



उत्पाद मैनुअल

भा. मा. 17790: 2022 के अनुसार
घरेलु उपयोग के लिए उष्मारोधी फ्लास्क के लिए
दस्तावेज संख्या-पी एम/आई एस 17790/4/ फरवरी 2026

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 लाइसेंसों 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 INSULATED FLASK FOR DOMESTIC USE ACCORDING to IS 17790:2022

Document No.-PM/IS 17790/4/ February 2026

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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PRODUCT MANUAL FOR INSULATED FLASK FOR DOMESTIC USE ACCORDING TO IS 17790: 2022

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1.	Product	:	IS 17790: 2022
	Title	:	Insulated Flask For Domestic Use
	No. of Amendments	:	Three
2.	Sampling Guidelines:		
a)	Raw material	:	• Welding electrode- Grade 308L as per IS 5856 • Inner container- Grade N1, N2 as per IS 15997 or IS 6911 or grade 304 series as per IS 5522 or IS 6911 or 316/316L as per IS 6911 • Outer Container and Lid, if of steel, - Grade N1, N2 as per IS 15997 or IS 6911 or grade 304 series as per IS 5522 or IS 6911 or 316/316L as per IS 6911 • Other components as per Cl. 7.1 of IS 17790: 2022 <i>Material of plastic shall be declared and conformity to declaration shall be ensured through test certificate of supplier</i> <i>Material of insulation shall be declared and conformity to declaration shall be ensured through test certificate of supplier</i>
b)	Grouping guidelines	:	Please refer ANNEX –A
c)	Sample Size	:	8 Nos.
d)	Sampling Guidelines during surveillance	:	In addition to the sample of product drawn during factory 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.
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. 7.2), Fixing strength of Handle (Cl. 7.6), Strength of Shoulder strap (Cl. 7.7), Strength of Cord (Cl. 7.8), Leakage test (Cl. 7.9), Joint leakage test (Cl. 7.10), Checking for PUF (Cl. 7.12), Seepage (Cl. 7.13), Lever, operating device for operating or regulating

			flow test (Cl. 7.14), Length of Shoulder Strap (Cl. 7.15), Stability of flask (Cl. 7.16), Pout test (Cl. 7.17)
6.	Scope of the Licence:	:	Licence is granted to use Standard Mark as per IS 17790:2022 with the following scope:
	Name of product	:	Insulated Flask For Domestic Use
	Material of container	:	• Both inner and outer container is of stainless steel • Inner container is of stainless steel and outer container is of plastic
	Type of flask based on heat and cold retention capability	:	i) Thermal insulated flask Type 1 ii) Thermal insulated flask Type 2
	Type of flask	:	Narrow mouth/Wide mouth
	Type of usage	:	Table top/ Use for transportation
	Nominal Capacity	:	From.....ml to Up to and including....ml

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ANNEX- A**Grouping Guidelines**

1. For the purpose of certification, Insulated flask for domestic use are classified as under:

Classification I: Type of Flask

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

Classification II: Type of flasks *(based on heat and cold retention capability)*:

- i) Thermal insulated flask Type 1
- ii) Thermal insulated flask Type 2

Classification III: Nominal Capacities

Group A	Up to and including 1000 ml
Group B	Above 1000 ml

Classification IV: Based on material

- Both inner and outer container is of stainless steel
- Inner container is of stainless steel and outer container is of plastic

Classification V: Based on type of use

- Table top
 - Use for transportation
2. For covering all nominal capacities from a group in the scope of licence, the sample of the highest and lowest nominal capacities from each group (group A/B- capacity wise, as above) for each type of flask (based on type of mouth, heat and cold retention capability, and type of usage), shall be tested separately for all requirements. Further, separate sample of each material type shall be tested separately to cover both types of materials as above.
 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 (For guidance only)

S.No.	Tests used in with Clause Reference	Test Equipment
1.	Minimum Thickness of Outer Container as per Cl 7.1.2.1, and of plastic casing as per Cl. 7.1.2.2	• Vernier Calipers or Micrometer
2.	Coating Thickness as per Cl 7.1.3	• Coating Thickness Gauge
3.	Capacity as per Cl 7.2	• Measuring Jars (with adequate marking to measure the capacity of flasks to the maximum capacity)
4.	Heat Retention Capability as per Cl 7.3	• Hot Plate • Thermometer • Air Conditioner • Stopwatch • Torque Wrench
5.	Cold Retention Capability as per Cl 7.4	• Refrigerator • Thermometer • Air Conditioner • Stopwatch • Torque Wrench
6.	Drop Impact Test as per Cl 7.5.1	• Drop Impact Test Fixture
7.	Pendulum Impact Test as per Cl 7.5.2	• Pendulum Impact Test Fixture
8.	Fixing Strength of the Handle as per Cl 7.6	• Test Fixture as per Figure 3 • Weighing Balance • Weights for adequate loading i.e. more than 6 times of mass of filled Flask • Stopwatch
9.	Test for Strength of Shoulder Strap as per Cl 7.7	• 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.	Test for strength of cord as per Cl. 7.8	• Test Fixture • Steel balls of appropriate weight • Scale or vernier caliper to measure elongation

