PRODUCT MANUAL FOR DOMESTIC PRESSURE COOKER AS PER IS 2347:2023

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 license/certificate.

1.	**Product**	:	IS 2347:2023
	Title	:	Domestic Pressure Cooker
	No. of Amendments	:	Three
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	Please refer ANNEX-A
b)	**Grouping guidelines**	:	Please refer ANNEX-B
c)	**Sample Size**	:	One Pressure Cooker (Two, in case of Induction bottom). In addition one additional gasket, PRD, SRD as necessary shall also be drawn
3.	**List of Test Equipment**	:	Please refer ANNEX – C
4.	**Scheme of Inspection and Testing**	:	Please refer ANNEX – D
5.	**Possible tests in a day**	:	All tests except for coating tests
6.	**Scope of the Licence :**		
	Licence is granted to use Standard Mark as per IS 2347 :2023 with the following scope:		
	Name of the product		Domestic Pressure Cooker
	Capacities		
	Type of coating (if applicable)		Hard Anodized /Non-stick/Powder coated/Ceramic coated/ High temperature resistant liquid coated
	Lid		Inner Lid/Outer Lid/Cooker fastened by Screw clamp or any other locking device/Lid fitted with glass
	Material		Aluminium Alloy/Stainless Steel/3-ply construction
	Nature of bottom/base (if applicable)		Induction friendly/Composite bottom
	Shape		
	Safety Pressure Relief Device		Resettable/Destructible
	External/Integral electrical heat source		
7.	Any other product specific guidelines	:	Please refer ANNEX-E on guidelines on sharing of manufacturing facilities for anodizing between BIS licensees

BUREAU OF INDIAN STANDARDS
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New Delhi – 110002

ANNEX- A

Raw Material

Components	Raw Material
Body, Lid, Containers and Grid	Clause 5.1 of IS 2347
Safety Relief Device	Clause 5.2 of IS 2347
Gasket	Conforming to IS 7466
Handles and Knobs	Clause 5.4 of IS 2347
Pressure Regulating Device	Clause 5.5 of IS 2347
Vent Seal Pin for Pressure Regulating Device	Clause 5.6 of IS 2347
Vent Pipe	Clause 5.7 of IS 2347
Vent Pipe Nut	Clause 5.8 of IS 2347
Spring	Clause 5.9 of IS 2347
Tempered glass lid (for serving purpose only), if provided	Clause 5.10 of IS 2347
Rim of tempered glass lid (for serving purpose only), if used	IS 5522 or IS 15997
Visual Pressure Indicator, if provided	Conforming to IS 733/IS 739 for Aluminum material Conforming to IS 6603/IS 6528 for Stainless Steel Conforming to IS 7466 for rubber parts
Gasket release System	Clause 5.12 of IS 2347

ANNEX - B

Grouping Guidelines

1. The parameters given below shall be considered for grouping of Domestic Pressure Cooker as per IS 2347: 2023 for GoL/CSoL:

   (a) Nominal Capacity

Group	Nominal Capacity (litres)
Group I	1 to 6.5
Group II	7 to 15.5
Group III	16 to 24

   (b) Type of coating (if applicable): Hard Anodized/Non-stick/Powder coated/ Ceramic coated/ High temperature resistant liquid coated

   (c) Lid: Inner Lid/Outer Lid/Cooker fastened by Screw clamp or any other locking device/ Lid fitted with glass

   (d) Material: Aluminium Alloy/Stainless Steel/3-ply construction

   (e) Nature of Bottom/Base (if applicable): Induction friendly/Composite bottom

   (f) Shape: As declared *(Drawing as per Cl. 6.8 to be collected)*

   (g) Safety Relief Device: (Resettable/Destructive)

   (h) External/Integral electrical heat source

2. Pressure Cooker (Of highest nominal capacity) of same Type (Type of coating, Type of Lid, Material, Nature of Bottom/Base, Shape, Safety Relief Device and heat source) from each group of capacities, as above, shall be tested to cover the all nominal capacities from the particular group. However, if Pressure Cooker with any type of coating i.e. Hard Anodized/ Non-stick/ Powder coated/ Ceramic coated/ High temperature resistant liquid coated is tested, Pressure Cookers without coating from the same group may also be covered.

3. In addition to the samples of varieties drawn for independent testing as per the above guidelines, factory test reports of all other varieties intended to be covered in scope of license, shall also be submitted by the manufacturer.

