उत्पाद मैन्युअल

घरेलु और समान विद्युत साधित्रो की सुरक्षा भाग 2 विशेष अपेक्षाएँ अनुभाग 7 कपड़े धोने की मशीन आई एस 302 (भाग 2/ अनुभाग 7) : 2024 के अनुसार

PRODUCT MANUAL
SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – DOMESTIC ELECTRIC CLOTHES WASHING MACHINES ACCORDINGTO IS 302 (Part 2/ Sec 7) : 2024

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो) अनुरूपता मूल्यांकन (विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity 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.

1.	मानक संख्या **IS No.**	:	IS 302 (Part 2/ Sec 7) : 2024
	शीर्षक **Title**	:	Safety of household and similar electrical appliances – Part 2 Particular Requirements – Section 7 Domestic electric clothes washing machines.
	संशोधनों की संख्या **No. of amendments**	:	0
2.	नमूना दिशानिर्देश **Sampling Guidelines:**		
a)	कच्चा माल **Raw material**	:	• Components as per Cl. 24 of IS 302 (Part 2/ Sec 7)
b)	समूहीकरण दिशानिर्देश **Grouping Guidelines**	:	Please refer ANNEX – A
c)	नमूने का परमाण **Sample Quantity**	:	1 no. (For GoL/ CSoL/ Surveillance)
3.	परीक्षण उपकरणों की सूची **List of Test Equipment**	:	Please refer ANNEX – B

4.	निरिक्षण और परीक्षण की स्कीम **Scheme of Inspection and Testing**	:	Please refer ANNEX – C
5.	एक दिन में संभावित परीक्षण **Possible tests in a day:**	:	Please refer ANNEX-D
6.	लाइसेंस का दायरा **Scope of the Licence**	:	As per below table

"License is granted to use Standard Mark as per IS 302 (Part 2/ Sec 7) :2024 with the following scope:

	Name of the Product	Safety of Household and Similar Electrical Appliances – Domestic Electric Clothes Washing Machines		
	Type of Appliance	Agitator Washing Machine	Impeller Washing Machine	Impeller Washing Drum Washing Machine
	Loading type	(Top Load)		(Front Load)
	Maximum mass of dry cloth	…..(in kg)		…..(in kg)
	Construction and other features	With separate drums for washing and water extraction that cannot be used simultaneously / With separate drums for washing and water extraction that can be used simultaneously / With single drum for washing and water extraction / With single drum for washing, water extraction and drying / with / without in- built heater, with / without programmable controller / any other special feature(s) that may affect the safety of the Washing Machine		With single drum for washing and water extraction / With single drum for washing, water extraction and drying / with / without in-built heater, with / without programmable controller / any other special feature(s) that may affect the safety of the Washing Machine
	Type of Operation	With hand operated wringer / Power driven wringer/ Without wringer		Not Applicable
	Method of Washing	With detergent / Detergent free Electrolyser		With detergent / Detergent free Electrolyser
	Rating	__ W, __V, __ Hz,__ Single phase, ac		__ W, __V, __ Hz,__ Single phase, ac

ANNEX –A

समूहीकरण दिशानिर्देश
Grouping Guidelines

1) Domestic Electric Clothes Washing Machines are classified based on the following parameters:

a. Type of appliance:
   i. Agitator Washing Machine (Top load)
   ii. Impeller Washing Machine (Top load)
   iii. Drum Washing Machine (Front load)

b. Maximum mass of dry cloth (in kg)

c. Construction and other features:
   i. With separate drums for washing and water extraction that cannot be used simultaneously
   ii. With separate drums for washing and water extraction that can be used simultaneously
   iii. With single drum for washing and water extraction
   iv. With single drum for washing, water extraction and drying
   v. with / without in-built heater, with / without programmable controller / any other special feature(s) that may effect the safety of the Washing Machine

d. Type of Operation - With hand operated wringer / Power driven wringer/ Without wringer (For Top load only)

e. Method of Washing (With detergent / Detergent free Electrolyser)

2) For considering GoL / CSoL for a given type of appliance (Agitator / Impeller / Drum), one washing machine of maximum rated capacity (maximum mass of dry cloth) shall be tested to cover all other models with less than the variety tested provided there is no change in any of the parameter as per 1(c), 1(d) & 1(e).

