उत्पाद मैन्युअल
आई एस 17550 (भाग 1): 2024 के अनुसार
घरेलु प्रशीतन साधित्र – विशेषताएं और परीक्षण पध्तियाँ- सामान्य अपेक्षाओं के लिए

दस्तावेज संख्या - पी एम/आई एस 17550 (भाग 1) /3/ नवम्बर 2025

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूलयाांकन) अधिनियम , *2018* के तहत यह उत्पाद मैन्युअल प्रमाणीकरण के प्रचालन में रीति और पारदर्शिता की सुसगंतता सुनिश्चित करने के लि ए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसी द्वारा सन्दर्भ सामग्री के रूप में उपयोग किया जायेगा बीआईएस प्रमाणीकरण लाइससें/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है ।

PRODUCT MANUAL FOR
HOUSEHOLD REFRIGERATING APPLIANCES-
CHARACTERISTICS AND TEST METHODS- General Requirements
ACCORDING to IS 17550 (Part 1):2024

Document No.- PM/IS 17550 (Part 1)/3/November 2025

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 HOUSEHOLD REFRIGERATING APPLIANCES- CHARACTERISTICS AND TEST METHODS – GENERAL REQUIREMENTS ACCORDING TO IS 17550 (PART 1): 2024

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1.	**Product**	:	IS 17550 (Part 1): 2024
	Title	:	Household Refrigerating Appliances- Characteristics and Test methods- Part 1- General Requirements
	No. of Amendments	:	NIL
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	Supply cord- IS 694; Compressor- IS 10617, Temperature sensing Controls (Thermostat)- IS 60730-2-9
b)	**Grouping guidelines**	:	Please refer ANNEX – A
c)	**Sample Size**	:	01 No.
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**	**:**	Please refer ANNEX – D
6.	**Scope of the Licence**	**:**	Please refer ANNEX- E

BUREAU OF INDIAN STANDARDS
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7.	**Declarations for testing of sample**	**:**	a) Refrigerating appliance technology b) Rated total Volume, in litres c) Rated Voltage d) Door type e) Frozen Compartments contained f) Time required to pull down for Pull-down test as per Cl. 4.6 (a) of IS 17550-2 g) Cooling time for Cooling Capacity test as per Cl. 7 of IS 17550-2 h) Freezing capacity for Freezing Capacity test as per Cl. 8 of IS 17550-2 i) Ice-making capacity time for Automatic Ice-making capacity test as per Cl. 9 of IS 17550-2 **Note:** In addition to the above parameters, any other parameter as deemed necessary for testing as per the Standard, shall also be declared in the test request of sample

ANNEX A
Grouping Guidelines

1. Household Refrigerating appliances as per IS 17550 (Part 1): 2024 may be classified based on following parameters:

a) Based on refrigerating appliance technology:
- Frost free
- Direct Cool:
  - ✓ Mechanical
  - ✓ Absorption

b) Rated Total Volume, in litres

b) Rated Voltage

c) Door: Single/ Double/Multiple (Numbers to be specified)

d) Frozen Compartment contained:
- ✓ One-star
- ✓ Two-star
- ✓ Three-star
- ✓ Four-star

2. Based on the above classification, following guidelines shall be followed for considering Grant of Licence (GoL)/Change in Scope of Licence (CSoL):

a) Separate sample of appliances operating on each refrigerating appliance technology shall be tested for covering both technologies.

b) If all the other parameters of appliances in the range of appliances offered remain same, Refrigerating appliance of largest Rated Total Volume of the range offered shall be tested to cover the entire range of rated total volume offered.

b) If all the other parameters of appliances in the range of appliances offered remain same, Separate sample of each rated voltage shall be tested for covering all voltages.

c) If all the other parameters of appliances in the range of appliances offered remain same, Separate sample of each door type shall be tested for covering all door types.

d) Appliances varying in terms of frozen compartments contained: If all the other parameters of appliances in the range of appliances offered remain same then sample of appliance with highest star rating compartment may be tested to cover appliances with lower star rating compartments as well without separate testing of those appliances.

e) Wine storage appliance (i.e. appliance containing all compartments as wine storage compartments) shall be tested separately.

f) For ECO Mark, additional requirements as per Annex J of IS 17550-1 shall be complied with.