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.	Seepage test as per Cl. 7.13	• Blue indelible ink • Scale
15.	Test for Lever, device for operating or regulating flow test as per Cl. 7.14	• Suitable fixture with counter
16.	Test for length of the shoulder cap as per Cl. 7.15	• Scale
17.	Stability of Flask as per Cl 7.16	• Plane Inclined at 10 degrees
18.	Pour Test as per Cl 7.17	• Measuring Jars • Cup with mouth opening 60-80 mm diameter • White Paper • Tea/Coffee • Steel Scale
19.	Test for leaching as per Cl.7.1.2.1, Annex C	Stimulants and instruments/equipment as per Annex C of IS 17790
20.	Sensorial test as per Cl. 7.1.2.1, Annex D	Stimulant as per Annex D of IS 17790
21.	Measurement of PUF density, Cl. 7.12, Annex-F	Weighing balance
22.	Tests for sticker, if used. Cl. 9.1	Test equipment, accessories as per Annex-G

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:

1.3.1 **Control Unit:** For the guidance of manufacturers, the recommended definition of Control Unit is quantity of all 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**. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan.

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 - As per the requirement of IS 17790:2022. The Standard Mark, as given in the Schedule of the licence, shall be marked on each insulated flask provided always that the product thus marked conforms to all the requirement of the specification..

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 (Recommended levels of control- For guidance only)

(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 17790	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 17790	Each Flask		
5.3	Welding Electrode	5.3	IS 17790 IS 5856	One	Each Consignment	No further testing is required if material is ISI marked.
7.1	Material	7.1	IS 17790 IS 15997 IS 5522 IS 3565 IS 6911	One	Each Consignment	No further testing is required in case received with test certificate or is ISI Marked. Material of plastic shall be declared and conformity to declaration shall be ensured through test certificate of supplier. Material of insulation shall be declared and conformity to declaration shall be ensured through test certificate of supplier.
7.1.2	Minimum Thickness of Outer Container	7.1.2	IS 17790	Three	Once in 3 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.

7.1.3	Coating Thickness	7.1.3 7.2	IS 17790 IS 9730	Three	Once in 3 months	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass.
7.1.3	Salt Water Corrosion Test	7.1.3 7.4	IS 17790 IS 9730	Three	Once in 3 months	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass.
7.1.3	Adhesion Test	7.1.3 7.5	IS 17790 IS 9730	Three	Once in 3 months	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass.
7.1.3	Lead Limit	7.1.3 Table 1	IS 17790 IS 9806	Three	Once in 6 months	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass.
7.1.3	Cadmium Limit	7.1.3 Table 1	IS 17790 IS 9806	Three	Once in 6 months	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass.

7.2	Capacity	7.2	IS 17790	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	Heat Retention Capability (1 hour, 3 hour*, 6 hour and 12 hour**) *3 hours- For type 2 flask only **12 hours- For type 1 flask only	7.3 & Annex A	IS 17790	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.
7.3	Heat Retention Capability (24 hours)- For type 1 flask only	7.3 & Annex A	IS 17790	Three	Once in 3 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.
7.4	Cold Retention Capability	7.4 & Annex B	IS 17790	Three	Once in a month for each capacity and material	
7.5.1	Drop Impact	7.5.1	IS 17790	Three	Once in 3 months	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass One sample of each capacity produced in 3 months shall be tested
7.5.2	Pendulum Impact	7.5.2	IS 17790	Three	Once in 3 months	
7.6	Fixing Strength of Handle	7.6	IS 17790	Three	Once in 3 months	

7.7	Test for Strength of Shoulder Strap	7.7	IS 17790	Three	Once in 3 months	
7.8	Test for strength of cord	7.8	IS 17790	Three	Once in 3 months	
7.9	Leakage Test	7.9	IS 17790	Three	Each Control Unit	
7.10	Joint Leak Test	7.10	IS 17790	Three	Each Control Unit	
7.11	Staining Test	7.11	IS 17790	Three	Once in 3 months	
7.12	Checking of PUF insulation	7.12, Annex-F	IS 17790	One	Once in 3 months	--
7.13	Seepage test	7.13	IS 17790	Three	Once in 3 months	In event of failure of even one of the 3 samples, additional 7 samples shall be tested and all of these shall pass
7.14	Test for lever, operating device for operating or regulating flow test	7.14	IS 17790	Three	Once in 3 months	
7.15	Length of the Shoulder Strap	7.15	IS 17790	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
7.16	Stability of Flask	7.16	IS 17790	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
7.17	Pour Test	7.14	IS 17790	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

7.1	<i>Additional tests for Stainless Steel material made from grades N1, N2 of IS 15997/IS 6911</i>					
7.1	Test for leaching	Annex C	IS 17790	One	Once in 3 months	
7.1	Sensorial test	Annex D	IS 17790	One	Once in 3 months	
9.1	Tests for sticker, if used	Annex G	IS 17790	One	Once in 3 months	