4. A fully dimensioned sectional drawing of the pressure cooker and its material along with grades, shall be submitted by the manufacturer for each variety as per Cl. 6.8 of IS 2347. Firm shall also declare optional accessories (Glass lid, Visual Pressure Indicator, Chain for linking PRD with Vent Tube) with each variety. Wherever supplied, Conformity of these optional accessories shall be ensured as per IS 2347: 2023.

5. The Firm shall declare the varieties of Domestic Pressure Cookers intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing and testing capabilities of the Manufacturer.

6. During operation of the licence if any new model is intended to be covered within the existing scope of licence (due to changes in technical parameters other than those mentioned above), drawing along with factory test report for all such new models will be submitted by licensee to BIS for records through Manakonline (communication window) and the information shall be noted by BIS. After submission of the drawing and test reports to BIS Branch Office through Manakonline, the licensee may use the standard mark on such new models. (Licensee shall be able to produce documentary proof of having submitted this information to BIS).

7. 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 - C

List of Test Equipment

Indicative list of major test equipment required to test as per the Indian Standard (For guidance only)

Sl. No.	Test	Clause	Test equipment
1.	Capacity Test	4.1, Annex-B	Measuring Jar
2.	Diameter of Vent Pipe	6.1.1	Vernier caliper
3.	Staining test for stainless steel cooker (without composite bottom)	5.1.3	99% Glacial Acetic acid Sodium Chloride Distilled Water
4.	Test for temperature responsive pressure relief device	6.3, Annex C, Annex D	Pressure Gauge
			Measuring Jar
			LPG Gas Stove
			LPG Cylinder
5.	Test for Hard Anodized Surface	7.4, Annex-E	Coat Thickness Measurement arrangement as per Annex E
			Arrangement for Abrasion resistance as per IS 6057
			Arrangement for Hardness test as per Annex E
		Clause E 5	Gas Stove with LPG Cylinder or any suitable arrangement
			Nitric Acid
			Aluminium Blue 2LW
			Methyl violet
			Methyl Alcohol/ Anthraquinone Violet R Dye Solution
			Thermometer
			Stop Watch
		Annex P	5% Sodium Hydroxide Solution
			Gas Stove with LPG Cylinder or any suitable arrangement
			Thermometer
			Multimeter
6.	Air Pressure Test	8.1	Air Compressor
			Pressure Gauge
7.	Proof Pressure Test	8.2	Fabricated Hydraulic Set up
			Pressure Gauge
8.	Operating Pressure Test Pressure Regulating Device	8.3	Pressure Gauge
			Measuring Jar
			LPG Gas Stove
			LPG Cylinder
9.	Test for safety Pressure Relief Device	8.4	Pressure gauge
			Measuring Jar
10.	Bursting Pressure Test	8.5	Fabricated Hydraulic set up

			Pressure Gauge
11.	Test for Removal of Lid under pressure	8.6	Fabricated Set up
			Dead Weight
			Pressure Gauge
12.	Test for Spring loaded Mechanism	8.7	Set up for Spring Loaded Test
			Vernier Calipers
13.	**Test For Composite Bottom**	8.8	
	Thickness		Micrometer
	Dimension		Steel Rule
	Coating Thickness Test		Coat Thickness meter
	Adhesion test		Steel Ball of 500gms
	Thermal Shock Test		Oven
	Dry Heat Test		LPG Stove or any suitable arrangement
	Staining Test		99% Glacial Acetic acid Sodium Chloride Distilled Water
14.	Test for Induction Bottom	8.9	Induction cook top
			Gas Stove with LPG Cylinder
			Thermometer
15.	External coating	8.11	Equipments as mentioned in IS 2347, IS 9730 & IS 9806
16.	Internal coating	8.12	Equipments as mentioned in IS 9730
17.	Electrical requirements	8.13	Equipments as per IS 302-2-15
18.	Test for Adhesion of 3 ply construction cooker body	8.14, Annex S	Hot air oven or any other equipment
19.	Test for conformity of glass lid and lid fitted with glass	8.15.1	Centre Punch, transparent tape **for Fragmentation test**
		8.15.2	Steel Ball of specified dimension and weight **for Ball drop test**
		8.15.3	Oven for **Thermal shock test**
		8.15.4	Testing arrangement **for Free fall test**
20.	Test for conformity of chain for linking PRD with vent tube	8.16	Weight as specified at Cl. 8.16.1
21.	Test for effectiveness of induction bottom	8.17, Annex-S	Induction cooktop
	Additional requirements for electric pressure cooker		
22.	Test for Handles and Knobs	5.4, 8.10	Suitable testing a rrangement as per IS 302-1
23.	Pressure Regulating Device,	5.5	
24.	Temperature responsive safety relief device	6.3.3	Testing arrangement as per Cl. 6.3.3
25.	Test for removal of lid under pressure	8.6.4	Testing arrangement as per IS 302-2-15