3. **All model numbers, along with their refrigerating appliance technology, rated total volumes, rated voltage and frequency, Door type, and frozen compartments contained, intended to be covered in the scope of licence, shall be declared by the manufacturer**. The scope of Licence may be restricted based on the Manufacturing and testing capabilities of the Manufacturer. BIS shall endorse the details of models also as an Annexure in the licence document.

4. During operation of the licence if any new model is intended to be covered within the existing scope of licence, the parameters as per para 3 above for all such new model numbers will be declared by licensee to BIS for records. The declaration shall be submitted by the manufacturer as per APPENDIX I through Manakonline (communication window) and the information shall be noted by BIS and these additional models will be endorsed in the licence document by revising the Annexure to the licence document containing the list of models. After submission of the declaration to BIS Branch Office through Manakonline, the licensee may use the standard mark on such new models without waiting for BIS to endorse the models in the licence. (**Licensee shall be able to produce documentary proof of having submitted this information to BIS**).

However, in case any discrepancy is observed post-facto due to which it is viewed that the models are not to be endorsed in the scope (e.g. if the added models do not fall within granted scope), Head of BIS Branch Office concerned, may, after giving the licensee an opportunity to explain, direct the licensee to cease marking on such models, or in case the appliances are already marked and dispatched, issue directions for product recall.

5. During the operation of the Licence, BO shall ensure that all the appliances covered in the Licence are tested in rotation, to the extent possible.

APPENDIX –I

FORMAT FOR DECLARATION FOR ADDING NEW MODELS WITHIN SCOPE OF LICENCE BY LICENSEE

Date:

Branch Office
Bureau of Indian Standards

Sir/Madam

Subject: DECLARATION FOR ADDING NEW MODELS WITHIN SCOPE OF LICENCE

With reference to my existing licence for Household Refrigerating Appliances- General requirements (Licence No CM/L-…..), I request BIS to add the following new models in the scope of my licence

List of new models intended to be covered in existing scope of licence

Model / Technical parameter	Model 1	Model 2	Model 3
Refrigerating appliance technology			
Rated total Volume, in litres			
Rated Voltage			
Door type			
Frozen Compartments contained			

I declare that the above models, as indicated above, fall within the existing scope of my licence.

I declare that the above information is true and correct to the best of my knowledge and undertake that in case my declaration is found defective or incorrect BIS may take action as deemed appropriate as per the BIS Act, Rules and Regulations which we shall comply with including recall of such products from the market.

Signature with date of Firm's authorized signatory

Name and designation

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.	Air tightness of doors and lids, Cl. 9	Strip of paper of required width and thickness, Micrometer
2.	Force of opening of doors and lids, Cl. 10	Force measuring instrument such as Force gauges or any other suitable device
3.	Durability test for Hinges and Handles of Doors and Lids, Cl. 11	Door Durability Tester / Door Fatigue Tester / Door opening –Closing cyclic arrangement fitted with angle protactor, cycle counter measurement device
4.	Mechanical Strength test of the shelves and similar components , Cl. 12	Height measure, Caliper or Ruler, Load
5.	Water-Vapour Condensation test, Cl. 13	Equipment to maintain humidity and temperature as per Annex D of IS 17550-2
6.	Ice making test, if applicable, Cl. 14	Test room as per Annex A of IS 17550-1
7.	Test for absence of odour and taste, Cl. 15	Analytical samples and check samples as per Cl. 15 of IS 17550-1
8.	Storage test, Cl. 6 of IS 17550-2	• Environment Test Chamber/test room • Thermocouple/Wire Sensors • Instrument for measuring Voltage, Current and power • RTD sensors • Dimmer/ Voltage and power Controller • Data Monitoring System , PLC. • Test Packages & M packages (Dimension and Mass as given in ISS) • Humidifier
9.	Cooling capacity test, Cl. 7 of IS 17550-2	
10.	Freezing capacity test, Cl. 8 of IS 17550-2	
11.	Automatic ice-making capacity test, Cl. 9 of IS 17550-2	
12.	Pull down test, Cl. 4.6 (a) of IS 17550-2	
13.	Wine Storage test, Cl. 4.6 (b) of IS 17550-2	
14.	Temperature rise test, Cl. 4.6 (c) of IS 17550-2	Environment Test Chamber/test room • Thermocouple/Wire Sensors