3) In addition to the above, the following relaxation may also be considered subject to the condition that type of appliance and class of appliance remain same:

   i. In case a sample with higher insulation class is tested in a group, then the varieties of washing machine with lower insulation class in that group may be covered.
   ii. In case an appliance with higher degree of protection is tested in a group, then the varieties of washing machine with lower degree of protection in that group may be covered.

4) In case of change in colour/ aesthetic changes, separate testing may not be required.

5) Along with the declarations at Sl. 1 above, manufacturer shall also declare the following for each of the model(s):
   a) Class of Appliance
   b) Degree of protection
   c) Material Group
   d) Pollution Degree
   e) Instruction/ operation manual along with photographs of the product for each model of appliance.

6) During the operation of the Licence, BO shall ensure that models of all the rated capacity covered in the scope of the licence shall be tested in rotation to the extent possible.

ANNEX – B

परीक्षण उपकरण की सूची
List Of Test Equipment

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Test equipment required to cover the entire test defined in the IS 302 (Part 2/Sec 7) : 2024

S. No.	Test equipment list	Test used in with clause reference
1	Petroleum spirit (n-Hexane), Cloth, Stopwatch	CL 7 (Marking and instruction)
2	Test probe-B, Test Probe-13, Test probe-41, Push-Pull Gauge, Voltmeter	CL8 (Protection against access to live parts)
3	Wattmeter, Ammeter, Voltmeter,	CL 10 (Power Input and current)
4	Digital temp data logger, Steel scale, Voltmeter, Wooden test corner, Fine wire thermocouple (wires with a diameter not exceeding 0.3 mm), Stopwatch ,	CL 11 (Heating)
5	Leakage current tester, Voltmeter, stopwatch, HV tester, Humidity chamber, IP test setup, NaCl, Metal foil , Detergent & Rinsing agent (as per Annex AA)	CL 13, CL 15, CL 16 (Leakage current and electric strength at operating temperature, Moisture resistance, Leakage current and electric strength)
6	Wattmeter, Variable voltage supply, Digital temp data logger, HV tester, Metal Foil, Fine wire thermocouple, Stopwatch, Surge test generator,	CL 19 (Abnormal Operation)
7	Inclined plane, Angle Finder, Push-pull gauge, Test probe similar to test probe B(as per cl 20.2), Steel scale, Spring Impact Hammer, vernier caliper, scratch tester, test fingernail(as per Cl.21.2) , Door Endurance test apparatus, Impact tester, Compression resist tester	CL 20 (Stability and mechanical Hazards), CL 21 (Mechanical Strength) CL 18 (Endurance)
8	Test probe-B, Test probe-13, Test probe-41, Torque meter, Push-pull Gauge, Hot Air Oven, syringe, colored water, Stopwatch, Voltmeter, Multimeter, Vernier Caliper, Iron bars, electrodes, hydrogenated oil, gravy, salt-free butter, fuchsine, methylated spirit, Door Endurance test apparatus	CL 22 (Construction)
9	Flexing Test Apparatus, HV tester, Metal Foil, Stopwatch	CL 23 (Internal Wiring)
10	LCR meter, Endurance test apparatus	CL 24 (Components)
11	Vernier Caliper, weighing balance, Cord grip test apparatus, Stopwatch, Resistance meter, Torque Screw Drivers, HV tester, Metal foil, Cord flexing test apparatus, Push-pull gauge, vernier, slip gauges.	CL 25 (Supply connections and External Flexible Cords), CL 26 (Terminal for external Conductors) CL 28 (Screws and connections), CL 29 (Clearances, Creepage Distances and solid insulation insulation)

12	Earth continuity tester, Dry Film thickness Meter	CL 27 Provision for Earthing
13	Hot Air Oven, Ball pressure test apparatus, Vernier caliper, Glow wire tester, magnifying glass with 20X magnification, Humidity Chamber with Temp and Humidity Controller, Needle flame tester	CL 30 (Resistance to heat and Fire)
14	Humidity Chamber with Temp and Humidity Controller, Measuring Cylinder 500 ml Ammonium Chloride, Carbon Tetrachloride, Distilled Water	CL 31 (Resistance to rusting)
15	Temperature data logger, Fine wire thermocouples, Test Corner	CL 17 (Overload protection of transformers and associated circuits)
16	Impulse voltage test generator and monitor, slip gauges, vernier caliper	CL 14 (Transient Over Voltages)
17	Temperature Indicator	For all clause

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

ANNEX – C

निरीक्षण एवं परीक्षण की स्कीम
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. lot/batch etc.) 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.