The above list is indicative only and may not be treated as exhaustive.

ANNEX - D
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 theStandard 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 differenttests 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 For the guidance of manufacturers, the recommended definition of Control Unit is the quantity of all Pressure Cookers of the same Nominal Capacity and Type manufactured under similar conditions of manufacturing in a day.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommendedlevels 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 requirementsof 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. PACKING, LABELLING AND MARKING - As per the requirement of IS 2347:2023. The Standard Mark, as given in the Schedule of the licence, shall be marked on each cooker 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	Requirement	**Test Methods Clause**	**Reference**	No. of Sample	Frequency	Remarks
4	Capacity	4	IS 2347	Two	Each Control Unit	
5	**MATERIALS**					
5.1	Body, Lid, Containers and Grid	5.1	IS 2347 IS 5522 IS 6911 IS 15997 IS 21	One	Each consignment	#
5.2	Safety Relief Device	5.2	IS 2347	One	Each consignment	
5.3	Gasket	5.3	IS 2347	Six	Each consignment	
5.4	Handles and Knobs	5.4	IS 2347	One	Each consignment	
5.5	Pressure Regulating Device	5.5	IS 2347	One	Each consignment	
5.6	Vent Seal Pin for Pressure Regulating Device	5.6	IS 2347	One	Each consignment	
5.7	Vent Pipe	5.7	IS 2347	One	Each consignment	
5.8	Vent Pipe Nut	5.8	IS 2347	One	Each consignment	
5.9	Spring	5.9	IS 2347	One	Each consignment	
5.10	Tempered Glass lid, if provided	5.10	IS 2347 IS 5522 IS 15997	One	Each Consignment of lid having same thickness	

5.11	Visual Pressure Indicator	5.11	IS 2347 IS 733 IS 739 IS6527 IS6528 IS 7466 IS 1068 IS 1868 IS 6003	One	Each consignment	#
5.12	Gasket Release system	5.12	IS 2347	One	Each consignment	
6	**CONSTRUCTION**					
6.1	Pressure Regulating Device	6.1.1 to 6.1.5	IS 2347	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
6.1.6	Chain for linking PRD, if provided	6.1.6	IS 2347			
6.2	Safety Relief Device	6.2	IS 2347			
6.3	Temperature Responsive Device	6.3.1, Annex C	IS 2347	One	Each Control Unit	---
		6.3.2, Annex D	IS 2347	One	Each Control Unit	---
		6.3.3	IS 2347	One	Each Control Unit	
6.4	Handles and Knobs	6.4	IS 2347	One from each Component	Each control unit	#
7.1, 7.2	Workmanship and Finish	7.1,7.2	IS 2347	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
7.3		7.3	IS 2347	One from each Component	Each consignment	#
7.4	***Test for Hard Anodized Surface Annex- E IS 2347***					
	Finish and Appearance	5.1, 5.2	IS 6057	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained		

	Thickness		IS 5523 IS 6012	One	Each Control Unit	---
	Abrasion Resistance	7	IS 6057	One	Each Control Unit	---
	Hardness Test (Type Test)	E-4.1	IS 2347	One	Once in Six months or Two Lakh cookers whichever is earlier	---
	Hardness Test (Routine Test)	E 4.2 10.1	IS 2347 IS 6057	One	Each Control Unit	---
	Resistance to Staining of Anodized Coating	E 5, Annex N	IS 2347	One	Once in a week	---
	Alkali Resistance	E 6, Annex P	IS 2347	One	Once in a week	---
8	**TESTS**					
8.1	Air pressure test	8.1	IS 2347	One	Each Control Unit	---
8.2	Proof Pressure Test	8.2, Annex F	IS 2347	One from each capacity and Type	Once in a month	---
8.3	Operating Test for Pressure Regulating Device	8.3, Annex G	IS 2347	Each PRD		---
8.4	Test for Safety Pressure Relief Device	8.4, Annex H Annex G	IS 2347	Five	Each consignment	---
8.5	Bursting Pressure Test	8.5, Annex J	IS 2347	One from each capacity and Type	Once in a month	---
8.6	***Tests for Removal of Lid under Pressure***					

