



## PRODUCT MANUAL FOR LABORATORY GLASSWARE-BURETTES ACCORDING TO IS 1997:2008/ISO 383:2005

*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.	<b>Product</b>	:	IS 1997:2008/ ISO 385:2005
	<b>Title</b>	:	Laboratory Glassware-Burettes
	<b>No. of Amendments</b>	:	Nil
2.	<b>Sampling Guidelines:</b>		
			As per Cl 7 of IS 1997:2008/ISO 385:2005.
a)	<b>Raw material</b>	:	Burettes shall be manufactured from glass of chemical resistance and thermal properties at least to HGB3 in accordance with ISO 719, shall be as free as possible from visible defects, and shall be free from internal stress.
b)	<b>Grouping guidelines</b>	:	Burette of Each class of accuracy to be got tested for minimum and maximum capacity to cover the complete range of capacities subject to availability of complete manufacturing and testing facilities.  However, If accuracy class A/AS is tested, Class B may be also be covered depending on availability of complete manufacturing and testing facilities.
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX – <a href="#">A</a>
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX – <a href="#">B</a>
5.	<b>Possible tests in a day:</b>		
	<ul style="list-style-type: none"> <li>(i) Max Permissible error as per Cl 6.1 &amp; 6.2</li> <li>(ii) Dimensions as per Cl 8.1</li> <li>(iii) Top of burette as per Cl 8.2</li> <li>(iv) Stop cock and similar devices as per Cl 8.3</li> <li>(v) Stop cock leakage as per Cl 8.4</li> <li>(vi) Delivery time as per Cl 8.6</li> </ul>		

6.	<b>Scope of the Licence:</b>	
	“Licence is granted to use Standard Mark as per IS 1997:2008 with the following scope:	
	Name of the product	Laboratory Glassware-Burettes
	Class	A/AS/B
	Sizes	Capacity to be mentioned
	Any other aspect required as per the Standard	With/without waiting time

**ANNEX A****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	<u>Hydrolytic resistance of glass grains</u> 1) Hydrochloric acid 2) Methyl red 3) Acetone 4) Purified water 5) Balance 6) Burettes 7) Pipette 8) One-mark volumetric flasks 9) Conical flasks 10) Boiling flasks 11) Beakers 12) Weighing bottle 13) Desiccators 14) Hammer 15) Mortar and pestle 16) Permanent magnet 17) Sieves 18) Sieving-machine 19) Ball-mil 20) Ultrasonic cleaner 21) Drying oven 22) Thermometer 23) Heating bath 24) Warm plate
2	Maximum Permissible error Cl 6	25) Weighing balance 26) Stop watch 27) Thermometer 28) Barometer 29) Air conditioner (AC) 30) Hygrometer
2	Construction Cl 8	1) Vernier Calliper 2) stop watch 3) Steel Scale 4) Distilled water 5) AC
3	Graduation , figuring and pattering Cl 9	1) Steel Scale

		2) Vernier Calliper
--	--	---------------------

*Above list is indicative only and may not be treated as exhaustive.*

**ANNEX B**

**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 Cl 11. & 12 of IS 1997:2008. The following shall be marked in addition –

- a) The date of manufacture or identification number on the packages;
- b) BIS Licence No. CM/L.....
- c) The phrase 'Please see [www.bis.gov.in](http://www.bis.gov.in) for BIS certification details'.

**4. CONTROL UNIT** –For the purpose of this Scheme, burettes of same Class & Nominal Capacity manufactured in one 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 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 Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
6	Maximum permissible errors	6.1 & 6.2	IS 1997:2008	R	Ten burettes	Each Control Unit	
7	Material (visual defects)	7	-do-	R	Each burettes	Each Control Unit	
7	Material (Chemical resistance and thermal properties of glass)		IS 2303 (Pt1/Sec 1):2012/ISO 719	S	One	Each consignment	No testing, however, may be done if the material consignment is ISI marked or accompanied by a test certificate according to the requirements of ISO 719
8.1	Dimensions	8.1	IS 1997:2008	R	Ten burettes	Each Control Unit	
8.2	Top of burette	8.2	-do-	R	Ten burettes	Each Control Unit	
8.3	Stopcocks and similar Devices	8.3.1 to 8.3.4	-do-	S	See Remarks*		*Each lot (see note) or consignment of stopcock shall be covered by a test certificate from the manufacturer of stopcocks guaranteeing the inertness of plastic material, or in case the stopcocks are being made of glass, they shall meet the requirement stipulated for glass stopcocks in 8.3 of 1SS. If the glass stopcocks are made in house, every 100 stoppers or part thereof, manufactured in a day, shall be treated as one lot. Each such lot shall be subjected to tests as per Clause 8.3 of IS 1997:2008.
8.4	Stopcock leakage	8.4	-do-	S	See Remarks*		
8.5	Delivery Jet	8.5	-do-	R	Ten burettes	Each Control Unit	
8.6	Delivery time	8.6	-do-	R	Ten burettes	Each Control Unit	
8.7	Waiting time	8.7	-do-	R	Ten burettes	Each Control Unit	

9	Graduation, figuring and patterns	9.1 to 9.3	-do-	R	Ten burettes	Each Control Unit	
10	Setting of the meniscus	10	-do-	R	Ten burettes	Each Control Unit	
12	Visibility of graduation lines, number and inscriptions	12	-do-	R	Ten burettes	Each Control Unit	

Note 1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. 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.