



**PRODUCT MANUAL FOR
DOMESTIC STAINLESS STEEL VACUUM FLASK / BOTTLE
ACCORDING TO IS 17526:2021**

This Product Manual shall be used as reference material by all Regional/Branch Offices & licencees 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 17526:2021
	Title	:	Domestic Stainless Steel Vacuum Flask /Bottle
	No. of Amendments	:	Three
2.	Sampling Guidelines:		
a)	Raw material	:	Cl. 7.1 of IS 17526
b)	Grouping guidelines	:	Please refer ANNEX–A
c)	Sample Size	:	08 Flasks
d)	Sampling Guidelines during surveillance		In addition to the sample of product drawn during factory and market surveillance, sample shall also be drawn for independent testing of chemical composition of raw material of inner container. The same shall also be specifically mentioned in the test request of sample drawn.
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:		Capacity (Cl. 7.3), Impact Resistance (Cl. 7.6), Fixing Strength of Handle (Cl. 7.7), Strength of Shoulder strap (Cl. 7.8), Strength of Cord (Cl. 7.8.1), Leakage test (Cl. 7.9), Joint leakage test (Cl. 7.10), Staining Test (7.11), Length of shoulder strap (Cl. 7.12), Stability of flask/bottle (Cl. 7.13), Pout test (Cl. 7.14)
6.	Scope of the Licence:		
	Licence is granted to use Standard Mark as per IS 17526:2021 with the followingscope:		
	Name of the product	Domestic Stainless Steel Vacuum Flask / Bottle	
	Type of Flasks	Wide Mouth / Narrow Mouth	
	Nominal Capacities	_____ml upto and including_____ml	

ANNEX- A

Grouping Guidelines

1. For the purpose of certification, Domestic Stainless Steel Vacuum Flask /Bottle are classified as under:

Classification I: Type of Flask

- Wide Mouth above 45 mm
- Narrow Mouth 45 mm and below

Classification II: Nominal Capacities

Group A	Upto and including 1000 ml
Group B	Above 1000ml

2. For covering all nominal capacities from the group in the scope of licence, the sample of the highest and lowest nominal capacities for each type of mouth portion shall be tested separately for all requirements.
3. The Scope of Licence shall be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. During the operation of the licence, samples of all varieties covered in the scope of licence shall be drawn by rotation.

ANNEX - B**List of Test Equipment***Indicative list of major test equipment required to test as per the Indian Standard*

S.No.	Tests used in with Clause Reference	Test Equipment
1	Minimum Thickness of Outer Container as per Cl 7.1.2	• Vernier Calipers
2	Coating Thickness as per Cl 7.1.2.1	• Coating Thickness Gauge
3	Capacities as per Cl 7.3	• Measuring Jars (with adequate marking to measure the capacity of flasks to the maximum capacity)
4	Heat Retention Capability as per Cl 7.4	• Hot Plate • Thermometer • Utensil • Air Conditioner • Stopwatch • Torque Wrench
5	Cold Retention Capability as per Cl 7.5	• Refrigerator • Thermometer • Utensil • Air Conditioner • Stopwatch • Torque Wrench
6	Drop Impact Test as per Cl 7.6.1	• Drop Impact Test Fixture
7	Pendulum Impact Test as per Cl 7.6.2	• Pendulum Impact Test Fixture
8	Fixing Strength of the Handle as per Cl 7.7	• Test Fixture as per Figure 3 • Weighing Balance • Weights for adequate loading i.e. more than 6 times of mass of filled Bottle/Flask • Stopwatch
9	Test for Strength of Shoulder Strap as per Cl 7.8	• Test Fixture as per Figure 4 • Weighing Balance • Weights for adequate loading i.e. more than 10 times of mass of filled Bottle/Flask • Stopwatch

10	Strength of Cord as per Cl 7.8.1	• Small Steel Balls for adequate loading equivalent to 3 times the mass of water that Bottle/Flask can hold • Stopwatch • Hanging Arrangement • Measuring Tape
11	Leakage Test as per Cl 7.9	• Measuring Jars • Hot Plate • Thermometer • Surfactant • Torque Wrench • Stopwatch
12	Joint Leak Test as per Cl 7.10	• Weighing Balance (Accuracy 10mg) • Water Bath/Tub
13	Staining Test as per Cl 7.11	• Suitable Soapy Solution • Acetone/Methylated Spirit • Soft Cloth • Timer/Stopwatch • Thermostatically Controlled Tank -2 Nos. • Weighing Balance • Glacial Acetic Acid (99 percent) • Sodium Chloride • Distilled Water
14	Length of the Shoulder Strap as per Cl 7.12	• Steel Scale
15	Stability of Flask/Bottle as per Cl 7.13	• Plane Inclined at 10 degrees
16	Pour Test as per Cl 7.14	• Measuring Jars • Cup with mouth opening 60-80 mm diameter • White Paper • Tea/Coffee • Steel Scale
17	Endurance test for O-ring, Washer and Stopper as per Cl. 7.15	• Test set up as per Cl. 7.15 of IS 17526
18	Test for leaching as per Annex- C	Stimulants and instruments/equipment as per Annex C of IS 17526

19	Sensorial test as per Annex-D	Stimulant as per Annex D of IS 17526
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The above list is indicative only and may not be treated as exhaustive

ANNEX - C**Scheme of Inspection and Testing****1. QUALITY ASSURANCE PLAN**

1.1 It is expected that during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) 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 (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT/BATCH:

1.3.1 : For the guidance of manufacturers, the recommended definition of Control Unit is quantity of all Bottles/Flasks of same Type, Nominal Capacity and Material, manufactured by same method under similar conditions in a day.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1. Manufacturers have the discretion of declaring their own levels of control or alternatively, manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1. However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted for the whole production.