8.6	For Outer Lid Cooker	8.6.1, Annex K	IS 2347	One from each capacity and Type	Once in a month	---
	For Inner Lid Cooker	8.6.2, Annex L	IS 2347			
	For Cooker fastened by Screw Clamps or any other locking device	8.6.3	IS 2347			
	For Electrical pressure cooker	8.6.4	IS 2347			
8.7	Test for Spring Loaded Mechanism	8.7	IS 2347	One from each capacity and Type	Once in a month	---
8.8	Test for Composite base/ bottom	8.8	IS 2347 IS 15960	One from each capacity and Type	Once in a month	---
8.9	Test for Induction compatible base	8.9, Annex M	IS 2347	One from each capacity and Type	Once in a month	---
8.10	Test for Handles	8.10 8.10.1	IS 2347 IS 13395 IS 302-1	One from smallest and one from largest capacity	Once in a year	#
8.11	**External Coating (Powder Coating/Ceramic coating/ High temperature resistant liquid coating) -*wherever applicable***					
	Thickness	7.2	IS 9730	One	Once in a month	Sample shall be tested whenever there is change in composition of coating material/ process of coating.
	Adhesion	7.5	IS 9730	One	Once in a month	
	Thermal shock	8.11.1	IS 2347	One	Once in a month	Sample shall be tested whenever there is change in composition of coating material/ process of coating.
	Coating	5	IS 9806	One	Once in six months	
8.12	**Internal Coating (Non-Stick Coating) as per IS 9730 (*wherever applicable)***					

	Visual Defects	4.2	IS 9730	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained		
	Thickness	4.3	IS 9730	5% of total production or five cookers *Min.*	Once in a week	Sample shall be tested whenever there is change in composition of coating material/ process of coating.
	Non- Stick Quality	4.4	IS 9730	Two	Once in a week	Sample shall be tested whenever there is change in composition of coating material/ process of coating.
	Salt Water Corrosion Resistance	4.5		One		
	Adhesion	4.6		One		
8.13	*Electrical Requirements for pressure cooker with integral electrical heating device,* ***as applicable as per IS 302-2-15***					
	Type Tests as applicable as per IS 302-2-15					
	Power input and current	10	IS 302-2-15	One from each capacity and type	Once in 3 months	
	Heating	11	IS 302-2-15		Once in 3 months	
	Leakage Current and electric strength at operating temperature	13	IS 302-2-15		Once in 3 months	
	Transient overvoltages	14	IS 302-2-15		Once in 3 months	
	Moisture resistance	15	IS 302-2-15		Once in 3 months	
	Leakage current and electric strength	16	IS 302-2-15		Once in 3 months	

	Overload protection of transformers and associated circuits	17	IS 302-2-15		Once in 3 months	
	Abnormal operation	19	IS 302-2-15	One from each capacity and type	Once in 3 months	
	Stability and mechanical hazards	20	IS 302-2-15		Once in 3 months	
	Mechanical strength	21	IS 302-2-15		Once in 3 months	
	Construction	6.5 22	IS 2347 IS 302-2-15		Once in 3 months	
	Internal wiring	23	IS 302-2-15		Once in 3 months	
	Components	24	IS 302-2-15		Once in 3 months	
	Supply connection and external flexible cords	25	IS 302-2-15		Once in 3 months	
	Terminals for external conductors	26	IS 302-2-15	One from each capacity and type	Once in 3 months	
	Screws and connections	28	IS 302-2-15	One from each capacity and type	Once in a month	
	Clearances, creepage distances and solid insulation	29	IS 302-2-15		Once in a month	
	Resistance to heat and fire	30	IS 302-2-15		Once in a month	
	Resistance to rusting	31	IS 302-2-15		Once in a month	
	Radiation, toxicity and similar hazards	32	IS 302-2-15		Once in a month	