15.	Determination of Energy Consumption, Cl. 6 of IS 17550-3	• Instrument for measuring Voltage, Current and power • RTD sensors • Dimmer/ Voltage and power Controller • Data Monitoring System , PLC. • Test Packages & M packages (Dimension and Mass as given in ISS) • Humidifier
16.	Measurement of Volume, Cl. 4.8 and Annex H of IS 17550-3	Measuring tape, calliper, micrometer
17.	Thermostat functioning test, Cl. 8.11	Instruments to measure the cut off conditions
	Safety requirements , Cl. 16	
18.	Protection Against access to live parts, Cl. 8 of IS 302-1	Test probe B, 13 and 41 of IS 1401, Voltmeter, mili-ammeter, force gauges, 2000 ohm non-inductive resistor,
19.	Power input and current, Cl. 10 of IS 302-1	Voltmeter, Ammeter, Wattmeter, Timer
20.	Heating, Cl. 11 of IS 302-1	Temp recorder, Fine wire thermocouples, Winding resistance measurement system, Test Corner, probe for measurement of surface temperature
21.	Leakage current and electric strength at operating temperature, Cl. 13 of IS 302-1	IR Meter, Micro ammeter, HV Tester, Stopwatch
22.	Leakage current and Electric Strength (after humidity exposure), Cl. 16 of IS 302-1	Humidity Chamber with Temperature and Humidity controller, Leakage Current Tester/ Low impedance ammeter, HV test supply

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 manufacturers (licensees/applicants) will implement a Quality Assurance Plan 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 defining the control unit i.e. Batch and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4 below.

1.3 **RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT**:

1.3.1 **Control Unit**- For the purpose of this scheme, recommended control unit is Quantity of all Refrigerating appliances with same model number produced in one shift of production.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

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. Alternatively,the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in-house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer, and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in-house as "R" or other tests which can be sub-contracted as "S". Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as "R" in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing

facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 **Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as "R" in Column 2 of Table 1)**, where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 **TEST RECORDS**- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. **LABELLING AND MARKING** – As per the requirement of IS 17550 (Part 1), IS 17550 (Part 2) and IS 17550 (Part 3). Also, following information shall also be marked on each appliance: Rated Voltage and rated frequency of supply, frozen compartment contained, Number of doors and Energy Consumption in Watts.

In addition, the licence no. CM/L-_____and details of BIS website shall be marked at an appropriate place on product or package as follows: "For details of BIS certification please visit www.bis.gov.in".

4. **REJECTION** - All the production which conforms to the Indian Standard and covered under scope of the licence shall be marked with 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)	(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				
4	**Construction**						
5	Marking	5	IS 17500-1	-	One	Each Control Unit	-
8.6	Disposal of defrost water	8.6	IS 17550-1	-	One	Each Control Unit	-
8.7	Refrigerating system	8.7	IS 17550-1	-	One	Each Control Unit	
8.8	Supply cord	8.8	IS 17550-1 IS 694	S	Supply cord and Compressors are under mandatory BIS Certification and only ISI Marked material shall be received and used.		
8.9	Compressors	8.9	IS 17550-1 IS 10617	S			
8.10	Temperature Sensing Controls	8.10	IS 17550-1 IS 60730-2-9	S	One sample from each consignment		No further testing required in case material received is ISI Marked or

							received along with test certificate
8.11	Temperature Sensing Control setting	8.11	IS 17550-1	R	One	Each Control Unit	-
9	Air tightness of doors or lids	9	IS 17550-1	R	One	Each Control Unit	-
10	Force of opening of doors and lids	10	IS 17550-1	S	One	Once in 3 months	-
11	Durability of hinges and handles of doors and lids	11	IS 17550-1	S	One	Once in a year	Testing shall be done in such a way that sample of all model numbers produced in a year is tested at least once in a year.
8.5, 12	Mechanical strength of shelves and similar components	12	IS 17550-1	S	One	Once in a year	
13	Water vapour Condensation	13 4.6 (d)	IS 17550-1 IS 17550-2	S	One	Once in a year	
14	Ice making test	14	IS 17550-1	S	One	Once in a year	
15	Test for absence of odour and taste	15	IS 17550-1	S	One	Once in a year	
16	***Safety Requirements***						