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

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: **All Domestic Electric Clothes Washing Machines of each model number manufactured in a day, shall constitute a control unit**. The manufacturer has the choice to define their own control unit/batch/lot and submit the same to the BIS.

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 subcontracted 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 testsgiven 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 theprovisions 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. MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on **each Domestic Electric Clothes Washing Machines** provided always that the **Domestic Electric Clothes Washing Machines** so marked conforms to each requirement of the specification. Additionally, marking shall be done as per the Cl. 7 of **IS 302 (Part 2/ Sec 7) : 2024.**

3.1 **Additional Marking requirements**:

a) The material shall also be marked with the following additional requirement on packaging: "For BIS certification details please visit www.bis.gov.in"
b) Instruction shall be provided with each **Domestic Electric Clothes Washing Machines** as per requirement prescribed at Cl. 7.12 of the IS 302 (Part 2/ Sec 7) : 2024.

4. REJECTION - All 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
(ONLY FOR GUIDANCE PURPOSE)

(1)				(2)	(3)	
Test Details				**Test equipment requirement R: required (or) S: Sub-contracting permitted**	**Levels of Control**	
Cl.	**Requirement**	**Test Methods**			**No. of Sample**	**Frequency**
		Cl.	**Ref**			
24	Components	24	IS 302 (Part 2/ Sec 7)	S	Each consignment of components received	No further testing required, if accompanied with BIS Standard Mark or with Test Certificate
CL 5.1 & Annex -A	Earth continuity test	A-1	IS 302 (Part 2/ Sec 7), IS 302-1	R	Each appliance manufactured in a day	
	Electric strength test	A-2		R	Each appliance manufactured in a day	
	Functional test	A-3		R	Each appliance manufactured in a day	
7	Marking and Instruction	7	IS 302 (Part 2/ Sec 7)	R	Firm to have adequate in-process controls to check compliance of this parameter as per the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity.	
8	Protection Against Electric Shock	8		R	One	Once in every three months for each type of model as per Grouping guidelines mentioned at Annex - A of the Product Manual
10	Power Input and Current	10		R	One	
11	Heating	11		R	One	
13	Leakage current and Electric strength at operating temperature	13		R	One	
15	Moisture Resistance	15		R	One	

16	Leakage current and Electric strength	16	IS 302 (Part 2/ Sec 7)	R	One	Once in every three months for each type of model as per Grouping guidelines mentioned at Annex - A of the Product Manual
27	Provision for earthing	27		R	One	
14	Transient Overvoltage	14	IS 302 (Part 2/ Sec 7)	S	One	Once in every six months for each type of model as per Grouping guidelines mentioned at Annex - A of the Product Manual
17	Overload protection of transformers and associated circuits	17		S	One	
18	Endurance	18		S	One	
19	Abnormal operation	19		S	One	
20	Stability and Mechanical hazards	20		S	One	
21	Mechanical strength	21		S	One	
22	Construction	22		S	One	
23	Internal wiring	23		S	One	
25	Supply connection and external flexible cords	25		S	One	
26	Terminals for external conductors	26		S	One	
28	Screws and connections	28		S	One	
29	Clearances, Creepage Distances and solid insulation	29		S	One	
30	Resistance to heat and fire	30		S	One	
31	Resistance to rusting	31		S	One	
32	Radiation, Toxicity and Similar Hazards	32		S	One	

ANNEX – D

एक दिन में संभावित टेस्ट
Possible Tests in a day

1. Earth Continuity test (A-1 of IS 302-2-7)
2. Electric strength test (A-2 of IS 302-2-7)
3. Functional test (A-3 of IS 302-2-7)
4. Marking and Instruction (Cl. 7)
5. Protection against access to live parts (Cl. 8)
6. Power input and current (Cl. 10)
7. Leakage current and Electric strength (Cl. 16)
8. Provision for earthing (Cl. 27)