	Routine Tests					
	Protection against access to live parts	8	IS 302-2-15	Each cooker		
	High voltage	13.3	IS 302-2-15	Each cooker		
	Provisions for earthing	27	IS 302-2-15	Each cooker		
8.14	Test for Adhesion of 3 ply construction cooker body	8.14 Annex S	IS 2347	One from each capacity and type	Once in a month	
8.15	***Tests for conformity of tempered glass lid (for serving purpose only) and lid fitted with glass***					
	Fragmentation test	8.15.1	IS 2347	One	Each consignment of lid having same thickness	
	Ball drop test	8.15.2	IS 2347	One	Each consignment of lid having same thickness	
8.15	**Thermal shock test**	8.15.3	IS 2347	One	Each consignment of lid having same thickness	
	Free fall test	8.15.4	IS 2347	One	Each consignment of lid having same thickness	
	Thickness of glass	8.15.5	IS 2347	One	Each consignment of lid having same thickness	
8.16	Test for conformity of chain for linking PRD with vent tube	8.16.1	IS 2347	One	Each consignment of chain	
8.17	**Test for effectiveness of induction bottom**	8.17 Annex S	IS 2347	One from each capacity and type	Once in a month	

5.1.3	Staining test for Stainless steel Cooker	5.1.3 7.3	IS 2347 IS 15960	One from each capacity and type	Once in a week	

No further testing is required if accompanied with Test Certificate or ISI marked.

ANNEX- E

Guidelines on sharing of manufacturing facilities for anodizing between BIS Licensees

A. Definitions:

Supplier licensee: In the context of these guidelines, supplier licensee is the BIS licensee who does not have in-house facility for anodizing and wishes to get the products anodized from another BIS licensee.

Receiver licensee: In the context of these guidelines, Receiver licensee is the BIS licensee who has in-house facility for anodizing and does the anodizing process for the supplier licensee.

B. Guidelines:

If a licensee who is holding BIS licence for IS 2347, does not have in-house facility for anodizing and wishes to get the products anodized from another BIS licensee (as per IS 2347) who has the facility for anodizing, the same may be permitted, subject to the following:

a) Both supplier as well as receiver manufacturers, shall have BIS licence for Domestic Pressure Cooker as per IS 2347: 2023.

b) As per BIS (Conformity Assessment) Regulations, licence under Scheme-I is granted at a manufacturing premise where a part of the manufacturing activity takes place and includes the premises where the final manufacturing activity is carried out and where Standard Mark is to be used or applied. Therefore, detailed premise-wise break up of all the manufacturing activities along with in-process control, from receipt of raw material to finished and ISI marked product shall be submitted to BIS.

c) Permission may be granted after suitable verification of incoming/outgoing material records, machinery etc. through special inspection.

d) After anodizing process, the product shall be received back at the supplier licensee, where further processing, testing, and packing and dispatch shall be done.

e) An undertaking shall be submitted by the supplier licensee that they shall be responsible for adequacy of check points of the outsourced activity and also maintain record for incoming and outgoing semi-finished products.

f) The product shall be marked with BIS Certification Marks licence no. of the supplier licensee.

g) For all such semi-finished products, list of consignees shall be submitted by supplier licensee on quarterly basis to BIS. The receiver licensee shall also submit the list of all suppliers with details of goods received to BIS on quarterly basis.

h) There shall be proper record maintenance of all such semi-finished products indicating quantity, Batch No./ Date of manufacturing, date of supply, date of anodizing operations done, and receipt of the anodized product back to the supplier licensee etc. both at supplier as well as receiver end. Records of in-process inspections shall also be supplied with product to receiver licensee. BIS shall be given access to all such records.

i) Copy of all such legal agreements between supplier and receiver licensee shall be submitted by the supplier licensee to BIS, in advance and only after obtaining permission from BIS anodizing shall be started.

j) In case of failure of products or complaints on quality of products, actions as per BIS Rules shall be taken against the supplier licensee as the product is to be marked with his licence number *and he bears the onus for final quality of the product including of anodizing requirements*.

k) Even though the product is not marked with his licence number, the receiver licensee shall always give access to BIS for any verification/investigation.

l) In case of dispute between the licensees, BIS will have no role in dispute settlement and the directions given by BIS to the respective party shall be binding on them. Licensees shall submit an *affidavit* to this effect *on a stamp paper*.