizes of the particular type.
- b) Sample of Stop valve of each end shall be tested to cover that type of end.
- c) If sample of superior finish is tested, then other finish may also be covered. For eg., if nickel-chromium plated tap/valve is tested, then other finish may also be covered. If polished bright finish valve is tested, then unpolished (cast finish) valve may also be covered.

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	Dimensions and Tolerances (Clause 5) Construction and Workmanship (Clause 6)	<ul style="list-style-type: none"> - Vernier caliper - Micrometer - Calliper - Thread Gauges - Go-No Go Plug gauge and snap gauges - Templates - Depth gauge - Radius Gauge
2	Finish (Clause 7)	<ul style="list-style-type: none"> - Coatmeter
3	Hydrostatic pressure testing (Clause 8.1)	<ul style="list-style-type: none"> - Hydrostatic test equipment with end plugs and pressure gauge and timer - Stop watch

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 781: 1984.

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 Standards 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 Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
4, Table 1	Material						
i)	Body and Bonnet: a) Cast brass b) Leaded Tin Bronze Physical Test Chemical Composition	4.1, Table 1	IS 781 IS 292 IS 1264 IS 318	S S S	One Three Three	Each cast Every tenth or fifth melt manufactured (See remarks)	@
ii)	Spindle, Nuts: Brass - Extruded, Rolled or forged	4.1, Table 1	IS 781 IS 319 IS 3488 IS 320 IS 6912				Further testing is not required, if received with manufacturers test certificate or ISI marked.
iii)	Gland, Crutch (handle), washer, plate etc: Brass - Extruded, Rolled, Cast, Die cast	4.1, Table 1	IS 781 IS 319 IS 3488 IS 320 IS 1264 IS 292 IS 318				Further testing is not required, if received with manufacturers test certificate or ISI marked. In case of cast or die cast brass, testing as per (i) above to be carried out.

iv)	Washer	4.1, Table 1	IS 781 IS 4346				Further testing is not required, if received with manufacturers test certificate
5	Dimensions and tolerances	5.1, 5.2, Table 1	IS 781	R	Each Tap/Valve	-	Each component to be checked with templates or gauges
6.	Construction and Workmanship	6.1 to 6.12	IS 781	R	Each Tap/Valve	-	Each component to be checked with templates or gauges
7	Finish	7.1, 7.2	IS 781	R	Each Tap/Valve	-	-
7.3	Nickel- chromium plating (if applicable)	7.3	IS 781 IS 4827	R	One	Each lot processed at a time	
8.1	Hydraulic pressure test	8.1	IS 781	R	Each Tap/Valve	-	-

@ 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.

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