2. ENSURING COMPLIANCE THROUGH TESTING

Manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

- i) Shared testing resources like common facility,
- ii) Cluster based testing facility,
- iii) Sub-contracting to outside laboratories which may either be:
 - a) BIS recognised/empanelled laboratories, or
 - b) Any accredited laboratory as per ISO/IEC 17025

2.1 TEST RECORDS — The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made available for inspection by BIS.

3. LABELLING AND MARKING

Labelling, Packing and Marking shall be done as per IS 17526: 2021. The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each Bottle/Flask, provided the product conforms to all applicable requirements of the Indian Standard.

3.1 Additional Marking Requirements: Additionally, the following shall also be marked on product or package:

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

4. REJECTION

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

(1)				(2)		
Test Details				Levels of Control		
Clause	Requirements	Test Method		No. of Samples	Frequency	Remarks
		Clause	Reference			
5	Manufacture and Workmanship	5.1	IS 17526:2021	Manufacturer shall exercise adequate levels of control to ensure that entire production should conform to the Standard. Appropriate records of testing indicating conformity shall be maintained		
5.3	Welding Defects	5.3	IS 17526:2021			
5.3	Welding Electrode	5.3	IS 5856	One	Each Consignment	No further testing is required if material is ISI marked
7.1	Material		IS 15997 IS 5522	-	Each Consignment/Lot	

7.1.2	Minimum Thickness of Outer Container	7.1.2	IS 17526:2021	Three	Once in Three months for every capacity	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass
7.1.2.1	Coating Thickness	7.2	IS 9730	Three	Once in 3 months	
7.1.2.1	Salt Water Corrosion Test	7.4	IS 9730	Three	Once in 6Months	All varieties under production shall be covered.
7.1.2.1	Adhesion Test	7.5	IS 9730	Three	Once in 6Months	
7.1.2.1	Lead Limit	Table 1	IS 9806	Three	Once in 6Months	
7.1.2.1	Cadmium Limit	Table 1	IS 9806	Three	Once in 6Months	
7.2	Arrangement for Holding and Suspension	7.2	IS 17526:2021	Three	Each Control Unit	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass
7.3	Capacities	7.3	IS 17526:2021	Three	Each Control Unit	
7.4	Heat Retention Capability (1hour)	7.4 & Annex A	IS 17526:2021	Three	Once in a month for each capacity and material	
7.4	Heat Retention Capability (6 hours & 12 hours)	7.4 & Annex A	IS 17526:2021	Three	Once in a month for each capacity and material	

7.4	Heat Retention Capability (24 hours)	7.4 & Annex A	IS 17526:2021	Three	Once in three months for each capacity and material	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass
7.5	Cold Retention Capability	7.5 & Annex B	IS 17526:2021	Three	Once in a month for each capacity and material	
7.5	Cold Retention Capability (6 hours & 12 hours)	7.5 & Annex B	IS 17526:2021	Three	Once in a month for each capacity and material	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass
7.5	Cold Retention Capability (24 hours)	7.5 & Annex B	IS 17526:2021	Three	Once in a month for each capacity and material	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass
7.6.1	Drop Impact	7.6.1	IS 17526:2021	Five	Once in three months for each capacity	In event of failure of even one of the 5 samples, additional 10 samples shall be tested and all of these shall pass
7.6.2	Pendulum Impact	7.6.2	IS 17526:2021	Five	Once in three months for each capacity	
7.7	Fixing Strength of Handle	7.7	IS 17526:2021	Three	Once in three months for each capacity	In event of failure of even one of the 5 samples, additional 10 samples shall be tested and all of these shall pass
7.8	Test for Strength of Shoulder Strap/Cord	7.8	IS 17526:2021	Three	Once in three months for each capacity	
7.9	Leakage Test	7.9	IS 17526:2021	Three	Each Control Unit	In event of failure of even one of the 3 samples, additional 7 samples shall be

7.10	Joint Leak Test	7.10	IS 17526:2021	Three	Each ControlUnit	tested and all of these shall pass
7.11	Staining Test	7.11	IS 17526:2021	Three	Once in three months for each capacity	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass
7.12	Length of the Shoulder Strap	7.12	IS 17526:2021	Three	Each ControlUnit	
7.13	Stability of Flask/Bottle	7.13	IS 17526:2021	Three	Each ControlUnit	
7.14	Pour Test	7.14	IS 17526:2021	Three	Each ControlUnit	
7.15	Endurance Test for O-Ring, Stopper and Washer	7.15	IS 17526: 2021	Three	Once in three months for each capacity	
7.1	Additional tests for Stainless Steel bottles made from grades N1, N2 of IS 15997 and welding is done in the food contact area of inner container					
7.1.2	Test for leaching	7.1.2, Annex C	IS 17526: 2021	One	Once in 3 months	
7.1.2	Sensorial test	7.1.2, Annex D	IS 17526: 2021	One	Once in 3 months	