	Protection against access to live parts	16 (a) 8	IS 17550-1 IS 302-1	R	Each appliance		-
	Power input and current	16 (b) 10	IS 17550-1 IS 302-1	R	One	Each Control Unit	-
	Heating	16 (c) 11	IS 17550-1 IS 302-1	S	One	Once in a year	Testing shall be done in such a way that sample of all model numbers produced in a year is tested at least once in a year.
	Moisture resistance	16 (e) 15	IS 17550-1 IS 302-1	S	One	Once in a year	
	Leakage current and electric strength (high voltage after humidity)	16 (f) 16	IS 17550-1 IS 302-1	S	One	Once in a year	
	Leakage Current and electric strength at operating temperature	16 (d) 13	IS 17550-1 IS 302-1	R	Each appliance		-
20.1	Storage test	6	IS 17550-2	S	One	Once in a year	Testing shall be done in such a way that sample of all model numbers produced in a year is tested at least once in a year.

20.1	Cooling capacity test	7	IS 17550-2	S	One	Once in a year	Testing shall be done in such a way that sample of all model numbers produced in a year is tested at least once in a year.
20.1	Freezing capacity test	8	IS 17550-2	S	One	Once in a year	
20.1	Automatic Ice making capacity test	9	IS 17550-2	S	One	Once in a year	
20.1	Pull down test	4.6 (a)	IS 17550-2	S	One	Once in a year	
20.1	Wine storage test	4.6 (b)	IS 17550-2	S	One	Once in a year	
20.1	Temperature rise test	4.6 (c)	IS 17550-2	S	One	Once in a year	
20.1	Measurement of volume	4.8 Annex H	IS 17550-3	S	One	Once in a year	
20.1	Determination of Energy Consumption	6	IS 17550-3	S	One	Once in a year	
	For ECO-Mark labelling, additional requirements as per Annex- J shall be conducted as per the levels of control as agreed between purchaser and manufacturer						

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ANNEX D

Possible Tests in a Day

1) Pull down test, Cl. 4.6 (a) of IS 17550-2
2) Wine storage test, Cl. 4.6 (b) of IS 17550-2
3) Measurement of volume, Cl. 4.8 of IS 17550-3
4) Air tightness of doors or lids, Cl. 9 of IS 17550-1
5) Force of opening of doors and lids, Cl. 10 of IS 17550-1
6) Mechanical Strength of shelves and similar components, Cl. 12 of IS 17550-1
7) **Safety tests as per IS 302-1**
   a) Protection against Access to live parts, Cl. 16 (a) of IS 17550-1and Cl. 8 of IS 302-1
   b) Power Input and current, Cl. 16 (b) of IS 17550-1and Cl. 10 of IS 302-1
   c) Leakage current and HV Test , Cl. 16(d) of IS 17550-1 and Cl. 13 of IS 302-1
   d) Earth Continuity test, Cl. 20.3 (b) of IS 17550-1 and A-1 of IS 302-1
   e) Electric strength test, Cl. 20.3 (d) of IS 17550-1 and A-2 of IS 302-1

ANNEX F

Scope of Licence

"Licence is granted to use Standard Mark as per IS 17550 (Part 1):2024 with the following scope:	
Name of the product	Household Refrigerating appliances- General Requirements
Refrigerating appliance technology	
Rated total Volume, up to and including, in litres	
Rated Voltage	
Door type	
Frozen Compartments contained	

Annexure to Scope of licence-List of models covered in scope of licence

Model / **Technical parameter**	**Model 1**	**Model 2**	**Model 3**
Refrigerating appliance technology			
Rated total Volume, in litres			
Rated Voltage			
Door type			
Frozen Compartments contained			